PUBLISHED AND EXCLUSIVELY DISTRIBUTED BY:

National BOOK STORE, INC.
THE TOTAL BOOKSTORE

RIZAL AVENUE • RECTO AVENUE • CUBAO SUPERBRANCH • HARRISON PLAZA • QUAD MAKATI
QUEZON AVENUE • CALOOCAN 11TH AVENUE • ALI MALL 2 • SHAW EDSA CENTRAL •
QUAD CAR PARK • GREENHILLS VIRRA MALL • CALOOCAN EVER • GREENBELT MAKATI

9 789710 851287
ISBN 97108-5128-4

ISBN 971-08-5128-4

Curriculum Development System

Jesus C. Palma

Curriculum Development System

A HANDBOOK FOR SCHOOL PRACTITIONERS IN BASIC EDUCATION

• JESUS C. PALMA

(15 -

Curriculum Development System

A HANDBOOK FOR SCHOOL PRACTITIONERS IN BASIC EDUCATION

Curriculum Development System

A HANDBOOK FOR SCHOOL PRACTITIONERS IN BASIC EDUCATION

• JESUS C. PALMA

National BOOK STORE, INC.
PUBLISHERS • METRO MANILA
PHILIPPINES

Published by National Book Store, Inc.

First Year of Publication, 1992

PCPM Certificate of
Registration No. SP 594

Cover Design by
Joey Salvador

Printed by
24K Printing Co., Inc.
33 Acebo St., Marulas
Valenzuela, Metro Manila

ISBN 971-08-5128-4

DEDICATION

To my beloved wife

LEONIDA

my daughters

MA. ASUNCION IRENE

MA. RESURRECCION

MA. CECILIA PRESENTATION

and my granddaughter

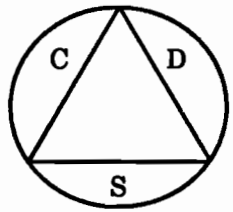
MA. AINA KATHRINA CONCEPCION

and grandson

GABRIEL IGNACIO

for their abiding

love and understanding



OVERVIEW

TABLE OF CONTENTS

PROLOGUE

This handbook evolved from the random notes compiled and collated by the writer for the numerous seminar-worshops on curriculum and instruction he has conducted in various elementary and secondary school settings in different parts of the country for almost a decade. What started as a professional outreach activity in commemoration of the quadricentennial of the coming of the Jesuits to the Philippines in 1980, became an on-going, long-playing series brought about by the enthusiastic response of many schools and professional organizations. After a while, the writer finally acceded to the recurring suggestion of many well-meaning beneficiaries of the program to put the notes in print form "for posterity" and to reach a wider audience. Hence, this opus.

This handbook does not aim to replicate the countless works that have been written about curriculum and curriculum development. It is more of a manual of prescriptions, or if you may, a recipe book, intended for school practitioners in basic education — administrators, coordinators, teachers and all those who should be involved in curriculum making or re-making.

No doubt, we need the expertise of curriculum experts especially to provide us with a sound conceptual base for curriculum building. But, nobody can be a better judge as to how to make the curriculum truly relevant and operational in the day-to-day reali-

ties in the classroom than the implementors of the curriculum, namely, the school personnel themselves. Aristotle aptly appointed this out centuries ago, when he said that "the user of the house should have more to say about the house than the builder of the house," or some words to that effect.

In putting this work together, we have tried to incorporate the principles of both curriculum planning and those of sound organizational management. The reader will probably find nothing new or profound between the covers of this book. The only difference, perhaps, will be in the approach used in organizing the materials. The unique features of the approach used in this volume are the following:

SYSTEMIC, that is, holistic. The idea is to view the curriculum in its totality, to look at the "big picture," so to speak. It is useful to look at curriculum as a system, to study parts as subsystems, to recognize their relationship with one another and how each part contributes to the overarching function or purpose of the whole enterprise.

COLLEGIAL, or participatory. Just as the curriculum itself is a system, the whole process of making and improving the curriculum should be systemic and systematic with all school segments concerned taking an active part in a collaborative manner towards the attainment of the common end.

DEVELOPMENTAL, that is, dynamic and growth-oriented. The curriculum is an instrument of change, of growth. It should be in a constant state of evolution that would bring the school organization to increasingly higher levels of excellence.

RELEVANT. Relevant to what? Relevant to the realities of the central purpose of schooling. The curriculum should provide the substance of teaching and learning as it fleshes out the School Vision and Mission.

This approach explains the chosen nomenclature of this opus, namely, CURRICULUM DEVELOPMENT SYSTEM, a management-oriented approach to curriculum development. Orginally conceived and pilot-tested in the Ateneo de Manila Grade School, the

scheme has been adopted by and adapted to nuances of different schools in Manila and other parts such as Assumption, St. Paul, Holy Spirit, Immaculate Conception Academy, Greenhills, to name a few. It is hoped other schools could benefit from this approach to curriculum development.

The writer wishes to take this occasion to thank the nameless and countless teachers and collaborators in the field who have provided the inspiration for this modest work. Truly, they are the unsung heroes, the brave defenders of the academic ramparts that is the school. To them this work is humbly dedicated.

Chapter ONE:
CDS CONCEPTUAL FRAMEWORK

CDS: THE WHAT OF IT

CDS is an acronym that stands for CURRICULUM DEVELOPMENT SYSTEM. The best way to define it is to take each term and explain briefly the concept behind it.

CURRICULUM

The term comes from the Latin root, "currere," which means "to run." In educational usage, the "course of the race," with time came to stand for the "course of study." Nowadays, curriculum could have different meanings for different people depending on how it is used.

As far as this handbook is concerned, curriculum is *not* considered to be any of the following:

A list of subject areas as in the New Elementary School Curriculum (NESC) or the New Secondary School Curriculum (NSSC) as these are mere listings of titles

The content or minimum requirements of each subject area taught in school since these may exist only on paper and may not necessarily become part of the lives of learners

The course of study which is just a guide, an outline designed to help the teacher in planning and executing the curriculum

The textbook series inasmuch as the curriculum should come before textbooks and not the other way around and textbooks are but one of the means of implementing the curriculum

For CDS purposes, curriculum shall be taken to mean:

The sum of all learning content, experiences and resources that are purposely selected, organized and implemented by the school in pursuit of its peculiar mandate as a distinct institution of learning and human development.

Such a definition skirts the issue of whether curriculum should be concerned with learning content or learning experiences, the WHAT or the HOW of human formation. It is our contention that curriculum is not an either-or proposition, that it should be inclusive of both.

The other point to note in this definition is that it gives a narrower perspective and limits curriculum to selected and structured learning content and experiences for which the school is willing to accept responsibility. This is in keeping with the whole concept of school accountability. Understandably, the school cannot and should not be held responsible for all aspects of the student's life. The school, however, holds itself accountable for those aspects of the development of the young specified in its mandate or mission.

In the end, the whole question of school accountability boils down to two overriding questions:

1. Is the school doing what it says it ought to do?

2. How well is it doing what it is supposed to do?

School accountability defines clearly the scope and parameters of programs and operations of the institution *qua* special place of learning and formation. It also brings to the fore the question of how well the school is in control of its direction. The curriculum is

the school's locus of control. Lacking this control mechanism, the school can be compared to a rudderless boat that drifts with every passing wave of educational fads and frills. It can be in very much the same situation as the person in the account below related by a Buddhist monk to Henri Nouwen:

> There was a man on a horse galloping along the road. An old farmer standing in the fields, seeing him pass by so swiftly, called out. "Hey, rider, why are you in such a great hurry? Where are you going?" And the rider shouted back, "Don't ask me. Ask my horse!"

DEVELOPMENT

Development is a specific word that connotes change. Change means any alternation or modification in the existing order of things.

However, change may not necessarily result in development. Only positive change brings about development. For change to be positive and result in development, it must have the following characteristics:

Change must be PURPOSEFUL

Purposeful change is change that is intentional or directional. There must be clearly specified targets or objectives. This kind of change is something that one wills or causes to happen, not something that happens willy-nilly. It therefore subsumes control over or responsibility for the effects brought about by the change.

Change must be PLANNED

Planning in this case means two things. First, there is a series of systematic and sequential steps leading to a target. Secondly, these are executed over a period of time.

Planned change then takes time. It requires an orderly progression of scheduled activities and tasks. It allows no shortcuts. It demands a disciplined execution.

Change must be PROGRESSIVE

> Positive change brings about improvement. It takes a person or a group to higher levels of perfection.

Curriculum development then should be concerned with the drawing up of plans for teaching and learning activities in classroom situations that will bring about positive changes in the lives of the learners. It is based on the school's Mission and goals and dentifies ways of translating these into a coherent and coordi nated program of meaningful experiences and conditions eliciting responses that will lead to the tranformation of the learners into authentic, warm and sensitive human beings.

SYSTEM

According to the 1986 edition of *Webster Collegiate Dictionary*, a system is "an assemblage of objects in some form of regular interdependence or interaction; an organic organized whole, as, the solar system or a telephone system." In management, system would be generally defined as some form of structure or operation, concept or function, composed of united and integrated parts.

From systems theory, we can glean the following characteristics of a system:

Boundary. A system has well-defined limits. The boundary defines clearly what parts are included in and what are excluded from the unit. Boundary gives the system its identity.

Environment. A system operates in a specific time-and-space context. The external environment of a system includes everything outside its boundary. Furthermore, the system is affected by its environment even as it affects that selfsame environment.

Tension. By its nature, a system implies existence and activity. It is therefore subject to stress and strain, wear and tear, change and conflict as it interacts with forces in the environment.

Equilibrium. A system strives to maintain a steady state so it can continue to function. It avoids entropy or a state of disorder or disharmony which could lead to its extinction. Thus, it seeks to accommodate itself to changes and exigencies in the environment.

Hierarchy. Systems come in different sizes. There are small (micro) and big (macro) systems. A system may be a subsystem or part of a bigger system or it may be a suprasystem having its own parts or subsystems.

Feedback. Every system has a communication network whereby it is able to maintain coordination among its constituent parts, monitor its operation, and make improvements or corrections of any dysfunction in the system.

Synergy. This, simply put is "the whole is greater than the sum of its parts." This suggests a certain perspective, namely, the necessity of viewing the system conceptually as a whole for a better understanding of its processes and outputs.

Interdependence. In the systems context, the word suggests that the elements of a system cannot act on their own. They cannot operate unilaterally without regard for the other parts. Also, whatever affects any element of the system in some way affects every other element. The action then of any system element must be seen as an outcome of the system operation rather than of the element itself or of some isolated causal element or elements acting independently of the system.

For our purposes, we shall define SYSTEM simply as the integration of separate but interdependent and interacting parts into an organic whole which is meant to accomplish a certain purpose or perform a specific function. Therefore, the three important features of a system are:

Parts: To have a system, we need parts. But these parts must come together in a network of interaction and relationships.

Whole: In a system, what counts more is the totality, not so much the separate parts. The parts do not exactly lose their identity and importance but are subsumed under the larger entity.

Function: What is really significant in a system is both how the individual parts work and how they all work together as one to bring about the intended func-

tion of the whole system. The key word is "interrelatedness."

Put together then, CDS spells out Curriculum Development System which we shall define as — an integrated, coherent and comprehensive program for continually updating and improving curriculum and instruction in a school so that it can better attain its purpose.

A CONCEPTUAL BASE: THE TYLER RATIONALE

The technique of inventorying, organizing, and presenting the substance of a curriculum finds refinement in Ralph Tyler's four-step analysis of formal education or schooling which has come to be known as the "Tyler Rationale."

Tyler posited four basic questions for the school, namely,

1. What educational purposes should the school seek to attain?
2. What educational experiences can be provided that are likely to attain these purposes?
3. How can these educational experiences be effectively organized?
4. How can we determine whether these purposes are being attained or not?

By addressing the assessment of curriculum development systematically, Tyler introduced the concept of a structural cycle whereby evaluation can lead to a reconsideration of purpose. Such a cycle reduces the somewhat cumbersome process of planning and makes it possible to treat curriculum-making in a systemic manner.

Viewed from this perspective then, the school curriculum has three fundamental elements:

Purpose which indicates the goals and directions the school should take;

Means which suggest the learning experiences and resources that are to be selected, organized, and implemented in pursuit of the purpose; and

Assessment of Outcomes, which measures the degree to which purposes have been met.

The following model (Fig.1-1) presents this systemic view of the curriculum in graphic form.

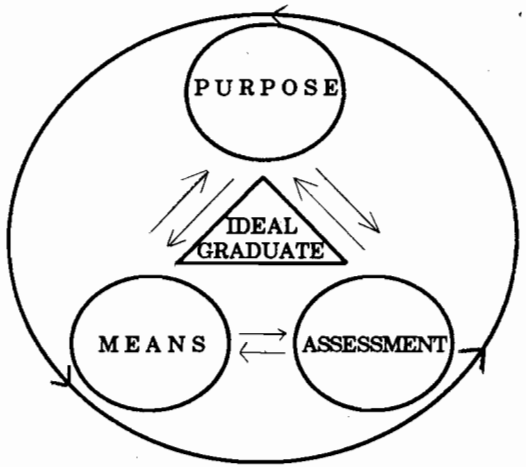


Figure 1-1. System View of Curriculum

The three subsystems — Purpose, Means, and Assessment — are enclosed in a circle suggesting that they constitute the totality of curriculum. The circle is also indicative of the continuous process of curriculum development. Curriculum is far from being static. Put another way, we can never speak of a "finished curriculum." Curriculum is always "tentative" and is meant to undergo a process of development to bring it to ever higher levels of effectiveness. The concurrent process of planning and implementing, evaluating and revising the curriculum goes on in a never-ending cycle always taking into consideration the constantlty shifting needs of the learners, the emerging thrusts of the school and its sponsors, the changing expectations of the larger society, and the exigencies of the times.

The two-way arrows indicate the dynamic interaction and relationships that should exist among the subsystems if the system is to function well. The arrowheads in the outer circle going counterclockwise indicate the normal sequence in the process of curriculum planning and development. Logically, the first step should be the determination of purpose and objectives. However, in curriculum development it is possible that one can start with any step. One might even begin with the assessment or evaluation phase. Using the result of this evaluation or assessment we can examine and make adjustments in the purpose and the means of attaining this purpose.

Finally, the all-important process of curriculum development has one and only one function, and that is, the formation of the "Ideal Graduate." This becomes the ultimate measure of the success or failure of the total school enterprise. It should be pointed out, however, that the conception of the "Ideal Graduate" will vary since it depends on the school's perculiar clientele, ecology and thrusts.

The CURRICULUM SYSTEM: A LINEAR MODEL

To improve and refine the Tyler model, Hilda Taba came up with an expanded version including seven major steps in curriculum development. These are:

1. Diagnosis of learner needs and expectations of larger society
2. Formulation of learning objectives
3. Selection of learning content
4. Organization of learning content
5. Selection of learning experiences
6. Organization of learning experiences
7. Determination of what to evaluate and the means of doing it

Using Tyler's Rationale and Taba's paradigm, we can now formulate the following linear model including four subsystems (Fig. 1-2)

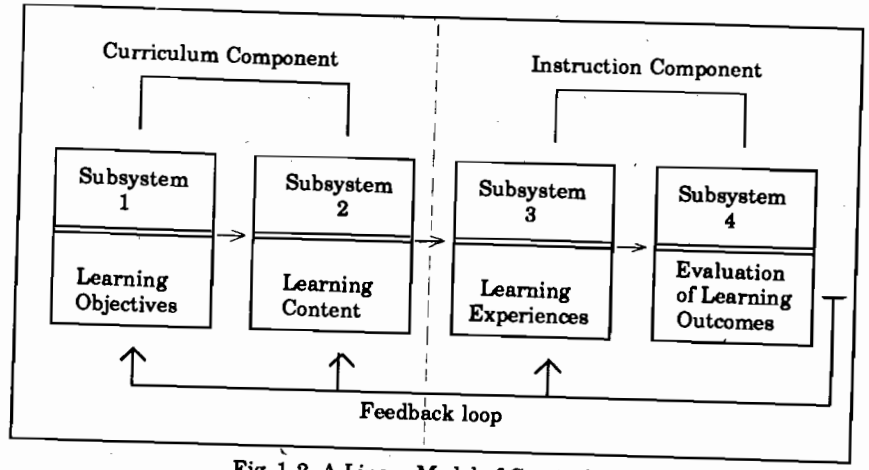


Fig. 1-2 A Linear Model of Curriculum

The curriculum model above suggests an end-means integration. This model clearly shows that curriculum and instruction are not separate independent components but contiguous parts of a continuum or system. In a manner of speaking, they are two sides of the same coin, you cannot have one without the other.

The curriculum component represents the thought-plan aspect of curriculum development which includes the selection and organization phases while the instruction component is the means-action part consisting of the implementation and evaluation phases.

Subsystem 1 indicates the direction and intention of the educational effort. This includes the School Vision or the set of unifying beliefs and values according to which the school personnel behave and perform their roles individually and collectively. This is eventually translated into the Mission Statement and further delineated in the school-wide and level goals and finally translated into learning objectives contained in the units of instruction and individual lessons.

Subsystem 2 is the learning content. The learning goals are fleshed out in a continuum or scope and sequence of learning content in terms of knowledge and understanding, skills and competencies, attitudes and values which become the basis of subject

matter for instruction and mastery. As one student puts it matter-of-factly, this is the "stuff that kids must learn in school." The school expects every student to master these basic requirements of school learning content which define the standards against which every prospective graduate will be measured.

Subsystem 3 is made up of learning experiences, activities and resources which constitute the wherewithal for attaining the learning objectives. Working on the principle that "he who wants the end, wants the means," the school employs the most relevant and effective strategies and resources that will ensure mastery of learning content. All these are indicated in a plan of instruction, both on the unit and the lesson level, to be carried out in the classroom.

Subsystem 4 has to do with measurement and evaluation of learning outcomes. The evaluation reveals whether the objectives are being attained or not and at what level. And more importantly, if objectives are not being met according to acceptable levels or standards, why these are not being met and what should be done about it. This is indicated by the feedback loop.

This model provides the conceptual framework for the Curriculum Development System (CDS) proposed in this handbook.

CDS: The WHY of It

Every school worthy of the name needs to keep on improving. True, a school can get by with the barest minimum in terms of curricular requirements. For some school, the adoption of an RTU (ready-to-use) curriculum in the form of an adopted commercial textbook series becomes the standard mode of curriculum planning and implementing. Thus, the question may be raised: If schools have existed this way for so long, why talk about curriculum development now, let alone curriculum development system?

It is our strong contention and firm conviction that a curriculum development system such as the one advocated in this handbook with its premium on system and participation is needed by a school that seeks to ensure the triple thrusts of *unity*, *continuity*, and *quality*.

UNITY. Some schools have little if any control over what goes on in the classrooms. Teachers are left pretty much to

their own devices and just do their thing unmindful of what goes on in the other classrooms. This lack of articulation and coordination results in glaring "gaps" and "overlaps" in the program of studies. Often, instead of correcting this situation, the teachers resort to the "blaming syndrome", pointing an accusing finger at one another for the ineffectiveness of school instruction. A coordinated, coherent curriculum system brings the school staff together to articulate expected learning outcomes for different levels and make everybody "pull in the same direction." The principal's role is to "orchestrate" or "direct" the varied contributions of the staff members according to a cooperatively drawn-up and mutually accepted education "libretto" or "script."

CONTINUITY. Again, in many schools, curriculum is the exclusive domain of the principal or academic coodinator or, in some instances, a "chosen few." The teachers are reduced to mere implementors or purveyors with nothing to say in its improvement, let alone planning. In such a case, the curriculum can be likened to a flower pot that the principal brings with him to his new assignment. A curriculum of this sort does not provide the staff a sense of "collective ownership" that will give the incentive to work for its success. Besides, the inevitable departure from the scene of the curriculum initiator or proponent brings about a "vacuum" which necessitates putting in a "new" curriculum by the successor in a vicious cycle. Consequently, the school never moves onward. It takes a few steps forward only to fall back and start all over again every time a new principal takes over, following the dictum, "bagong hari, bagong gawi; bagong factotum, bagong kurikulum." This culture of discontinuity not only negates whatever gains may have been made but can also be very demoralizing to the staff who must bear the brunt of the constant change and continuing overhaul of the program.

QUALITY. Finally, if we are in the business of education for quality, we cannot afford to do our work in a disorganized, cavalier manner. Quality implies planning, development and control. If we spend so much money, time and effort to ensure high quality in the production of material products, should we not be more concerned with quality when forming the "human

product" — our students of today and graduates of tomorrow? Since the improvement of our society depends in large measure on the quality of our graduates, we have a grave moral responsibility to make a conscious effort to systematize our curriculum and instruction so as to turn out the kind of graduates who will bring about the kind of society we expect and deserve, no less.

CDS: The HOW of It

At this, point, the question can be asked: How can unity, continuity, and quality be achieved through the school curriculum? It is our contention that the systematic and collaborative process of CDS will be an answer to the question. The four stages involved in the initiation and implementation of CDS are all meant to bring about these triple thrusts.

The stages involved in the process are the follwing:

Stage 1. Conceptualizing – to underscore the
Stage 2. Conceptualizing – thrust of quality
Stage 3. Operationalizing – to address the thrust of unity
Stage 4. Institutionalizing – to ensure the thrust of continuity

Conceptualizing Phase

One useful way of looking at a school is to view it as a "production system." One of the characteristics of all systems activity is the tranformation of the input through the system's processes and structure into an output.

The classic production or "black box" model illustrated in Fig. 1-3 below presents this idea.

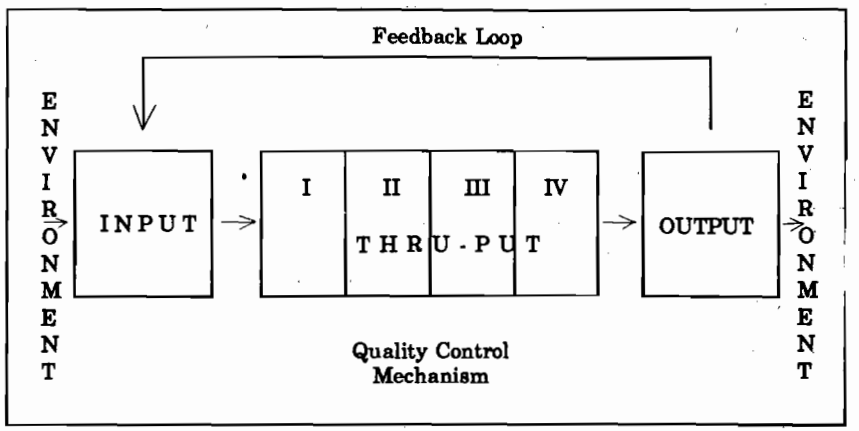


Fig. 1-3 Generic Production System Model

The *input* represents the "raw materials" appropriated from the environment and introduced into the system according to specifications called for by the intended product. The *process or thruput* consists of the complex set of operations or stages, procedures or activities which transform the input. The *output* is the "finished product" or the material in its terminal state with new value added which is then issued or exported to the environment.

The outcome of system action is invariably evaluated by the consumers of the product. Thus, if a system is to maintain itself and its operation, it is imperative that it ensures the acceptability of its output. In order to ensure such acceptability, some form of product quality control is necessary. The system has to provide for a continuous assessment of its output through feedback so that needed adjustments can be made at any point in the process.

In the production system, we usually begin with a conception of the output, defining its specifications or identifying characteristics. Only when these are clearly spelled out in a production blueprint can the whole production process begin.

In like manner, in the school production system, we must first envision our product, i.e. the Ideal Gradute at the end of the process or upon graduation. One way to do this is to describe or make a

profile of this person in terms of the knowledge that he will posses, the skills that he will be able to utilize, and the attitudes and values that he will internalize. This is aptly depicted in the triangular figure representing the school output in our next model (Fig. 1-4).

Once we have a clear conception of the output, the school can now procure the inputs or student recruits. In the model, two things can be observed about the input. The figure is in the same shape as the output, namely, triangular. This suggests that the input should have the potential to be formed into the desired output. Meaning, students we take into our school should be made of stuff that could be formed to approximate or come as close as possible to the Ideal Graduate. To be sure, not one of our graduates will measure up completely but we should define at least some acceptable level or standard for measuring our graduates and certifying that they indeed have the kind of "quality" needed for productive and useful lives in society.

The broken lines of the triangle indicate that the inputs are indeed "raw" and still have to be formed in the likeness of the output. This is precisely what schooling is all about, namely, to help in the formation of the young human being. In the words of one educator, "to make perfect that which is imperfect."

The thru-put of the school system is much more complex and involved than the ordinary system thru-put. The reason should be obvious. We are dealing with a human person, a complex being, First, the process involves several stages covering a long period of time. In the model, each vertical division represents a grade level corresponding to a one-year period. Thus, even if we take basic education alone, that would encompass at least ten years. In some cases, there will be more stages as the student goes through higher levels of schooling.

The second feature of this thru-put is the horizontal divisions designating the different subject areas in school such as Communication Arts, Mathematics, Science, Social Studies, Cultural Arts, Physical Education and others. Each subject area has its own peculiar contribution in terms of knowledge, skills and values toward the formation of the Ideal Graduate. Thus, the thru-put now

consists of interrelated "blocks", each block being the contribution of responsibility of one teacher. Assuming that each teacher puts in his block firmly and securely, the resulting structure is strong and sturdy. Conversely, if some teachers do not do their share properly, the structure will manifest some structural defects and weaknesses. The thru-put in the model is the school curriculum. It is the instrument used by the school in ensuring that every teacher will do his part in maintaining quality in the school program.

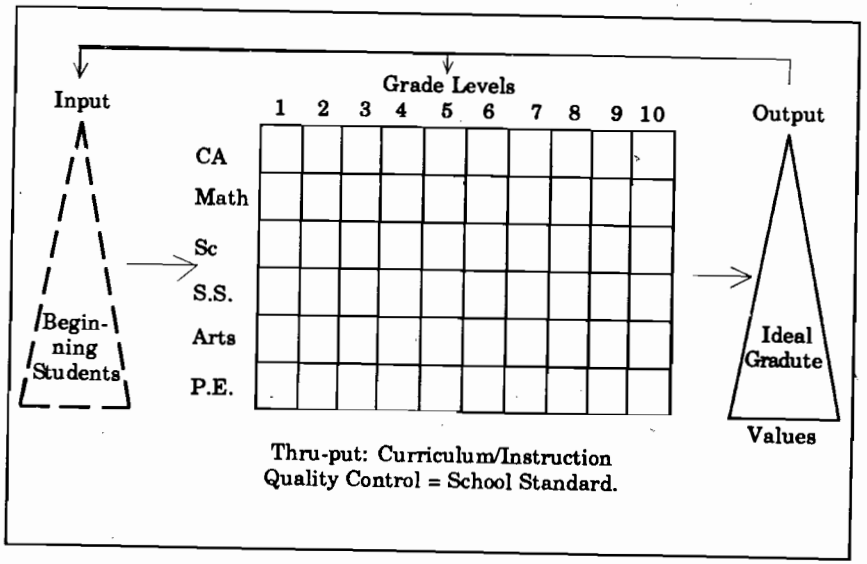


Fig. 1-4. School Production System Model

CONTEXTUALIZING PHASE

The next phase involves fitting the conceptual framework that is, the production model, in the context of the school. Earlier we reduced the curriculum into a system having three components, namely, purpose, means and assessment of outcomes. Actually, this formulation is based on a universal management model involving three processes: *planning*, *implementing*, and *evaluating*. This is the so-called PIE Management Model shown in Figure 1-5.

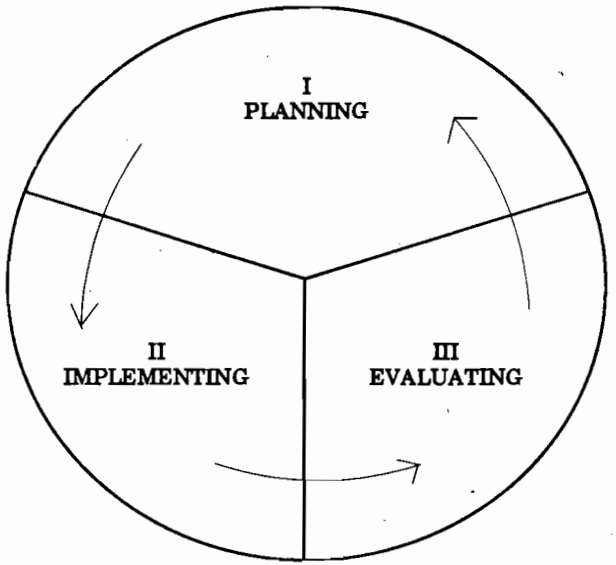


Fig. 1-5 PIE Management Model

This model can be adopted for use in the planning and management of the school curriculum. The CDS model as illustrated in Figure 1-6 is one such application. Following is a brief explanation of each of the components.

1. *Planning*. This stage involves the formulation or clarification of the school purpose. School purpose is summed up in the School Vision. Vision issues from the philosophy of the school, expressed in the school mandate or Mission Statement and delineated in the school goals. Later, learning objectives are drawn from these goals which become the operational and specific targets of achievement on the classroom level.

2. *Implementing*. The implementing stage includes two aspects:

   (a) The selection of learning content based on school purpose and organizing it for systematic delivery in a *Scope and Sequence Grid* (SSG) for each subject area.

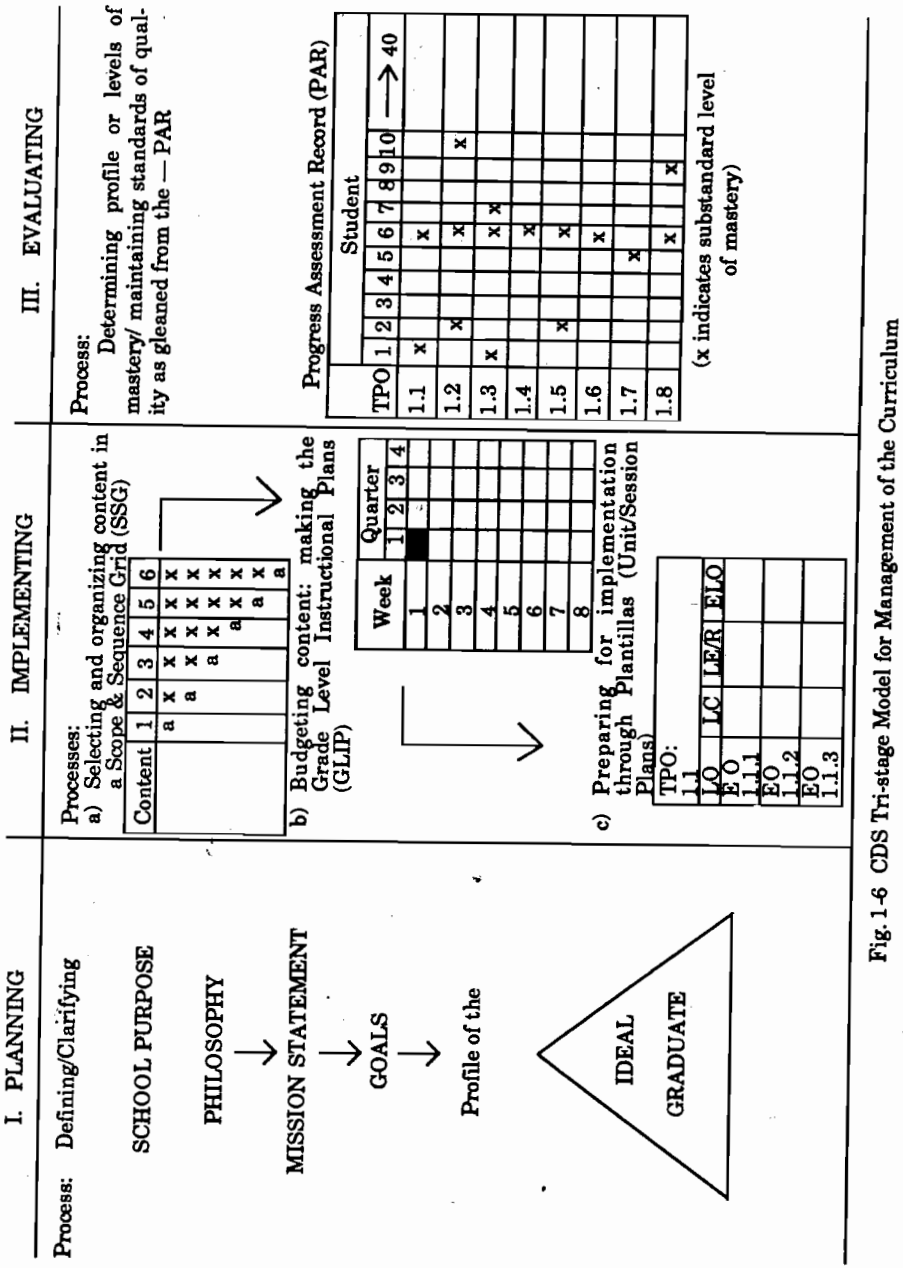


Fig. 1-6 CDS Tri-stage Model for Management of the Curriculum

This serves as the master plan or blueprint of the instructional program of the school. From the SSG, each grade level or year level prepares an academic budget or allocation of subject matter of instruction or the *Grade Level Instructional Plan* (GLIP) in each subject area for each grading period. Most schools would do this on a quarterly basis.

(b) The preparation for immediate implementation of the GLIP through the unit and session (lesson) plans or *Plantillas* for use in classroom instruction.

3. *Evaluating*. The results of instruction are measured and evaluated vis-a-vis specified learning objectives through a teacher-made mastery test at the end of every unit of instruction. These serve as the indicators of the level of learning. The data are recorded in the *Progress Assessment Record* (PAR). The PAR enables the teacher to keep track of the profile of mastery of each unit as well as of the progress or lack of progress of individual students in any given academic quarter.

The nuts and bolts of these processes are explained in some detail in the next section.

OPERATIONALIZING PHASE

Assuming that a school is sold on the idea of launching CDS, how does it go about initiating and carrying it out? Figure 1-7 on the following page shows the rational framework and flow of activities and tasks to be undertaken when a school decides to adopt the scheme.

1. *Preparation of School Staff*. Adoptation of CDS represents a major shift in the management of the academic program of the school. Such a change is crucial as this will necessarily have a far-reaching effect on the school staff who will carry the brunt of the change. It is therefore imperative that the school staff be involved in its inception to ensure their whole-hearted support and cooperation. The teachers have to be put in a state of readiness to bring about greater receptiveness to the new program. The cli-

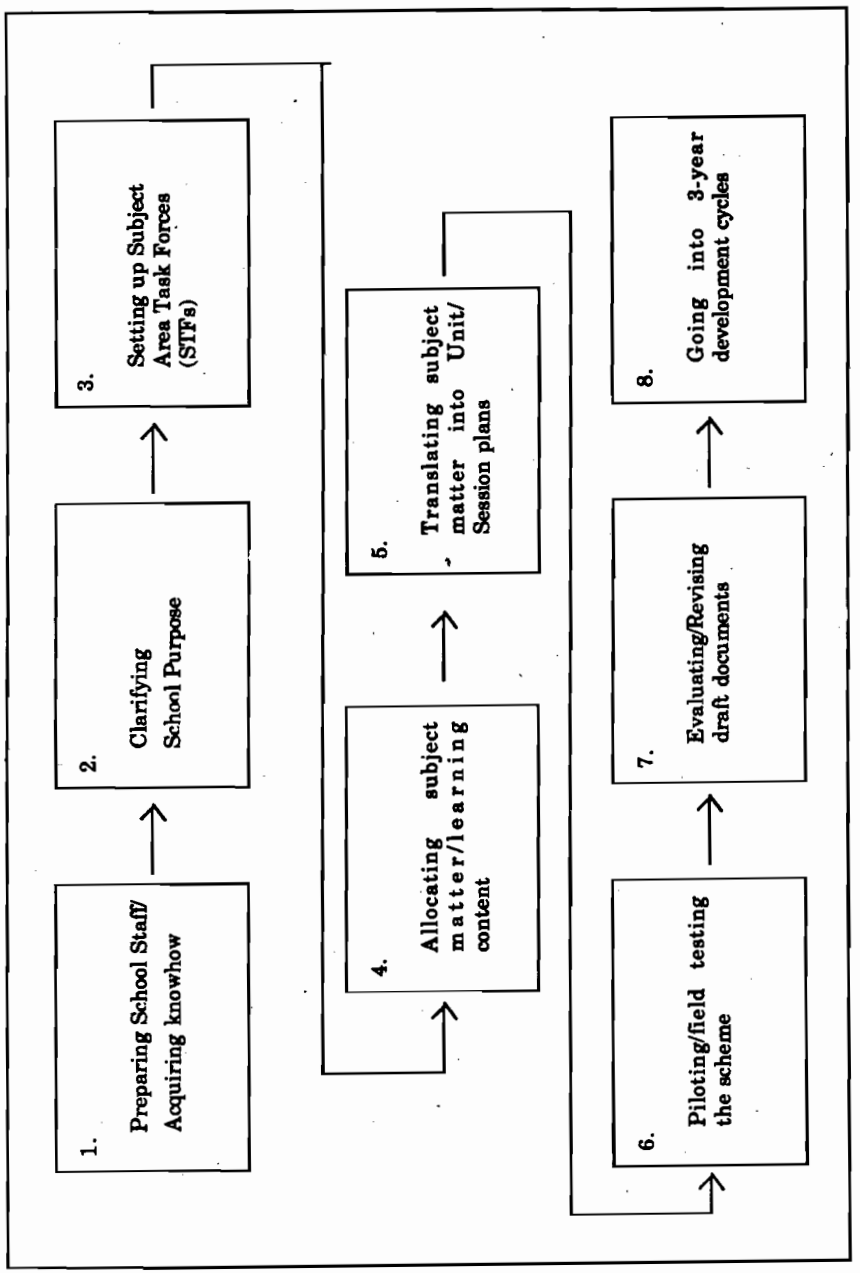


Fig 1-7 Operationalizing CDS in School Set-up

mate or psychological tone of the school must be conducive to staff commitment. The level of commitment should be such that the teachers will not mind the extra time and effort that will be required to put the new scheme in place. This preparation may take the form of a retreat or a series of recollection/prayer sessions focused on the theme of commitment to the vocation of teaching, community and service.

2. *Clarifying/Defining School Vision and Mission.* This calls for the school staff going over the school purpose: philosophy, mission, goals and its final vision, in groups or en banc. This is necessary in order to ensure that these school beliefs and values are clearly understood and accepted by everyone. This is a good occasion to clarify and update some pertinent aspects of institutional purpose to make them more relevant to the times. The culmination of this step is the drawing up and presentation of the profile of the school's "Ideal Graduate" in terms of specific indicators of knowledge, skills, and values.

3. *Setting up of Subject Area Task Forces.* The teachers are grouped into the Subject Area Task Force (STF), one per subject area. Each STF is made up of teachers representing the different grade or year levels. If there are not enough teachers, a teacher may represent two contiguous levels. The most important criterion for assigning teachers in the STFs is that they have adequate knowledge of and/or experience in the subject area and are familiar with the developmental needs and characteristics of the learners on a specific level. Th STF is tasked with the framing of the *Scope and Sequence Grid* (SSG) for the subject area. When all the subject area grids are ready, the STFs of related subject areas like English and Filipino Communication Arts, Mathematics and Science, have joint sessions for purposes of "aligning" subject matter by identifying points of correlation. This is meant to help unify and strengthen the learning experiences of students at appropriate levels. For instance, if colors are introduced formally in Math in Grade 1, this matter should also be

taken up on this level in Science so that common concepts and skills are reinforced and rendered more meaningful and useful.

4. *Allocating Subject Matter for Instruction.* The purpose of the Scope and Sequence Grid is to provide an orderly progression of learning content and to allocate this content to the different levels of instruction. Once this is accomplished, there is now a need to spread out or budget the content allocation for each level over the school year. This way the staff is able to plan ahead of time just how the content will fit into the instructional timetable. Generally, schools use a quarterly division of the school year. Given 40 weeks of schooling, there should be more or less ten weeks for every quarter. Although, realistically, only 7 or 8 of these will be used for actual instruction counting out non-teaching days and holidays as well as unforeseen suspension of classes. So, if the school plans on 8 weeks per quarter, this will mean some 32 weeks in all. Subject matter assigned to the level can then be organized into units of instruction corresponding more or less to a week per unit. So, there may be around 32 units for the whole year. These units are given a code for proper identification. For instance Unit 1.1 is the unit for the 1st quarter, first week. Unit 1.2 is for the 1st quarter, week 2, and so and so forth.

   This becomes the Grade (Year) Level Instructional Plan (GLIP) for the subject area.

5. *Preparing the Unit/Session Plans.* From the STF, the work shifts to the Grade Level Team (GLT) or Year Level Team (YLT) as the case may be. The GLT or YLT is made up of teachers on the same level teaching the same subject. The team is responsible for fleshing out the subject matter in the Unit Plans or "Plantillas." Assuming that a subject is taught on a daily basis, there should be 5 days available for every unit of instruction. However, again to be realistic, we can plan only on a maximum of 4 or even 3 days of actual teaching. If a teacher takes up a new lesson each day, there will be 3 to 4 session or lesson plans per

unit. The lessons are about related aspects of the instructional unit and together contribute to the mastery of the whole unit. This follows the concept of "chain learning" which ensures that learning outcomes become meaningful and more lasting than when lessons are disparate and segmented. Each unit ends with an evaluation to determine mastery of the unit objective just as each lesson has its own evaluation. The units, in turn, are related to one another.

6. *Piloting or Field Testing.* It is suggested that when the first draft of the Scope & Sequence Grid made by the STFs and the Plantillas prepared by the GLTs or YLTs are ready, they should undergo a try-out period of at least one school year involving some selected or volunteer classes on each level. The try-out is monitored and revisions or alterations to be made should be noted. These observations and suggestions are taken into account in the periodic assessement and adjustment sessions as well as in the final evaluation of the draft documents at the end of the try-out period.

7. *Evaluating and Revising Draft Documents.* After the pilot run, the Scope and Sequence Grid goes back to the STFs and the Plantillas to the GLTs or YLTs for review. The suggested revisions are put in final form to be adopted for school-wide use. This does not mean that the documents are final. As mentioned earlier, curriculum development is a continuing process. So, as these documents are being used, the teachers should keep a journal where marginal notes are entered and serve as inputs for the periodic evaluation and modification of the documents.

8. *Going into the 3-Year Development Cycle.* The try-out may take a year or two. Once the documents have been fine-tuned, they may be adopted on a school-wide basis. The school can then go into a 3-year development cycle which will ensure the systematic, continuing development of the program. This will be explained further in the next phase.

Institutionalizing Phase

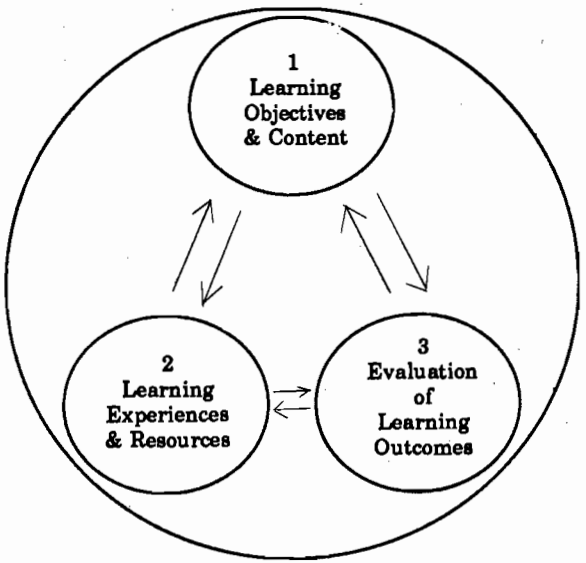
It is one thing to initiate a new curriculum, another to make it take root and flourish in a school. Thus, the need to institutionalize the program. This means having it accepted as something legitimate and, therefore, the right thing to do. This will ensure its continuous school-wide utilization for many years to come.

To do this, we need to ingrain the scheme in the culture of the school. This can come about only if the school staff accepts curriculum development as a participative process which calls for "collective ownership" of the enterprise.

After the pilot-testing stage, the school can go into the 3-year development cycle. This is depicted in the model in Figure 1-8. The moment the school decides on a school-wide adoption of the CDS the total efforts of the teachers and administrators must be geared towards making the program work. However, in order not to dissipate energy and spread their effort thin, they can make use of the 3-year development cycle. In this approach, the school staff focuses its attention on one component at a time in terms of reviewing, updating, and revising that component in line with current developments in the needs and interests of the learners, the emerging thrusts of society, and the new trends in the subject areas.

In the first year of a cycle, attention is concentrated on reviewing and updating school purpose formulations and the corresponding learning objectives and content as delineated in the Scope and Sequence Grid. This is not to say that no attention is given to the other two components of the system. In the second year of the cycle, the attention shifts to the second component, namely, the learning experiences and resources as found in the Plantillas or unit/lesson plans. For this year, all efforts are expended in incorporating state-of-the art teaching strategies and instructional resources and materials. In the final year, the evaluation of learning outcomes becomes the focal point of updating. The school looks into the tesing instruments used in measuring student learning as well as the marking system. In this scheme, the major thrusts of the in-service training during the school year will be on updating and upgrading of the component on focus for that year.

The development effort comes full cycle after three years but the work of improvement continues with a series of 3-year development cycles *ad infinitum* in the never-ending process of curriculum development. It should be obvious that in such a scheme, the school moves on to higher levels of excellence after turning a full cycle. This is concededly better than the situation where many schools find themselves in now, wherein they go to square one every time a new administrator assumes office and finds no rationalized, built-in scheme of curriculum development.



Pilot year (s)

3-year development cycles

Cycles I: Focus of Improvement

S.Y. 1: Subsystem 1
S.Y. 2: Subsystem 2
S.Y. 3: Subsystem 3

Cycle II

S.Y. 1: Subsystem 1
S.Y. 2: Subsystem 2
S.Y. 3: Subsystem 3

... and so on
ad infinitum

Fig. 1-8 CDS 3-year Development Cycle

REFERENCES

Armstrong, David G. *Developing and Documenting the Curriculum*. Boston: Allyn and Bacon, Inc., 1989.

Bean, James A., Conrad F. Toepfer, Jr., and Samuel J. Alessi, Jr. *Curriculum Planning and Development*. Boston: Allyn and Bacon, Inc., 1986

Doll, Ronald. *Curriculum Improvement: Decision-making and Process*, 7th ed. Boston: Allyn and Bacon, Inc., 1989.

Immergart, Glenn L. and Francis Pilecki. *An Introduction to System for Educational Administrators*. Reading, Mass: Addison-Wesley Publishing Company, 1983.

Leese, Joseph, Kenneth Frasure and Mauritz Johnson, Jr. *The Teacher and Curriculum-Making*. New York: Harper and Row, Publishers, 1981.

Roche, Edward F. de. *An Administrator's Guide for Evaluating Programs and Personnel*. Boston: Allyn and Bacon, Inc., 1981.

Saylor, J. Galen, William M. Alexander, and Arthur J. Lewis. *Curriculum Planning for Better Teaching and Learning*, 4th ed., New York: Holt, Rinehart and Winston, 1981.

Schubert, William H. *Curriculum: Perspective, Paradigm, and Possibilities*. New York: Macmillan Publishing Company, 1986.

Taba, Hilda. *Curriculum Development: Theory and Practice*. New York: Harcourt Brace Jovanovich, 1962.

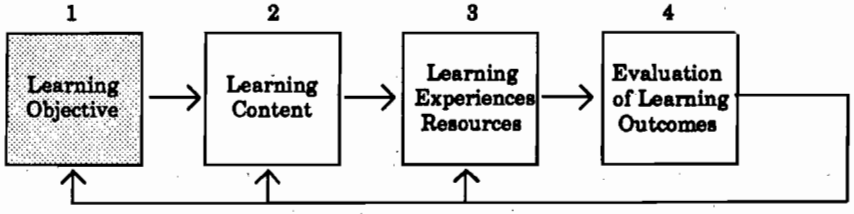
Tyler, Ralph. *Basic Principles of Curriculum and Instruction*. Chicago: University of Chicago Press, 1960.

Tanner, Daniel and Laurel Tanner. *Curriculum Development: Theory into Practice*, New York: Macmillan Publishing Company, 1980.

Wiles, Jon and Joseph Bondi. *Curriculum Development: A Guide to Practice*, 2nd ed., New York: Macmillan Publishing Company, 1984.

Wulf, Kathleen and Barbara Schave. *Curriculum Design: A Handbook for Educators*. Illinois: Scott Foresman Company, 1984.

Chapter TWO: SCHOOL PURPOSE



CURRICULUM AND SCHOOL PURPOSE

The contemporary school, like Joseph's multi-colored coat, has many facets. Among these facets are curriculum design, organization for instruction, support services, personnel, financial operations, school plant and facilities, and school-community relations. Everyday, professional decisions are being made on these facets of school organization. If these decisions are to be viable and effective, they have to be viewed in a broader perspective, namely, the purpose of the whole enterprise.

The model on the next page (Fig. 2-1) presents this perspective. The model has two main components, namely Purpose and Programs. The Purpose provides the rationale, the raison d' etre, the end-all and be-all of schooling.

The purpose is projected into the future as a Vision of the finished product of the process of schooling, namely, the Ideal Per-

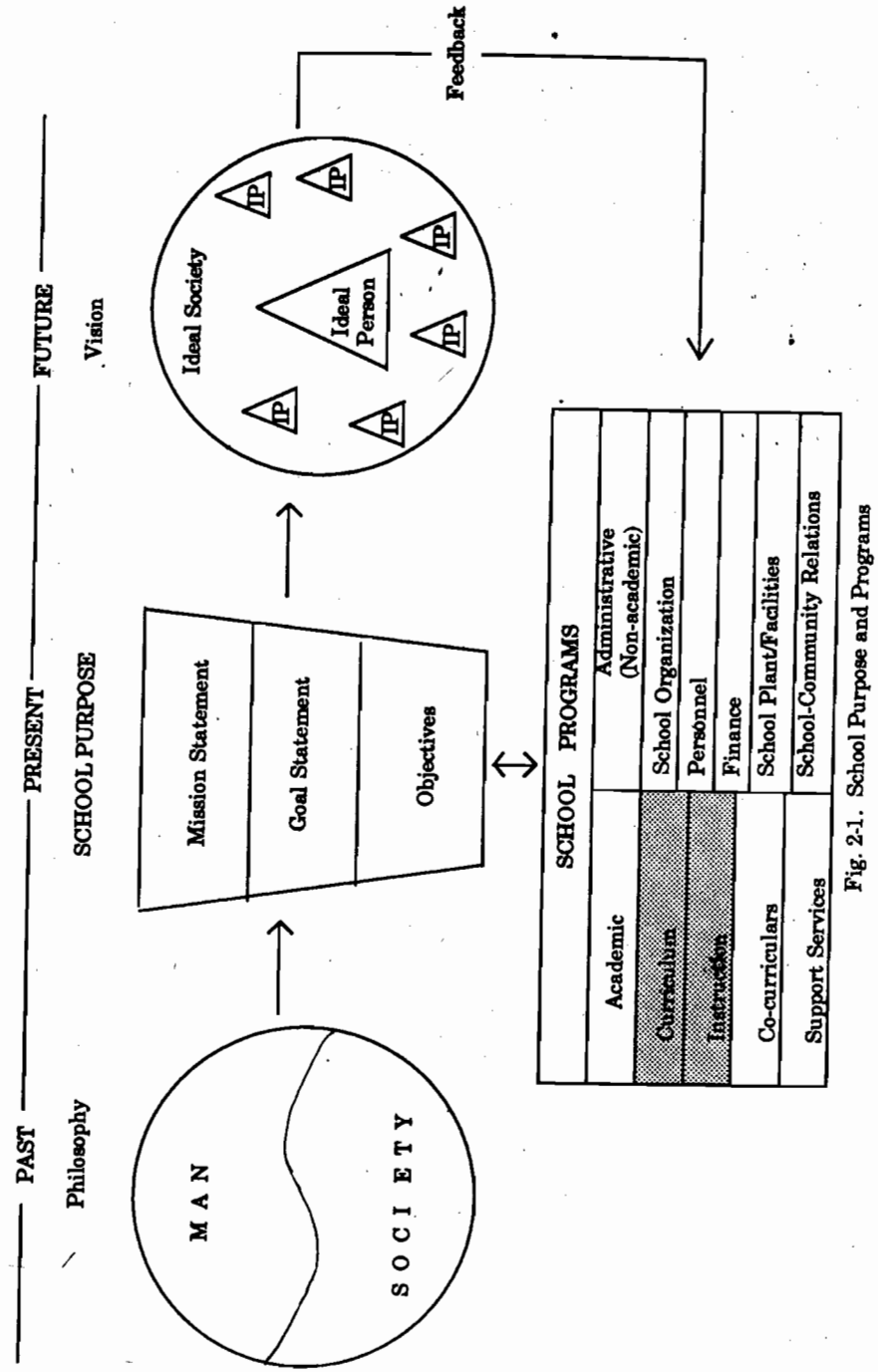


Fig. 2-1. School Purpose and Programs

son we envision at the end of the process. The Vision gives us a clear concept of the kind of person we hope our students will become. The school should specify the kind of knowledge, skills and competencies, attitudes and values that our graduates will possess in keeping with this Vision. Hopefully, in concert with other schools, these graduates will form a "critical mass" that will act as a leaven in transforming society into the "Ideal Society" of the future

Now, this Vision depends largely on our philosophy of life and of education which is rooted in the past. Our concept of the Ideal Person depends on our fundamental beliefs and understanding concerning the origin, nature and final destiny of man, the nature and purpose of society, and the nature of human development and learning. Our philosophical and psychological perspectives rest on our answers to the following questions:

Concerning Man: What is the nature of man? Where did he come from? What is he doing here on earth? Is the man-child inherently good or bad? Does he unfold from within or is he shaped from without? What constitutes the whole child?

Concerning Society: What is the nature of society? What is its purpose? Is man made for society or is society for man? Is society basically individualistic or community-oriented? What are societal institutions, norms, patterns and how do they relate to the members?

Concerning Learning: What is truth? What is the source of human knowledge? How does a person learn? How does one acquire knowledge? Skills? Attitudes and values? What is motivation and what role does it play in learning? What is readiness? Individual differences? Does a child learn better in a "free" classroom? What is the place of control of behaviour and discipline in learning?

The school translates its philosophy in the present context of schooling into a Mission Statement which serves as its mandate of accountability to the larger society to which it owes its existence. This Mission Statement is further explained in broad targets or

goal statements. These goals are reduced to more specific targets in terms of objectives in the different programs of school operations.

School programs reflect and implement school purpose. These programs are means of carrying out the School Mission and Vision. These are divided into two groups: the academic programs and the administrative programs. The acedemic programs include curriculum, instruction, the co-curriculum, and the support services such as guidance and library. The non-academic or administrative programs are made up of school organization, personnel, finance, school plant and facilities, and school-community relations. All these programs exist only for one reason, namely, to contribute to the attainment of the school purpose.

The curriculum, our focal concern in this book, is perhaps the most vital of all the school programs, the school being an institution of learning. The school goals based on our shared beliefs concerning man, society, and learning become the bases of decisions in dealing with the following questions: What kind of instructional program is most effective? How are the learners to be organized for learning? Is the self-contained classroom preferable to the departmental scheme? Is it better to have homogeneous groups or heterogeneous groups for instruction? How should subject area content be organized for teaching and learning? Should we organize content around subject matter, the needs of the learner or societal considerations? Obviously, the school cannot answer these questions decisively unless its purpose is clearly spelled out.

School Purpose: Meanings and Applications

The term "purpose" simply means direction, intention or desired end. It is an inclusive term used generally to mean the reason for which something exists or is done.

However, in educational jargon, we come across synonyms or variations of this term and it is important for practitioners to get a clear idea of what each term means specifically. One thing though should be kept in mind, and that is, all these terms are derivatives of and have to do with school purpose.

The following are the terms:

Vision. This is the end product envisioned at the conclusion of the educational effort based on shared beliefs and values culled from one's philosophy. It provides the focal point or unifying element according to which the school staff behave or perform, individually and collectively.

Philosophy. This is a composite statement of concepts, beliefs, and values concerning two important realities, MAN and SOCIETY, and their relationship.

Mission or Mission Statement. This a is set of very broad statements that spell out what the school is all about and how it intends to carry out its Vision in its educational effort.

Goal or Goal Statements. These are broad targets or statements of intent or direction delineating the Mission Statement in the different domains or areas of schooling. Goals are general and "timeless" and are not concerned with any particular achievement within a prescibed period of time.

Objectives. This is the most specific of the terms denoting purpose. An objective is a specific target or accomplishment that can be verified at a designated time and under specifiable conditions which, if attained, advances the school toward the achievement of a corresponding goal.

Figure 2-2 on the next page gives an example for each of these terms for further clarification.

School Goals

School goals are general statements that delineate the outcomes of schooling. The scope of the educational program of a school can be summed up in the goal statements of that school. Goals are the basic elements or building blocks of educational planning. The reflection of individual and societal needs and expectations in goal setting results in statements describing different categories or areas of human development or behavior.

Thus, goal statements may encompass the following aspects of the total development of a human person: spiritual, moral, intellec-

Statement of Purpose	Sample Statement
VISION	The school will produce self-directing graduates, i.e., persons capable of logical thinking and making enlightened decisions for themselves.
PHILOSOPHY	Man is a rational being; he has an intellect and is capable of understanding, reasoning and judging.
MISSION	The school will provide opportunities for the development of thought processes that will promote self-direction.
GOAL	To develop the learner's ability in critical thinking and problem solving.
OBJECTIVE	Given a problem, the student will find the solution using the scientific method of investigation.

Fig. 2-2 Types of School Purpose and Sample Statements.

tual, aesthetic, emotional, social, and physical. Another way of classifying goals may make use of the following divisions: health, command of fundamental processes, worthy home membership, vocation and work, citizenship, worthy use of leisure time, and ethical and moral character. The Association for Supervision and Curriculum Development (ASCD) working group on research and theory identified a "cluster of goals" that reflect the wholistic nature of individuals. These are the following:

1. Self-concept and self-esteem
2. Understanding others
3. Basic skills
4. Interest in and capability for continuous learning
5. Reponsible membership in society
6. Mental and physical health
7. Creativity
8. Informed participation in the economic world or production and consumption
9. Use of accumulated knowledge to understand the world, and
10. Coping with change.

Still another way of organizing school goals is to group them according to the distinguishing characteristics of the school. For instance, a school may state its goals under the following headings:

1. As a Catholic school
2. As a Jesuit school
3. As a Filipino school
4. As an elementary school

But whatever format may be used, what is important is that the goals are consistent with the Vision and Mission and can be realistically pursued. Otherwise they remain pure rhetoric, nice on paper but highly idealistic and impractical.

Sources of School Goals

As previously stated, goals provide a philosophically-based structure that unifies and relates all aspects of school learning from the development of an overall curriculum blueprint to the lesson plans used in the classrooms. The question may be asked, however: What are the valid sources of school goals? Where do we derive these goals?

Literature on curriculum planning and studies on goal formulation will reveal divergent views as to the best sources of goals. In the final analysis, goals are a matter of choice and may be considered as a form of value judgment of those responsible for the school. Hopefully, such a decision will not be arbitrary or whimsical, predicated on the preference of an individual or a group. Rather, it should be based on an understanding of what schooling is all about, in general, and what role curriculum plays in schooling, in particular.

Clearly, the final choice of goals requires certain kinds of inputs for enlightened decision-making in curriculum planning. Tyler suggests three sources of data or inputs that have a major claim to consideration as curriculum planners and developers make choices on what to include among their goals, namely:

1. *The learner*. The purposes, interests, developmental needs and characteristics of the learner should guide our choice of appropriate goals.
2. *Society*. The values and behaviors defined as desirable by a given society help shape the goals of education in that society.
3. *Fund of Knowledge*. Human knowledge that has been accumulated and organized for universal use and application now and in the future. This also includes updated and newly generated knowledge.

Data on the Learner

The learner himself is a prime source of inputs for setting schools goals. After all, the learner is the subject of the schooling

process. Data on the learner may be culled from different theories in developmental psychological on "needs" and "interests" of learners.

The term "need" is a psychological construct indicating a certain lack or deficiency which creates a tension in the individual. Needs have to be satisfied for the individual to function effectively in life. These needs are present in varying degrees at the different stages of the individual's life cycle, from infancy to adulthood. They manifest themselves in the different aspects of human development — physical, intellectual, emotional, social, moral and spiritual.

Another set of data on the learner that can be taken into account are those borne out by the studies on learner interests. This is specially relevant in the light of the proposition that a learner learns best those things that are of interest to him. Both learner needs and interests are central to motivation in any kind of learning.

One problem that school practitioners face in this regard is the paucity of studies on Filipino children and youth. Hence, we have only a sketchy idea of the personality mold of the young in our classrooms. Curriculum planners and teachers depend a lot on a good old intuition, common sense and conventional wisdom. Too, the fact that our schooling system tends to be rather centralized and structured militates against teacher initiative to be more active in gathering such data. Be that as it may, it should not stop our school people from a systematic gathering of data through painstaking observation, questionnaire and interview, and research so we can build a data base for curriculum planning.

At any rate, the following points should be considered when studying learner inputs as a basis for goal setting:

1. Learner characteristics should include all of the learner's personal needs, interests, and all aspects of his development — physical, motor, mental, emotional, social, moral and spiritual; environmental influences, and social orientation.

2. Data on learner characteristics do not automatically lend themselves to goal formulations; they must be interpreted in the ligth of certain desirable norms and values.

3. Determination of goals from these inputs involves personal judgment on the part of the school staff. As was stated earlier, goals are, in the end, a matter of choice based on philosophical grounds.

4. There are needs and needs. Some may be appropriately addressed by the school. Others may be served better by other social institutions and agencies like the home, the church, the government, etc.

Data on Contemporary Society

Society has certain expectations of its members. More specifically, civil society or the state, expects its citizens to learn some basic human functions and tasks that will make them contributing and productive adult members. These include socio-cultural, economic, political, and vocational-technological tasks.

Contemporary life in society is becoming more and more complex. The school needs to be attuned to contemporary developments in society in order to be able to gear its efforts to the critical aspects of living in contemporary society. Demographic trends, changes in family and community living, and scientific and technological changes are some of the sensitive areas that need to be studied and reflected in the curriculum.

However, as in the case of data on the learner, the school should exercise care in interpreting these inputs. An identification of characteristics of society or of contemporary events will not necessarily indicate desirability for inclusion in the curriculum. It may well be that these data reflect adult preferences and biases but may not serve well the interest of the learners. It must be made clear that current knowledge is tentative and subject to further verification and modification. Schools have been criticized for encouraging the cult of "presentism" or "conformism". The school should also be concerned about the future world that the learners of today will inherit and inhabit. Anthropologist Margaret Mead stresses the point that our schools should prepare our children for

the world of tomorrow that we cannot even imagine. As the poet-philosopher, Khalil Gibran puts it, these children will live in "the house of tomorrow which we cannot visit even in our dreams."

It is imperative then that the curriculum designer must consider both the real and ideal order of things in society. While bound by the limits of actual social forces operating at present, we are obligated to seek ways and means of carving out the "better life" and the "good society" of the future. In doing so, the curriculum planners should take the following societal factors into consideration:

1. Health, family, recreation, vocation, religion, citizenship, special groups, etc.
2. Dominant ideas, values, problems, issues, etc.
3. Natural and human resources, population changes and movements, patterns of migration, etc.
4. Careers and vocations open to graduates, increased leisure time, general education vs. specialized education, etc.
5. Mechanization, urbanization, complexity, specialization of functions and services, etc.
6. Political trends, polarization (left, center, right), human rights, civic duties, governmental functions, constitutional guarantees, non-governmental organizations, etc.
7. Economic development, production and consumption, consumerism, social justice, countryside development, industrialization, equal access to the wealth of the nation, GNP, etc.
8. Regional and local divisions and governance, inter-group conflicts, interdependence, etc.
9. International cooperation, cosmopolitan interests, foreign affairs, reliance on foreign loans and assistance, national sovereignty multi-national operations, etc.
10. Technological advances, impact of mass media, instant communication, computerization, etc.

The Fund of Knowledge

Another source of data in developing goals are those coming from the sciences and humanities which form the core of the school subjects. This is in fact the most common and readily available source of school goals. This source has become all the more important in the light of the so-called "explosion of knowledge" and the ever-expanding fund of knowledge in the different domains of human learning. With so much new knowledge being added, the inevitable question is: *Which should be included in the curriculum?* Obviously, we cannot include everything. There must be careful selection to include only that which is relevant to and necessary at the level of maturity of the learner.

This is where goals are important in limiting what should find their way into our curriculum. To be sure, there are basic knowledge, skills and processes, appreciations, attitudes and values, that need to be considered in setting up the curriculum at this level. In this, we can be guided by the pronouncements of experts on contemporary trends and developments in the different disciplines. Such pronouncements can be found in professional literature, studies and reports of different associations and groups dealing with special fields both here and abroad. Again, as in the case of data on the learner, we may not have as much data on local trends and developments in the different subject areas but we can rely on whatever has been done by such groups as the Philippine Society for Curriculum Development (PSCD), the Philippine Association of Language Teaching (PALT), the Philippine Social Science Council (PSSC), the Mathematics Society of the Philippines (MSP), and others.

One relevant source of content is the learning content continuum formulated by the Department of Education, Culture and Sports (DECS). This could provide the core of curriculum content although the schools could include other matters they deem necessary and relevant.

Screening of Goals

Using the foregoing as well as other sources, the school can proceed and list down a good number of goals statements. However, these goals remain tentative and should be subject to verifica-

tion for *acceptability* and *feasibility*. This is done by subjecting the preliminary set of goals to two screens before they are finally adopted and become the basis for the formulation of learning objectives (Fig. 2-3).

1. *Philosophical Screen*

As we have seen, a school operates on a number of philosophical assumptions and values. It is against these beliefs and values that school goals should be validated. The question to be asked here is: *Is this goal desirable*?

Philosophy tries to define the nature of the "good life" or the "good society". For instance, we would expect our educational philosophy to reflect values consistent with the aspirations of our people for a democratic way of life coupled with socio-economic development and social justice for all.

Principally, the philosophical basis of Philippine education may be found in our fundamental law, the Constitution. Expressions of this philosophy may also be culled from educational legislation, judicial interpretations and decisions on educational matters, and executive orders. They may also be found in periodic reports of duly constituted bodies which specify the major thrusts of the Philippine educational system such as the Department of Education, Culture and Sports (DECS) and its instrumentalities, educational commissions and the annual Educators Congress.

Additionally, if the school is a church-related institution, the philosophical screen will also include the corresponding educational philosophy of the Church as well as contemporary Church pronouncements on the role of the school vis-a-vis its members. Schools run by a religious congregation will also have the consider the specific charism and thrusts of the Order in screening school goals.

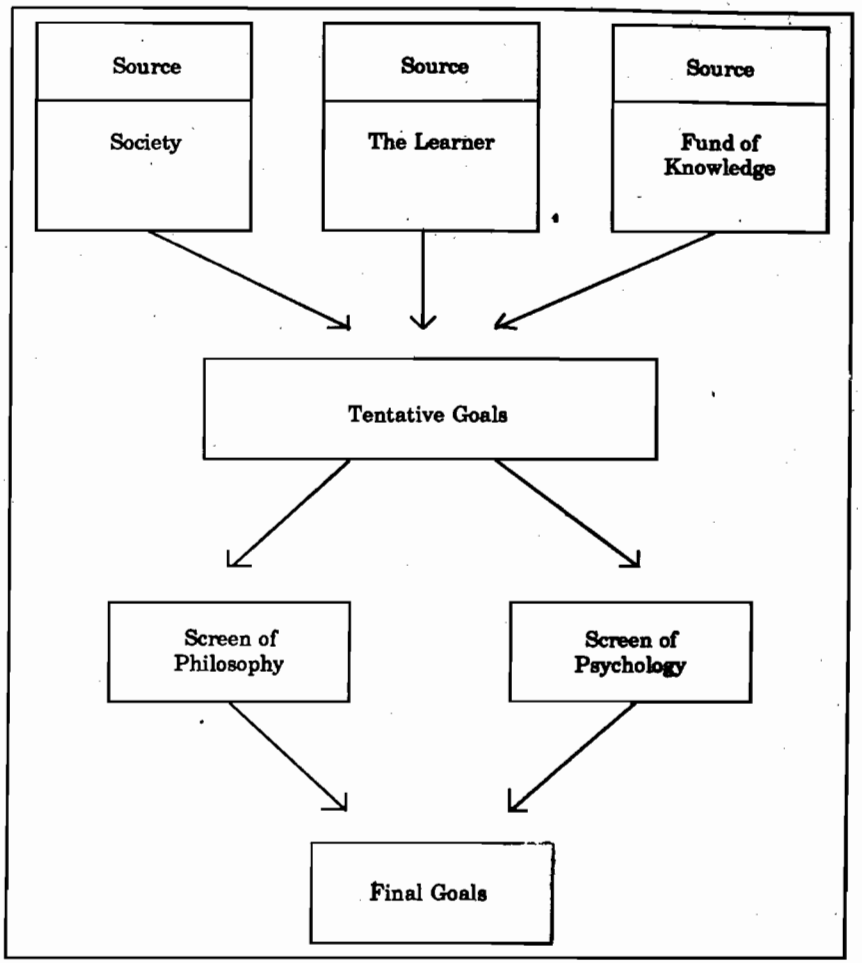


Fig. 2-3 Development of School Goals

2. *Psychological Screen*

After a goal statement has hurdled the first screen, it passes through the second screen, the psychological screen. Assuming that a goal is acceptable, the question has to be answered: *Is the goal feasible*? Or, more precisely, Can it be attained realistically in the school program? Here, the school has to consider its nature and

capabilities as well as the level of maturity and development of the learners, and nature of the learning process on that level.

The psychological screen enables the curriculum planners to do the following:

a. Distinguish between changes in behavior which can result from the learning process and those that cannot.

b. Distinguish what can be done from what cannot be done because they will take much time at the age level in question.

c. Determine prerequisite conditions for certain types of learning.

d. Suggest length of time over which goals should be pursued and emphasized.

e. Determine goals that are consistent with time-tested principles and practices of teaching and learning.

Levels of School Goals

School goals are broad targets of accomplishment contemporaneous with the schooling period. However, goals may be stated at several levels of generality or specificity depending on the range of coverage.

For this purpose, school goals may be categorized in hierarchical order as follows:

Institutional Goals. These goals are formulated for the whole institution as inspired by its Vision and Mission as well as its peculiar thrusts. Each school usually comes up with its own set of goal statements consistent with its philosophy with a view to developing its "Ideal Graduate." These goals may have some similarities with those of other schools but will usually contain unique statements owing to the school's peculiar orientation and emphasis.

School Level or Department Goals. These are amplifications of institutional goals as they apply to specific levels of instruction, i.e., tertiary, secondary, elementary or pre-elementary vis-a-vis the developmental characteristics of learners at those levels.

Program or Curricular Goals. These are goals specific to each curriculum strand or subject area such as Communication Arts, Mathematics, Science Studies, etc. They spell out the peculiar contribution of the subject to the development of the "Ideal Graduate" of the school.

Course or Year Level Goals. These are goals of subject areas appropriate for each grade or year level. They provide the yardstick according to which the student is measured and deemed to have met the desired competencies at the end of the school year and is therefore eligible for promotion to the next higher level.

Classroom or Instructional Level. On this level, we no longer use the term "goal". The more appropriate term used is "objective" as the purpose of instruction must be very specific and verifiable.

Instructional Objectives

Benjamin Bloom defines educational objectives as "explicit formulations of the ways in which students are expected to be changed by the educative process." Robert Mager, for his part, states that an instructional objective is "an intent communicated by a statement describing a proposed change in a learner; of what the learner is to be like when he has successfully completed a learning experience."

It should be noted that the common element in the two definitions above is "change". Purposeful human learning should result in some habitual change in behavior. If schooling is to bring about the desired or intended learning in a person, it must specify the kind of new behavior that should result from planned experiences and activities in the curriculum. This is where instructional objectives are useful.

Instructional objectives identify and state the specific overt change that is expected to happen as a result of a teaching-learning unit or lesson. These objectives delineate more explicitly the general goals indicated by the school for purposes of the immediate planning of day-to-day instruction in the classroom.

Clearly understood, instructional objectives may serve the following useful purposes in curriculum planning:

1. *Define the direction in which desired growth and development should take place.* While it is an accepted fact that learning takes place even outside of the school, much of this learning may lack focus and direction because the experiences are not planned and pointed towards specific intended learnings. Objectives in the context of curriculum and instruction precisely serve the purpose of directing all learnings toward the attainment of the goals and Mission of the school.

2. *Provide a basis for the selection of learning experiences.* There are many variegated things that the learner can and must learn. Hence, the need for a basis for selecting the most appropriate experiences at a certain level of development and for organizing such experiences. This can be done by drawing up a relevant and comprehensive list of instructional objectives.

3. *Provide a basis for evaluating learning outcomes.* Instructional objectives specify the facts and information, ideas and understandings, skills and habits, attitudes and ideals, values and behavior patterns that the school deems important and therefore to be learned by its students. In this connection, the school sets the levels of mastery or standards of achievement which students are expected to attain. Evaluation of the results of the instructional process is geared towards determining the progress or lack of progress of each student vis-a-vis these objective norms.

Limitations and Some Considerations

While it may seem that instructional objectives are generally useful in planning curriculum and instruction, we have to be cognizant of certain problems and issues. Three such considerations are as follows:

1. *The difficulty of defining exactly what instructional objective really means.* Does the objective refer to the behavior of the learner while in the process of learning or to his behavior at the end of the learning sequence? Does it refer to the immediate result of learning or the long-range use? What is the real test of learning — at the end of instruction or in real life situations?

2. *The difficulty of specifying the instructional objective in the fullness of details.* A single behavioral act consists of many contributory elements. Often these elements are not easy to identify as distinct parts of a complex behavior. Also, these elements may vary from situation to situation. On the other hand, if they are left out altogether, the terminal behavior may not be adequately identified.

3. *The problem of specifying the appropriate level of habitual change in behavior.* This may be easier to do when it comes to factual knowledge and skills but may be difficult to determine when it comes to the affective states, i.e., appreciations, attitudes, ideals and values. Admittedly, writing instructional objectives of the affective variety is the most difficult because these changes do not readily admit of quantification and verification. As one educational wag pointed out, "some immeasurables are immeasurably important."

It should be borne in mind that behavioral outcomes of instruction are only the proximate objectives of learning. These objectives are rather isolated modifications of knowledge/ and understanding, skills, attitudes and values which induce the new behavior and make it possible for habitual use in the future. To stress the behavior as an end in itself rather than as a means to an end is somewhat inaccurate and misleading.

Why use objectives then? We resort to objectives that are overt and observable simply on the ground that knowledge, understanding, skills, attitudes and values are internal passive states which we can assess only by eliciting behavior indicative of or re-

sulting from them. Hence, the behavior exhibited in instruction by the learner is a useful indicator of the inner dispositions or qualities of the learner resulting from instruction.

With these considerations and caveats in mind and in the absence of a better device, instructional objectives can serve a useful purpose for curriculum planners and implementors, especially teachers.

Characteristics of Instructional Objectives

It may be helpful to use a set of criteria in judging the appropriateness of instructional objectives. The following guidelines are culled from the working papers of the Presidential Commission to Survey Philippine Education (PSCPE) set up in 1971.

1. Are the objectives clearly stated? Do they specify what the learner must be able to do or perform when he is exhibiting mastery of the objective? Do they specify unobservable (covert) or observable (overt) student behavior which if present indicates attainment of objective?
2. Are they limited to those which clearly the school has a reasonable chance of achieving?
3. Have they been understood and accepted by those whose work they are supposed to influence?
4. Do they reflect both individual and group needs?
5. Are they reasonably comprehensive but concise?
6. Do they have unity and consistency?
7. Do they lend themselves easily to evaluation of outcomes?

From the foregoing guidelines, we may draw up the following characteristics of a well-written objective.

1. *Specificity*. As indicated, objectives provide external evidence of learning, either knowing or feeling. This evidence must be observable and verifiable. Objectives are statements describing what the learner is doing when he is learning or what he should be able to do at the end of the learning activity. We need to describe precisely what this desired behavior is in order to preclude misinterpretation. Thus, the key to writing apt objectives is to use action words that describe specific behaviors of the learner. Hence, the use of the word "know" and "appreciate" is not appropriate because they do not describe exactly what new behavior is learned. The question may be raised. How do we know that he knows or appreciates something? How can we check?

For examples of acceptable terms used in writing instructional objectives, the reader is referred to the list that follows:

The following suggested ways of stating behavioral objectives are based on Bloom's classification or taxonomy of objectives into three domains – cognitive, affective and psychomotor.

I. COGNITIVE

A. *Knowledge objectives*. At the end of the lesson or unit, the learner will be able to:

1. recall, recognize data, concepts and generalizations
2. deduce that _____
3. identify or recognize that _____
4. distinguish _____ from _____

B. Inquiry and Skill Objectives. At the end of the lesson or unit, the learner will be able to :

1. describe and compare _____
2. explain how _____
3. demonstrate how _____
4. distinguish _____
5. consider and use _____
6. plan carefully _____
7. conceive varied ways of _____
8. formulate _____ effectively
9. give evidence or proof of _____
10. weigh the validity of _____
11. use of variety of _____

12. locate, gather, appraise, summarize and report the _____
13. read _____ critically _____
14. compare, interpret the abstract _____
15. conclude from available supporting evidence that _____
16. express ideas effectively _____
17. organize materials from several sources _____
18. note sequence of events _____
19. examine _____ critically _____
20. consider every aspect of _____
21. recall experiences partinent to _____
22. state _____ clearly _____
23. select materials relevant to _____
24 classify _____
25. analyze _____
26. differentiate _____
27. define _____ clearly _____
28. infer or deduce that _____
29. arrange _____
30. correlate _____ to _____
31. discuss _____ intelligently _____
32. establish that _____
33. emphasize that _____
34. predict that _____
35. observe _____ keenly
36. specify _____
37. record _____ accurately
38. list down _____
39. examine carefully _____
40. disseminate _____

II. AFFECTIVE

A. Attitudes, appreciations, ideals, interest. At the end of the lesson or unit, the learner will be able to:

1. assume responsibility for _____
2. utilize _____ wisely and effectively
3. observe _____ strictly
4. listen critically and purposively to _____
5. participate actively in _____
6. sustain interest in _____
7. share with _____
8. tolerate _____
9. comply with _____
10. accept _____
11. find pleasure in _____
12. form sound judgment _____
13. venerate _____
14. control _____
15. equalize _____
16. admire _____
17. appreciate _____
18. follow _____
19. adjust _____
20. value _____
21. satisfy _____
22. visit _____
23. conserve _____
24. maintain _____
25. show respect for _____
26. strengthen _____
27. initiate worthwhile projects _____
28. commemorate _____
29. intensify _____
30. sharpen _____

31. exert effort in _____
32. generate _____

III. PSYCHOMOTOR

A. Skills. At the end of the lesson or unit, the learner will be able to :

1. construct _____
2. manipulate _____
3. use _____
4. perform _____
5. measure _____
6. operate _____
7. handle _____
8. execute _____
9. install _____
10. connect _____
11. experiment _____
12. assemble _____
13. copy _____

2. *Performance Standard.* The objective must include the minimum level of acceptable performance of the learner. It is not enough that the students is able to exhibit the behavior. We must also be able to tell how well he is doing it in relation to expected levels of mastery. Two levels may be set:

   a. *Individual Student Level.* This is an explanation of how well an individual student should be able to perform a particular behavior e.g., given 20 words randomly selected, the student will spell out correctly at least 15.

   b. *Class Level.* This indicates what percentage of the class must perform at a specified minimal level of mastery, e.g., at least 70% of the class will spell correctly all 20 spelling words.

3. *Attainability.* In setting up our standards, there is a need for us to know the ability level of the learners for whom the objectives are intended in the first place. Objectives are for students and not the other way around. A good knowledge of student characteristics and abilities help in setting realistic expectations. It is well to consider also the entry prerequisites and readiness level of the learners when formulating objectives to ensure attainment. The exhortation not to give "too much, too soon," is appopos in this regard.

4. *Measurability.* If we are to determine levels of performance against standards, we should be able to quantify the behavior and consequently measure it. Objectives are useless unless some form of assessment of learning outcomes is undertaken. At the end of the learning sequence, we must look for the evidence of learning in relation to the standards we have set. This is only possible by using a tool for measurement which is usually but not exclusively in the form of a quiz or test.

Format: Writing Instructional Objectives

We have seen that objectives are statements describing what the learner is doing during or will be doing upon completion of learning. An acceptable objective lets the student know what is exactly expected of him. It also enables the teacher to measure the effectiveness of his own work.

A well-written instructional objective contains the following essential elements:

1. The terminal behavior must be identified by name. An observable behavior must be stated that shows exactly what sort of learning has taken place.

2. The important external conditions under which the behavior is expected to occur should be included.

3. The criteria of acceptable performance should be specified.

A simple method of stating a complete objective statement is through the use of the so-called ABCD format, where —

"A" is for "audience" or the target group of learners who will learn the new behavior in terms of knowledge to be gained, skill to be perfected, or attitude/value to be imbided. The point to stress is that an objective is meant for a specific group of learners with unique characteristics, interests and needs. Hence, a "to-whom-it-may-concern" type of objective will not serve the purpose.

"B" is for "behavior" that the learners will perform or exhibit to indicate achievement of the objective. This must be described in clear, concise, and concrete terms.

"C" is for "condition" under which the behavior will be performed by the learners. In other words, any given or restriction that will obtain when the learner exhibits the desired behavior should be identified and specified.

"D" is for "degree" of acceptable performance of the behavior, which may either be for the individual student or the whole class.

The example below will illustrate this format:

A : Grade 5, Bonifacio section students
B : Will label the relief map of Luzon
C : Without the use of their note
Given a relief map
D : At least 15 out of 20 provinces

The objective statement will read thus: Given a relief map of Luzon, the Grade 5-Bonifacio students will be able to label correctly at least 15 out of 20 provinces without the aid of their notes.

For more instructions and details on writing instructional objectives, the reader should refer to the book of Robert Mager, "How to Write Instructional Objectives".

Box 2-1 contains some pointers in evaluating instructional objectives.

Box 2-1

Checklist for Evaluating Instructional Objectives

1. Is the objective clearly related to the goal from which it is derived?
2. Does the objective include only one learning outcome?
3. Is the objective stated in terms of student behavior, not teacher performance?
4. Is the objective stated as a learning product, not process or activity?
5. Is the minimum level of performance indicative of acceptable achievement clearly specified?
6. Does the objective state the circumstances or conditions under which the student will exhibit the desired learning outcome?

Classification of Instructional Objectives

The advocacy of instructional objectives by those seeking to clarify educational purpose has met resistance from those who believe that describing learning outcomes in this fashion is too simplistic and educationally naive since it ignores the interrelatedness of human experiences. In the early rush to write clear and precise statements, teachers often chose simple objectives that required little thinking on the part of their students. These teachers actually confined their objectives quite narrowly to one domain of learning, the so-called cognitive or knowledge domain, and at the lowest levels at that.

Domains of learning in educational jargon designate a large group of learning opportunities, broad in scope, that are planned to achieve a single set of closely related educational goals. Domains then are useful categories of major goals and related learning ob-

jectives. They do not necessarily embody the whole purpose of schooling but rather those aspects of human development for which universal goals, and eventually objectives, can be formulated. They are not objective statements per se but can become a basis for formulating these statement. They are useful as a classification or taxonomic system that can be utilized for curriculum planning.

The most notable of these domain classifications or taxonomies are those developed by Benjamin Bloom and associates. They identified arbitrarily three such domains, namely, the cognitive, the affective, and the psychomotor domains. Following is a brief description of these domains and sample statements of instructional objectives for each.

Cognitive Domain or the domain of intellection and thought processes include the following:

1. *Knowing*, which has to do with learning and recalling facts, terms, and other symbols, classifications, events, trends, principles, ways of working and theories.

   Sample Objective: Name five simple machines and state how each works.

2. *Comprehending*, which involves interpreting content, translating it to another form, and extrapolating elements from one situation to another.

   Sample: Explain a graph showing population growth trends.

3. *Applying*, which is using in new situations that which one has already learned previously.

   Sample: Show how respect for human rights is taken into account in R.A. 3578.

4. *Analyzing*, which consists of breakingup wholes into their component parts and noting the nature of the parts and their relationship to one another.

   Sample: Specify three causes of the Philippine Revolution of 1898.

5. *Synthesizing*, which is putting discrete or isolated elements together and creating something new by combining these elements.

   Sample: Construct a model showing how soil erosion can be contained.

6. *Evaluating*, which is judging the worth of something or somebody based on certain criteria.

   Sample: Distinguish between drawings which illustrate effective use of color and lines to focus attention on a central feature and drawings that do not.

Affective Domain or the domain of sensing, feeling and believing which include:

1. *Receiving*, which is showing interest in, giving attention to, and indicating awareness of an object, stimulus or phenomenon.

   Sample: Listen attentively to the first movement of "Nutcracker Suite".

2. *Responding*, which is giving willing response and replying with a feeling of satisfaction.

   Sample: Select three books voluntarily for leisure reading and state ways in which they are interesting to the reader.

3. *Valuing*, which is accepting a value, prefering it, and becoming committed to it.

   Sample: Show conviction by writing a letter of protest to a congressman on a bill deemed detrimental to public morals.

4. *Organizing values* by conceptualizing them, clarifiying them and systematizing them in one's thinking.

   Sample: Formulate and state judgments on certain issues related to extension of equal work opportunities and privileges to women.

5. *Characterizing values* by internalizing them so they become eventually part of one's philosophy of life.

Sample: Exhibit in several unrelated instances fulfillment of a promise once given.

Bloom and associates, however, were able to work only on the cognitive and affective domains of learning. Some educational writers have attempted to come up with a taxonomy for the psychomotor domain. One such writer is Anita Harrow who formulated the following classification.

1. *Fundamental Movements*, which include physical motions such as walking, jumping, running, pulling, pushing, and manipulating.

Sample: Dribble a basket ball twenty times.

2. *Perceptual Abilities*, which include visual, auditory, tactile, kinesthetic and coordinated activities.

Sample: Write correctly all the letters of the English alphabet.

3. *Physical Abilities*, which include showing physical prowess, strength, endurance, agility, dexterity and time required to react or respond to a stimulus.

Sample: Do ten pushups in one minute.

4. *Skilled Movements* which include well-coordinated movements in games, sports, and the arts.

Sample: Play a full quarter in a basketball game.

5. *Nondiscursive Communication*, which includes nonverbal communications through facial expressions, gestures, postures, and creative body expressions.

Sample: Create a rhythmic movement sequence and execute it to a musical accompaniment.

For more details of these taxonomies of learning outcomes, the reader is referred to: *Taxonomy of Educational Objectives: Cognitive Domain* and *Taxonomy of Educational Objectives: Affective Domain* of Benjamin Bloom, *et al*, and *Toxonomy of Psyhcomotor Domain: A Guide to Developing Behavioral Objectives* by Anita J. Harrow.

Types of Instructional Objectives used in CDS

For CDS purposes, we shall consider two types of instructional objectives, namely, *Terminal Performance Objectives or TPO* and *Enabling Objectives or EO.*

Terminal Peformance Objectives (TPO)

This refers to the final behavior the student must perform when assessment takes place at the end of an extended instructional sequence, that is, the end of a unit of instruction. Some may call this the general or broad objective.

In the CDS plantilla, the TPO has to include all the elements of the ABCD format. See examples in the sample plantillas in Chapter Four.

Enabling Objective (EO).

EOs are sub-objectives or specific objectives that state the smaller behaviors or tasks that are essential in order for the learner to achieve the TPO in the end. EOs are associated with lessons that make up the unit. There is one EO per lesson and it is focused only on one specific behavioral outcome in any of the three domains — cognitive, effective or psychomoter.

Two points are to be kept in mind in relations to EOs: First, EOs are related to the TPO and enable the learner to achieve the latter. Second, the EOs in a unit are related to one another usually in an ascending order of difficulty, that is, we start with the simpler tasks and proceed to the most complicated one so that in the end the behavior required in the TPO is learned.

For EOs the objective statement may include only the *behavior* and *degree* components unlike the TPO which usually includes all components of the objective format. Again, see sample in chapter Four.

A TPO is essential in order that the teacher can plan for the learners all the necessary activities they must engage in if they are to acquire the desired new knowledge, skill, attitude or value. However, in planning the unit of learning, we must be able to break it down into managable chunks and identify those tasks or steps that the learner must master in sequence to enable him to reach the desired behavior at the end of the unit.

For example, if we are planning a unit on writting a simple paragraph, the TPO, expressed roughly, is: "to write a simple paragraph in correct form." We then break this down into the steps or tasks student must learn which might include the following: writing a topic sentence, writing the primary and secondary support, writing a closing sentence, and putting all these in correct format using all the proper mechanics of paragraph writing. These become the EOs. If the student learns all the EOs well, it should follow that they can perform the TPO at the end of the unit. In sum, mastering the intermediate steps or tasks enables the student to perform the terminal behavior.

REFERENCES

Bloom, Benjamin S., Editor. *Taxonomy of Educational Objectives: Cognitive Domain.* New York: David McKay, Publishers, 1956

Bloom, Benjamin, David Kratwohl and Bert Masia. *Taxonomy of Educational Objectives: Affective Domain.* New York: David McKay, Publishers, 1964.

Combs, Arthur, *Educational Accountability: Beyond Behavioral Objectives.* Washington, D.C.: Association for Supervision and Curriculum Development, 1972.

Gronlund, Norman. *Stating Objectives for the Classroom*, 3rd ed. New York: Macmillan Publishing Company, 1985.

Harrow, Anita J. *Taxonomy of Psychomoter Domain: A Guide for Developing Behavioral Objectives.* New York: David McKay, Publishers, 1972

Hostrop, Richard W. *Managing Education for Results.* Palm Spring Calif.: ETC Publications, 1975

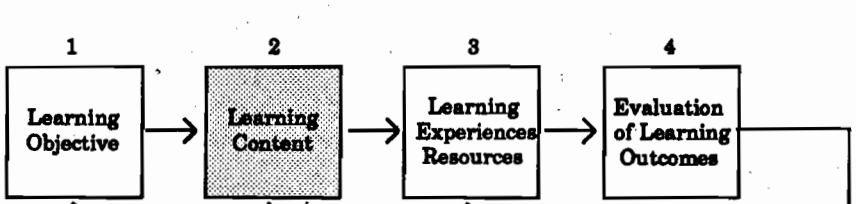
Karmel, Marilyn D. and Louis J. Karmel. *Growing and Becoming: Development from Conception through Adolscence.* New York: Macmillan Publishing Company, 1984.

Lewis, James Jr. *School Management by Objectives.* New York: Parker Publishing Company, Inc. 1974.

Mager, Robert F. 1962. *Preparing Instructional Objectives.* Palo Alto, Calif.: Feach Publications, 1962

Popham, James W. *Instructional Objectives.* Chicago: Rand McNally, 1969.

Chapter THREE: CURRICULUM CONTENT



The most useful, although not necessarily the only, form of stating instructional objectives is that in which the *behavior* and the *content* of learning are clearly spelled out. Such a formulation of objectives is less prone to misinterpretations. The teacher who uses such types of objectives will know immediately the domain of learning involved and will be able to limit the evaluation measure only to the stated objectives or behavior within the specific or defined learning outcome. In short, such an objective (a) states the outcome from the vantage point of the learner, (b) contains a content aspect in terms of a specific domain of learning, and (c) specifies a behavioral aspect for checking purposes when learning has occurred.

Thus, in the sample objective: "The student will write in his own words the meaning of the law of supply and demand," the

content portion is "meaning of the law of supply and demand," and the behavior aspect is "write in his own words."

What Is Learning Content?

It can be said, in fact, that instructional objectives are not possible without learning content. Content is the medium through which the objectives are accomplished. Put another way, instructional objectives are fleshed out in terms of learning content.

There are three basic questions related to learning content:

1. What knowledge, skills, attitudes or values are most worthwhile to be taught and learned?
2. Why are they considered worthwhile?
3. How are they acquired?

These represent the most fundamental curriculum questions and constitute the bottom line of all activities commonly associated with educational theory and practice.

In dealing with learning content we have to contend with the so-called "knowledge explosion" phenomenon. Knowledge has accumulated so fast it is no longer just difficult but simply impossible to cram our curriculum even with summaries of all existing knowledge. The decision with regard to the selection of content revolves around the pivotal question: How can a school make a wise selection of content from the ever-growing body of available human learning?

Sources of Learning Content

In Chapter Two, we considered the "Fund of Human Knowledge" which represents the repository of the accumulated discoveries and inventions of man down the centuries. This fund, sometimes called the "Heritage of the Human Race," is dynamic and undergoes a constant turnover and updating of facts and information, ideas, generalizations and concepts as well as the processes used in acquiring and interpreting these acquisitions.

This fund covers all the known areas of human learning acquisitions and is generally subdivided into the humanities and arts, on

the one hand, and the sciences, on the other, and the subdivisions of these two branches. This fund has been accumulated over a long period of time owing to man's unceasing exploration of his world, especially his four-way relationships: vertically, with the Supreme Being above him and with the physical world below; horizontally, with other men, on the one hand, and with himself, on the other (Fig. 3-1).

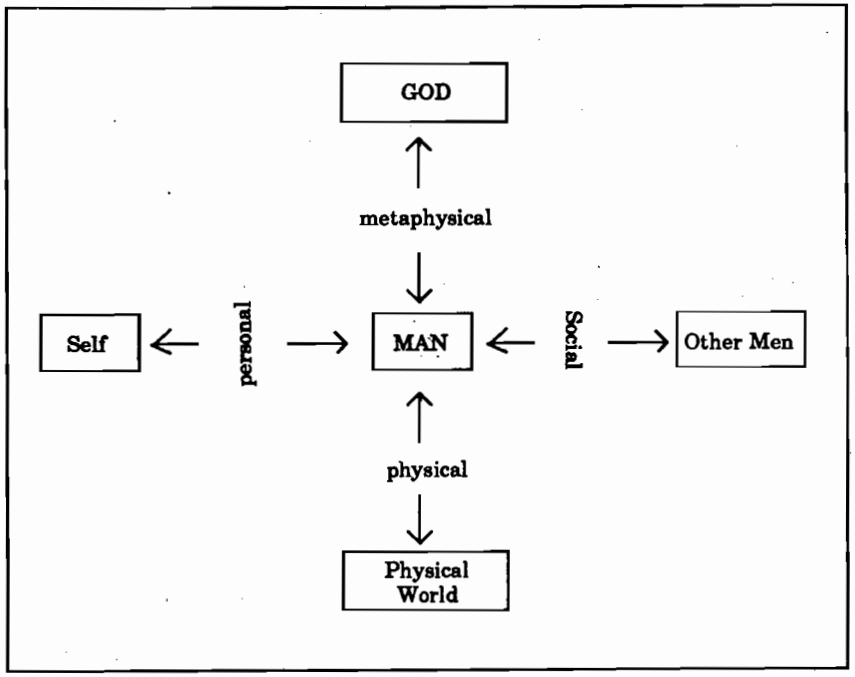


Fig. 3-1. Sources of Human Learning: Man's Four-Way Relationships

Chronologically speaking, the different organized branches of human learning developed over time starting first with Mathematics, a man-made science, followed by the physical non-life sciences (Physics and, Chemistry), then the life sciences (Botany, Zoology an Physiology), then the Social Sciences (Sociology and Anthropology), and finally, Psychology. The Social Sciences and Psychology constitute what is popularly known as the behavioral sciences. Fig. 3-2 on the next page illustrates this development of the Sciences.

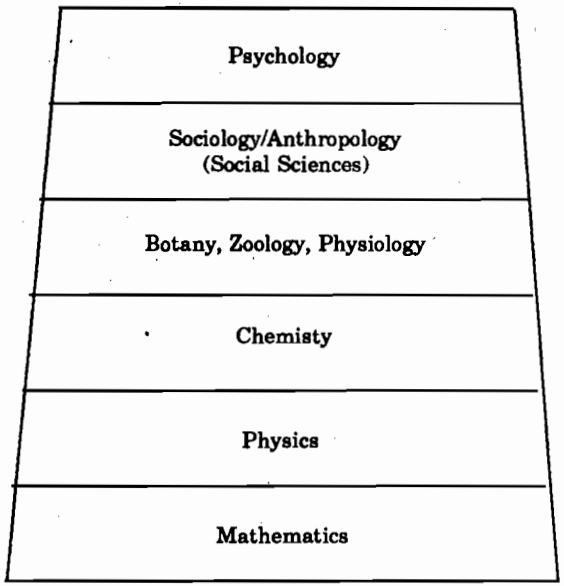


Fig. 3-2. Pyramid of the Sciences

From Sciences to Subject Areas: The School Curriculum

A major function of formal education or schooling on the elementary and secondary levels is primarily to transmit organized knowledge in distilled form to a new generation of young learners. In fact, schooling can be considered as a "short cut to life experience." The traditional sources of what is taught and learned in school is precisely the fund of human knowledge or the heritage of learning of the human race. Therefore, the sciences and humanities provide the basis for selecting the content of school learning.

When a branch of human learning is organized and scaled down into a specific field of study it comes to be known as a "discipline". From the different disciplines have evolved the different areas in the present-day school curriculum. Each subject area has its own body of subject matter or learning content which students are expected to study and master.

Traditionally, the following broad subject areas comprise the curriculum in basic or general education which encompasses the elementary and secondarry levels of schooling:

Communication Arts, which include the skills of listening, speaking, reading and writing as well as the effective use of language in daily living

Mathematics, which includes numeracy and computational skills, geometry and measurement, algebra and statistics, logic and reasoning

Science, which includes the major branches of the natural science (Biology, Chemistry, Physics), exploration and discovery dealing with natural phenomena, and the use of the scientific method of investigation

Social Studies, which include basic elements of Geography, History, Sociology, Anthropology, Economics, Civics, Political Science, and Psychology

Music, which includes basic music theory, practice in listening, singing, playing musical instrumetns, and music appreciation

Art, which includes different media, forms, and elements of graphic expression of the human condition

Physical Education, which includes health and physical fitness, individual and team sports, spectatorship and wise use of leisure time

Vocational Education, which includes psychomotor and manipulative skills in basic crafts and trades, design, work ethic and appreciation of manual productive work.

Selection of Learning Content

As we have seen, it is not feasible nor is it desirable to include the full content of a particular science or discipline in the school curriculum due to practical psychological considerations. Therefore, there is a need to make a wise and systematic selection of appropriate content for learners at given levels of schooling. One useful

way of selecting subject matter is to use a filtering device such as the one in Figure 3-3 below.

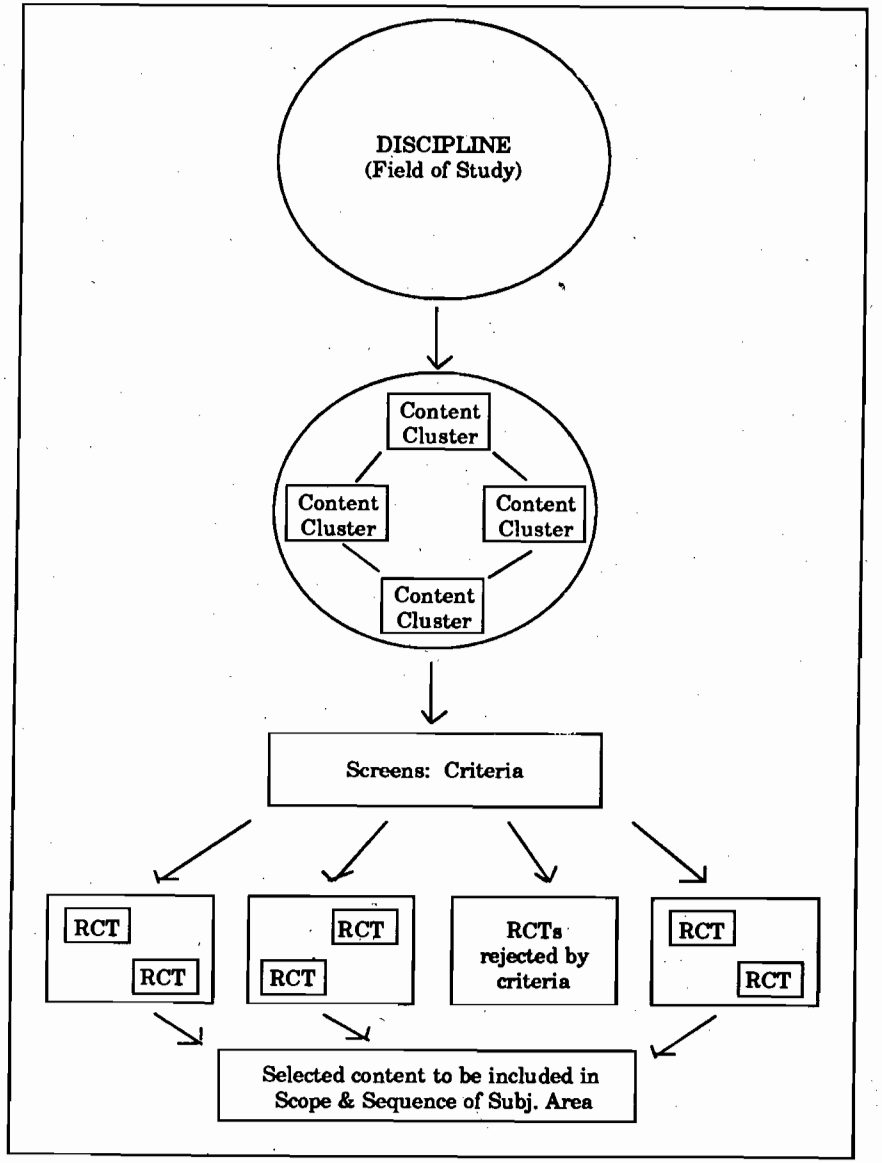


Fig. 3-3. Model of Selecting Learning Content

Since curriculum planners and developers cannot and should not use all available knowledge and all the accumulated experiences of mankind, there should be a process for the selection of relevant topics to be included as content in the curriculum. The steps in this filtering process include the following:

1. Selection of a discipline to be included in the curriculum which specifies a particular field of inquiry or learning. These disciplines are predetermined and mandated for schools as previously cited.

2. Use of a device to narrow the discipline for school use. Jerome Bruner suggests the reduction of the discipline to its basic "structure". He believes that the fundamental structure of the subject rather than discrete elements or fragments of information should be taught and learned. By structure, he meant the network of major elements and sub-elements that unifies a discipline and serves as a useful tool for simplifying and managing current data and concepts for generating new ones.

   These elements and sub-elements that form the structure of a subject area include the following:

Facts	Skills	Ideas	Theories
Information	Habits	Concepts	Principles
Topics	Competencies	Generali-	Axioms
Themes	Values	zations	Laws

The diagram below gives a simple example of some elements and sub-elements that may be found in the structure of a subject like Social Studies.

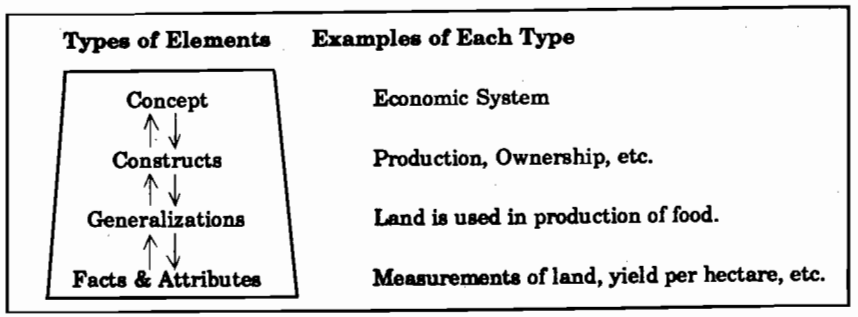


Fig. 3-4 gives a detailed illustration of the so-called "content or concept clusters" that make up the structure of a subject area like Social Studies. Bruner believes that organizing content into these clusters provide the following advantages in curriculum making: (1) It makes a subject matter more easily comprehensible; (2) It enables the learner to more easily retain content learned; (3) It enhances transfer of learning; and, (4) It promotes intuitive thinking or learning by insight.

3. Application of selection screens or criteria to determine the specific content that is representative of the subject area for a particular level of schooling, in this case, general education. In general, all things being equal, the following contents are preferred, namely, those that –

   (a) Have a high frequency of occurrence and use in common life

   (b) Are of interest and concern to students at apropriate levels of instruction

   (c) Are suited to the maturity levels and abilities of students

   (d) Serve as a basis for acquiring more learning

   (e) Are within the achievement level and experience of students

   (f) Are of value in meeting the needs and competencies for a future career

   (g) Include an intensive treatment of a small number of topics rather than an extensive treatment of a large number of topics

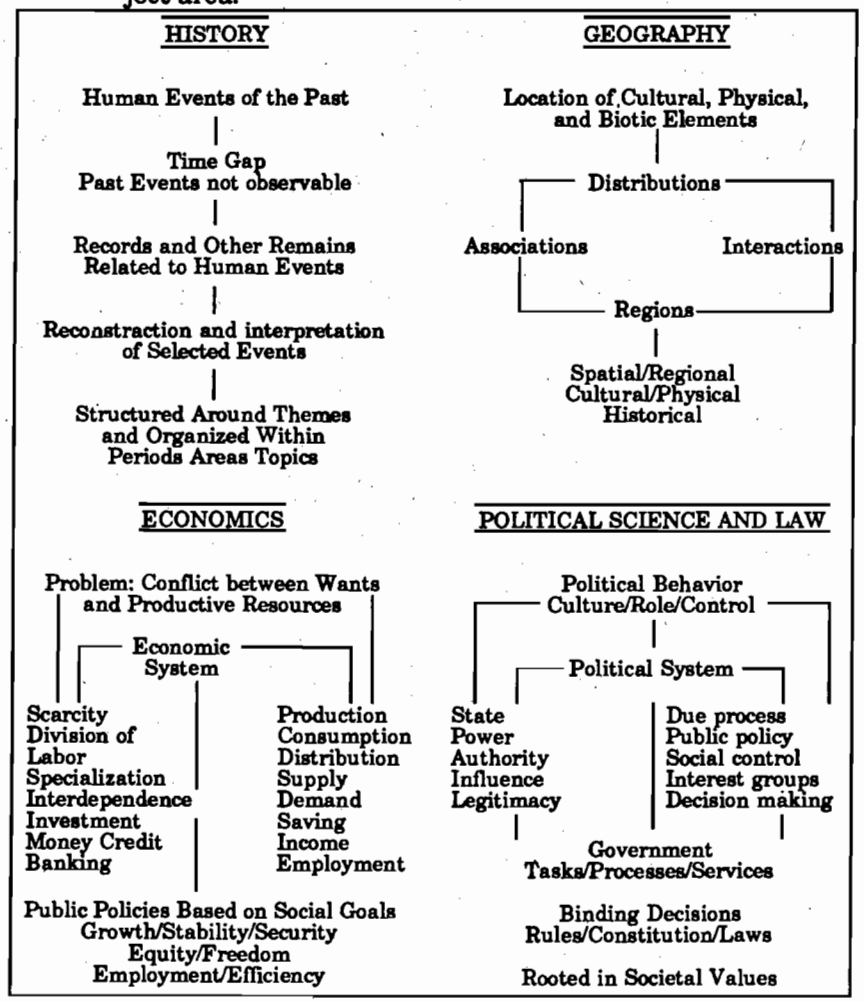
   (h) Include the same topics in the same subjects in succeeding grade levels only when there are new learning outcomes anticipated.

   (i) Make possible maximum correlation with other subject areas

   (j) Allow for transfer of learning to similar learning experiences and related life situations

Box 3-1 on page 68 gives other criteria useful in selecting content.

4. Selection of the representative content topics (RCTs) from the content clusters that have been subjected to the criteria screen. Only those that pass the screen should become part of the curriculum.
5. Delineation of the accepted RCTs into sequential order for instructional purposes in the Scope & Sequence of the subject area.



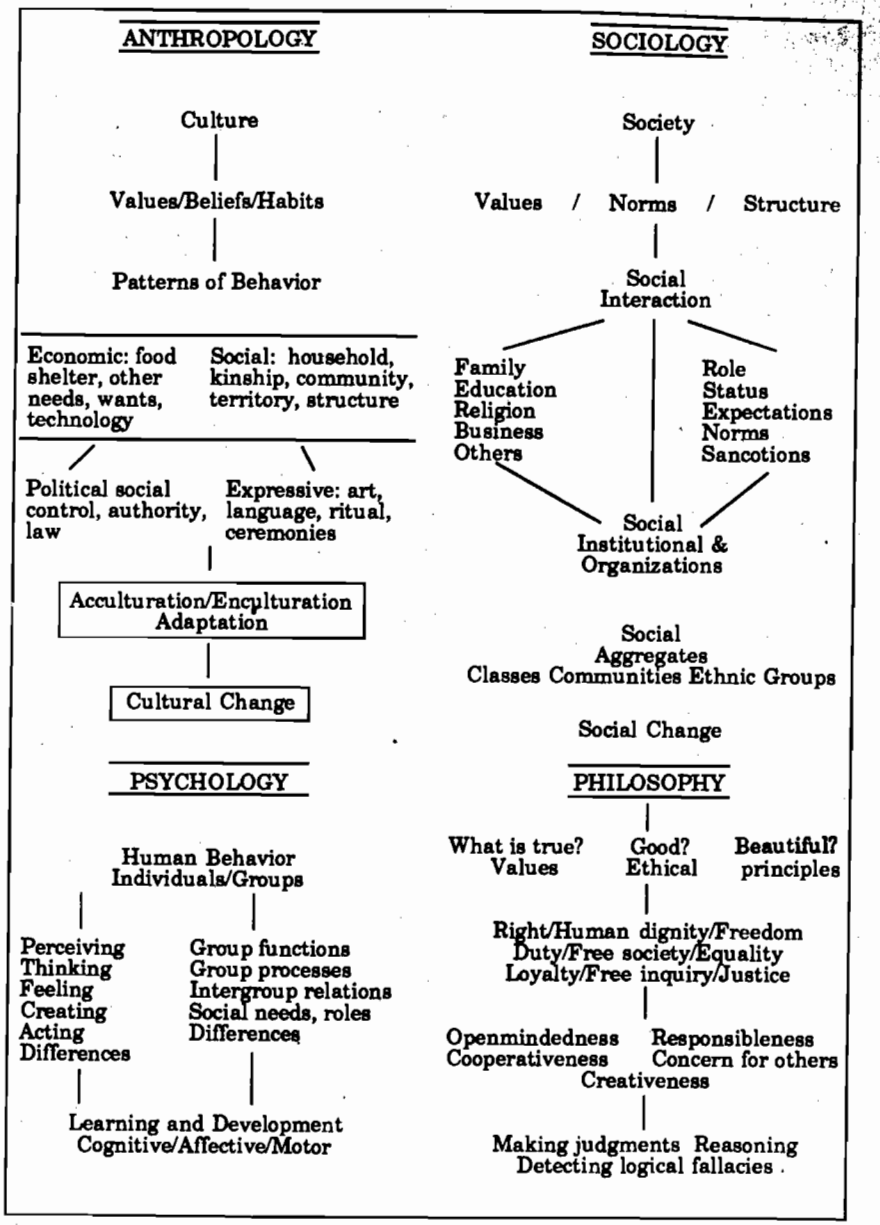


Fig. 3-4. Suggested Social Studies Concept Clusters (Adapted from MIchaelis, John. *Social Studies for Children in a Democracy*. Prentice-Hall, 1978)

Box 3-1

Key Criteria for Selecting Learning Content

1. Usefulness in contributing to the attainment of conceptual, process, skill and affective objectives
2. Relevance to significant human experiences, problems, and issues and frequency and criticality of use
3. Reliability, authoritativeness, validity and up-to-dateness
4. Adaptability in terms of learners' abilities and background
5. Usefulness in planning and organizing instruction, in generating questions and learning activities, and in making applications in a variety of situations
6. Usefulness in developing skills and modes, methods, and processes of inquiry
7. Usefulness in explaining a wide variety of phenomena and developing a sense of structure of the field of study
8. Usefulness in developing competence in clarifying values, attitudes, and value-laden issues and problems with social relevance
9. Availability in textbooks, AV resources, and other instructional media.

Organization of Learning Content

Curriculum design refers to how the curriculum content is organized and laid out for purposes of instruction. This is intended to accomplish orderly and meaningful coverage of content so as to bring about the cumulative effect of education in terms of residual or habitual learning. This also ensures economy through optimum

use of time and effort, efficiency through an orderly and systematic progression of learning and effectivity in obtaining the desired learning outcomes.

In organizing curriculum content, we are usually guided by the following complementary *BASIC* principles:

1. *Balance.* This refers to the equitable and fair distribution of content among the different levels of instruction to ensure that no level is unduly overburdened or underburdened.
2. *Articulation.* This refers to provisions for establishing the vertical linkage from level to level. This way we can avoid the glaring "gaps" and wasteful "overlaps" in subject matter and ensure an unbroken chain of learning. Proper articulation promotes team work among the instructional staff and will prevent the perennial "blaming syndrome" so prevalent in schools where this principle is not observed.
3. *Sequence.* This term is used to describe the sequential and graded arrangement of subject matter. It refers to a deepening and broadening of content as it is taken up on the higher levels. The term "spiraling" has been used to denote this idea of sequence. For instance, a senior high school class will take up paragraph writing but at a more sophisticated and advanced level than a first year class.
4. *Integration.* This denotes the horizontal link of content in related subject areas. There is integration when an individual is able to connect what he is learning in a subject area to a related content in another subject area. Thus concepts and skills learned in Math (e.g. geometric figures) may also be used by a student in related topics in Science. The quality of schooling outcomes improves as learners are able to integrate their learning instead of acquiring isolated fragments of information. Integration helps a person to get a unified view of reality and to use it to improve his total behavior pattern and outlook in life.

5. *Continuity.* This refers to a constant and consistent repetition, review and reenforcement of major learning elements to bring about mastery or "executive control" of subject matter. Learning is not a one-shot activity and requires continuing application of the new knowledge, skill or attitude or value to ensure habitual use in daily living.

Figure 3-5 below illustrates the three major principles of continutiy, sequence and integration.

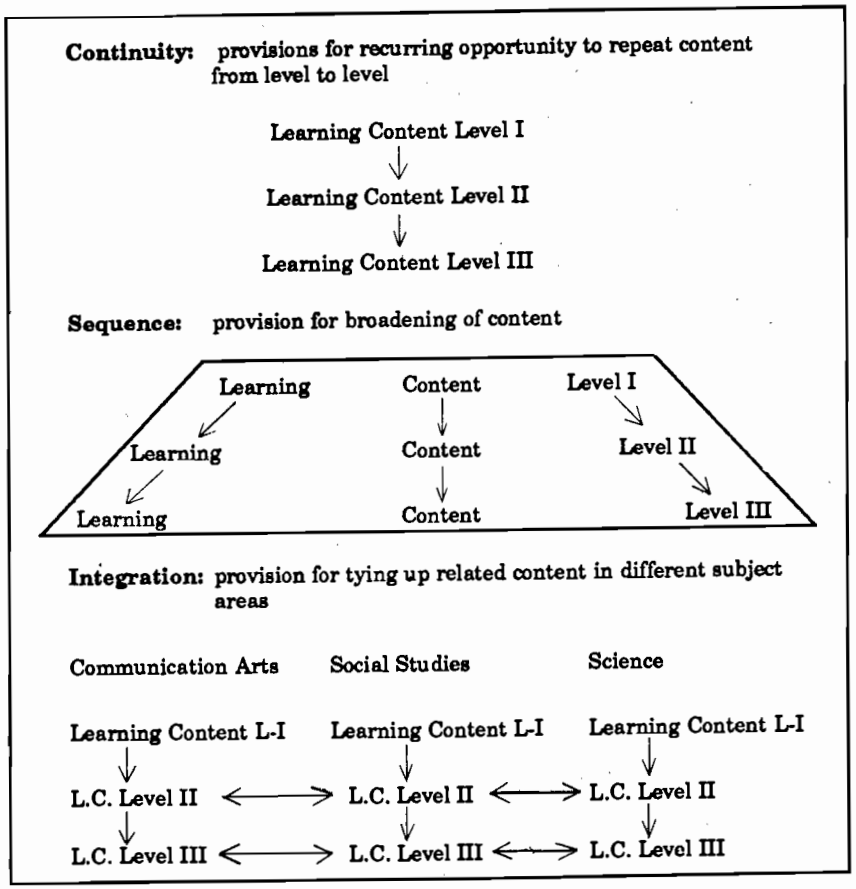


Fig. 3-5. Illustration of Curriculum Organization Principles

For example, if in Communication Arts English the development of knowledge and skill of the agreement between subject and predicate is deemed important, it is imperative to have recurring and continuing opportunities for the application of this knowledge and skill on the succeeding levels (Principle of Continuity).

These recurring experiences, however, must become more and more complex and show increasing breadth and depth in the development of the knowledge and skills involved. This means that the explanation and examples on higher levels should not simply repeat or reiterate what has been learned previously but should be given in greater depth (Principle of Sequence).

Finally, the importance of knowledge and skills must be emphasized by using them not only in the Communication Arts classes but also in other fields where English is used as a medium of instruction or communication. The elements of the curriculum are not to be taught singly or in isolation but are to be woven into the totality of the child's learning and living (Principle of Integration).

Lay-out of Learning Content

In the CDS approach proposed in this handbook, the format or lay-out of curriculum content selection and organization takes the form of three interrelated documents, namely, (1) Scope and Sequence, (2) Unit Plan or Plantilla, and (3) Lesson or Session Plan.

Scope and Sequence. The scope and sequence document accomplishes two things. First, it involves the *selection* of content delineating the parameters or limits of subject matter to be learned in a unit of schooling, i.e., elementary or secondary unit or level. This is the "scope" aspect. Secondly, it provides for the *organization* of content selected through a progression or graduation in difficulty from one level to another within the school unit. This is the "sequence" aspect.

If scope is the "what" of curriculum, sequence is the "when". Sequencing refers to the best order of presenting materials, lessons or activities.

There are different ways of laying out the Scope and Sequence. The most common way preferred by commercial textbook publishers is the so-called flowchart format whereby subject matter is indicated in appropriate grade level blocks. The layout used in CDS, however, is the grid format. In this format, the learning content is meticulously outlined indicating elements and sub-elements in descending order of difficulty and symbols are used under appropriate grade or year levels indicating type of instructional activity that is involved. In the basic model given in Box 3-1, two arbitrary symbols are used: (@) for formal introductory instruction, and (x) for review, reenforcement or enrichment. However, other symbols may be used by a school for its own purposes so long as they are clearly understood and unformly interpreted by all concerned. The grid format makes it easier to pinpoint the accountability of each level for certain designated subject matter. It also helps ensure adherence to the principles of curriculum design, particularly, those of balance, articulation and sequence.

The steps followed in developing the CDS Scope and Sequence Grid (SSG) follow:

1. The Subject Area Task Force (STF) members sitting en banc determine the major elements of the structure of the subject area to be included in the SSG.
2. They take each element and break it into its sub-elements, including only those that are essential, meaningful, and useful to the learners.
3. They arrange the elements and sub-elements in outline form, from the simplest to the most complex.
4. They determine the appropriate level at which each element or sub-element is to be introduced formally and on which levels it will be reviewed or reenforced, putting the appropriate symbols.
5. They continue the process until the whole SSG draft is completed.

Box 3-1

SCOPE AND SEQUENCE GRID

English Language Arts — Elementary Level

Legend: @ – introduce, initiate formally x – review, reinforce, enrich

Learning Content	LEVELS K	1	2	3	4	5	6
1. WORDS							
1.1 Concept: What is a word?	@	x	x	x	x	x	x
1.2 Types of words							
1.2.1 Sight words	@	x	x	x	x	x	x
1.2.2 C-V-C words	@	x	x	x	x	x	x
1.2.3 CBl-V-C		@	x	x	x	x	x
1.2.4 C-V-CBl		@	x	x	x	x	x
1.2.5 Words with long vowel sounds and silent final e			@	x	x	x	x
1.3 No. of syllables							
1.3.1 One		@	x	x	x	x	x
1.3.2 Two			@	x	x	x	x
1.3.3 Three				@	x	x	x
1.3.4 Four					@	x	x
1.3.5 Five or more						@	x
1.4 Words with affixes							
1.4.1 Prefixes only			@	x	x	x	x
1.4.2 Suffixes only			@	x	x	x	x
1.4.3 Prefixes and suffixes together				@	x	x	x
1.5 Meaning							
1.5.1 Synonyms			@	x	x	x	x
1.5.2 Antonyms			@	x	x	x	x
1.5.3 Homonyms				@	x	x	x
1.5.4 Homographs					@	x	x
1.5.5 Compound words					@	x	x
1.5.6 Multiple meanings						@	x
1.5.7 Specialized vocabulary						@	x
1.5.8 Technical vocabulary							@
1.6 Word family							
1.6.1 Generic words		@	x	x	x	x	x
1.6.2 Specific words			@	x	x	x	x
1.7 Words used as nouns							
1.7.1 Concept of a noun		@	x	x	x	x	x
1.7.2 Kinds of nouns							
1.7.2.1 Proper		@	x	x	x	x	x
1.7.2.2 Common		@	x	x	x	x	x
1.7.2.3 Concrete		@	x	x	x	x	x
1.7.2.4 Abstract			@	x	x	x	x
1.7.2.5 Collective				@	x	x	x
1.7.2.6 Mass				@	x	x	x
1.7.3 Forms of nouns							
1.7.3.1 Singular		@	x	x	x	x	x
1.7.3.2 Plural		@	x	x	x	x	x
1.7.3.3 Possessive			@	x	x	x	x

When the STFs have finished their draft copies, each STF will present its work in a plenum where other teachers can react and give their suggestions for improvement and indicate points of correlation or integration with other related subject areas.

This done, the SSG scripts are now ready for pilot use. During the trial run, additional comments and suggestions are noted for the evaluation and improvement of the documents prior to the initiation of the 3-year development cycle.

Unit Plan or Plantilla. Once the content has been laid out in the SSG, each level assumes the responsibility of planning for the content allocated to it. The GLT/YLT takes over the work of budgeting and planning the subject matter assigned to the level. This content is then organized into instructional units which in turn is made up of interlocking lessons. The unit approach ensures that we do not treat each day's lesson as unrelated segments of learning. This is more in keeping with the sound principle of continuous, integrated and unified learning centered around a major learning objective. This approach makes learning more meaningful to the learner and makes it easier to bring about more lasting behavior change.

In the CDS scheme, the Plantilla or Unit Plan takes care of the *implementation* or the delivery of the learning content in the instructional sequence. The components of the Plantilla correspond to the four sub-systems of the curriculum system as seen previously. These are: the learning objective (LO), the learning content (LC), the learning experiences and resources (LE &R), and the evaluation of learning outcomes (ELO).

Objective component. This includes the terminal performance objective (TPO) for the whole unit. This TPO is then broken down into enabling objectives (EOs) which then become the objectives for the sessions or lessons.

Content component. This indicates the subject matter to be learned in terms of knowledge, skill, attitude or value. Needless to say, the content aspect of the objective is the subject matter of the lesson.

Experiences/Resources Component. This includes the teaching-learning strategies, activities, instructional materials and media that will be utilized to achieve the objective.

Evaluation component. This specifies the assessment tools and other evaluative devices that will be used to measure mastery or attainment of the learning objective. There is an evaluation for each EO at the end of every session and another for the TPO at the end of the unit of instruction.

The Plantilla as previously noted as a team effort where the members of the GLT/YLT put their heads together. The Plantillas for the whole year are ideally done before the school year begins. They then become the basis for more detailed planning of the session plan if this is required by the school.

The Plantilla system proffers the following advantages to the school: (1) It provides a clear vision and direction as to what will be taught and learned for the whole school year. (2) It liberates the teachers from tedious and time-consuming daily planning thus giving them more time for student counseling and consultation. (3) It provides a device for continuing instruction even when a teacher is not around. And, (4) It affords administrators and supervisors a basis for monitoring the progress of instruction.

Session Plan. The Session Plans (SP) are part and parcel of the Plantilla. The session plan is in itself a complete, self-contained plan of instruction for a single lesson. However, a teacher may take each of the session plans in the Plantilla and expand or enrich the third component, i.e., the learning experiences and resources, to suit his particular style of and creativity in teaching. Or, if so required or desired, he may make a more detailed lesson plan based on the Plantilla to include the traditional features of a lesson plan such as the Preparation, Presentation, Application, and Assimilation aspects. However, all these means should not detract from, but rather contribute to, the attainment of the learning objectives.

REFERENCES

Berenson, David H., *et al. The Skills of Teaching: Lesson Planning.* Amherst, Mass.: Human Resources Development Press, 1978.

Bruner, Jerome. *The Process of Education.* Boston, Mass.: Harvard University Press, 1965.

Hemak, Richard M. *Lesson Planning for Meaningful Variety.* Washington, D.C.: National Educational Association, 1980.

Meyen, Edward K. *Developing Instructional Units: For the Regular and Special Teacher,* 3rd ed. Dubuque, Brown and Company, 1980.

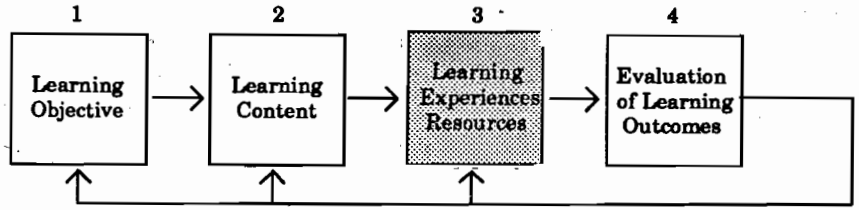
Stewart, William J. *Transforming Traditional Unit Teaching.* Boston: Amerincan Press, 1982.

Stewart, William J. *Unit Teaching: Perspectives and Prospects.* Boston: American Press, 1983.

Taba, Hilda. *Curriculum Development: Theory and Practice.* New York: Macmillan Publishing Company, 1962.

Tanner, Daniel and Laurel Tanner. *Curriculum Development: Theory into Practice.* New York: Macmillan Publishing Company, 1980.

Chapter FOUR: LEARNING EXPERIENCES AND RESOURCES



To attain its objectives, the school employs a body of content and a set of learning experiences associated with the content.

"Learning content" and "learning experiences" are two different things. The former refers to aspects of the environment or reality that a person internalizes as part of the repertoire he needs for successful living in society. This includes information and knowledge, concepts and beliefs, habits and skills, sensitivities and attitudes, values and ideals prevalent in that society. The latter, on the other hand, refers to certain activities that the learner undergoes in reaction to the environment with which he has an opportunity to interact. An experience is personal to the learner and what he gets out of it depends a lot on his total personal life space.

To illustrate this point, several students in an art class may be exposed simultaneously to the same painting. The painting itself constitutes the content of learning. One student may be attracted more to the color than to other elements. Another may react more to form. A third to composition. The same situation will elicit different reactions and consequently different forms and degrees of learning.

The implication of this is that the essential means of the educative effort are the experiences provided the students and not necessarily the content to which they are exposed. The content is only a means, the experience is of more consequence. Since learning results directly from personal experience, the selection of learning experiences and resources becomes a vital concern in the classroom. The central problem of schooling then is that of determining the kinds of experiences likely to produce the given objectives. The main concern of the teacher is how to set up situations and conditions in the classroom which will stimulate the students to pursue the objectives laid out before them.

Box 4-1 contains some suggested criteria for selecting meaningful learning experiences.

Curriculum and Instruction

Earlier on in this book, we defined curriculum as "a set of learning content and experiences that are selected, organized and implemented by the school in pursuit of its institutional purpose." Based on this particular definition, curriculum can be viewed as having two mutually inclusive components, namely, the blueprint or master plan of selected and organized learning content which can be referred to as "curriculum" per se; and, the actual implementation of this plan through contrived experiences in the classroom, which is "instruction." A useful analogy is to look at curriculum as a coin having two sides as in Fig. 4-1 below.

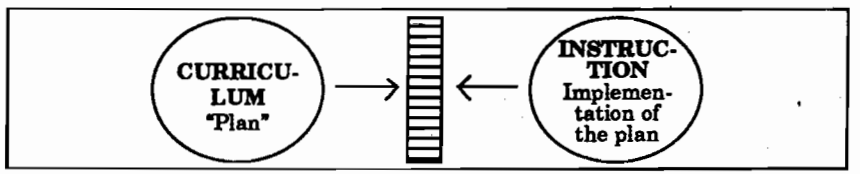


Fig. 4-1. Two Sides of the Coin of Curriculum

Box 4-1

Suggested Criteria For Selection of Learning Experiences

1. Can the experience bring optimum benefit to the learners?
2. Does the experience help meet the evident needs of the learners?
3. Are the learners likely to be interested in the experience?
4. Does the experience encourage the learners to inquire further?
5. Does the experience stimulate the learners to engage in higher levels of thinking and reasoning?
6. Does the experience involve the use of different senses and sense perceptions?
7. Does the experience approximate real life situations?
8. Is the experience in accord with the life patterns of the learners?
9. How contemporary is the experience? Is it timely and relevant?
10. How fundamental to mastery of total learning is the experience?
11. Do the major experiences provide for the attainment of a range of instructional objectives?
12. Do the experiences provide opportunities for both broad and deep study?

Teaching and Learning

The teacher performs two very important functions in the educative process. One function is that of "character formation" which is carried out through modeling, counseling and the application of behavior management or discipline. The other important function of the teacher is that of "instruction". It is incumbent on the teacher to carry out the requirements of the curriculum efficiently and effectively in the day-to-day program of learning in the classroom. And that is why the teachers as implementors of the curriculum should have a hand in its inception and development.

Instruction in the CDS context may be defined as "that phase of the curricular process that is concerned with the organization of the learners, the learning environment, and the experiences of learning in order to optimize learning outcomes." Instruction then consists of a set of experiences and resources that the teacher and learners utilize to achieve the learning objectives. Viewed this way, instruction can also be likened to another coin, albeit smaller, with two sides as in Fig. 4-2.

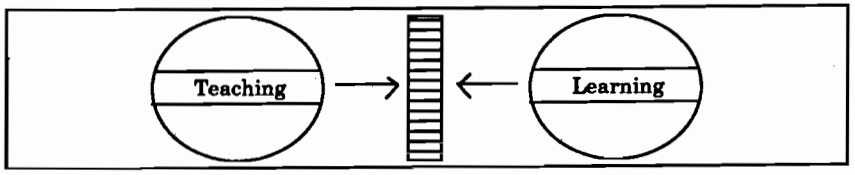


Fig. 4-2. Two Sides of the Coin of Instruction

The two aspects of instruction are "teaching" and "learning". Teaching is the responsibility of the teacher, a professional adult person trained for the job. It involves the intelligent arrangement of the environment and resources of learning that will evoke the right kind of response from the learners, a group of young maturing individuals under the care of the teacher. Learning is done by the learners by using optimally the learning resources and undergoing the planned learning experiences. The common concern of the teacher and the learners is that curricular requirements are met and standards of achievement attained so that learners develop according to the profile of the "Ideal Graduate".

In the sequence of events in the classroom, teaching comes first. However, in point of importance it is now generally accepted that learning is the top priority. If the end result of education is the betterment of a person, then learning assumes primary significance in the educative effort. Learning is an internal activity; it is the learner who learns. It is what he does which enables him to learn, not so much what the teacher does. This is not to say that what the teacher does is inconsequential. Rather, it is supportive, not causative. There is much wisdom in the Buddhist adage that "it is more important to learn than to be taught." Teaching or what the teacher does is important only insofar as it advances the intended learning outcomes.

What Is Learning?

The *Dictionary of Education* defines learning as "a change in response or behavior caused partly or wholly by experience..." In the CDS context, learning is "the interaction of the learners with conditions in the environment which brings about a change in behavior for the better." Learning involves a "process" and brings about an "outcome". Fig. 4-3 illustrates in simplified form the process and product of learning as gleaned from the psychology of learning.

All learning begins with a stimulus found in the environment. A stimulus is any object, person or phenomenon that we "experience" or that we become aware of through any of our five senses. In behavioristic psychology, every stimulus elicits a corresponding response which is automatic. Thus, we have the so-called stimulus response (S-R) bond. This is true of behavior common among animals which operate on the instinctive or sensitive level. To some extent it is also true of human beings insofar as their lower or animal nature is concerned. However, this is not necessarily so when we speak of human conscious or purposeful reaction. This type of behavior occurs on a higher or the rational-moral level.

According to humanistic psychology, learning on the human level takes a different, more circuitous route. The response to the stimulus is not automatic. The stimulus is first shunted to the mind, i.e., the intellect and the will, for processing. The conscious

mind after receiving the stimulus through the senses refers it to the subconscious. The mind is trying to establish a connection with previous experiences and learnings, now a part of one's life space. In effect, the intellect is trying to "discern" the "meaning" of the new experience as far as the person is concerned. Only when this new relationship is perceived and the "personal meaning" established can the will accept the new experience and make a conscious and willful response to it.

Subsequently, the conscious, willful repetition of the response results in the change of behavior that may be in the form of a new knowledge gained, a new skill acquired, or a new attitutde or value imbibed. This new behavior which is characterized as permanent or lasting, purposeful or willful, and progressive, together with other such changes in behavior become the cumulative, residual effect or outcome of learning that contribute to the total formation of the Ideal Person, the end-product of education.

What Is Teaching?

In school, we are dealing with the young who are immature and who lack the experiences in life from which learning emanates. That is why the teacher assumes an important role in their development. The learners who are expected to undergo the learning process just explained cannot do it on their own without adult help and supervision. That is what teaching is all about. It is the process of "helping" the learners learn economically, efficiently, and effectively. Or, put another way, it is the process of "facilitating" learning. A useful analogy at this point would be that of the process of "birthgiving". In this process, the mother undergoes the actual experience of delivering her baby but she needs the assistance of an attending physician or obstetrician who will expertly facilitate the process. The comfort and ease of delivery depends in large measure on the competent handling of the situation by the obstetrician. By the same token, the success of a learning situation depends to a large extent on the skillful intervention of a professional person, the teacher.

The schema in Fig. 4-4 presents such intervention points in relation to the learning process. There are five such intervention or helping points in the continuum: A, B, C, D, and E. These points

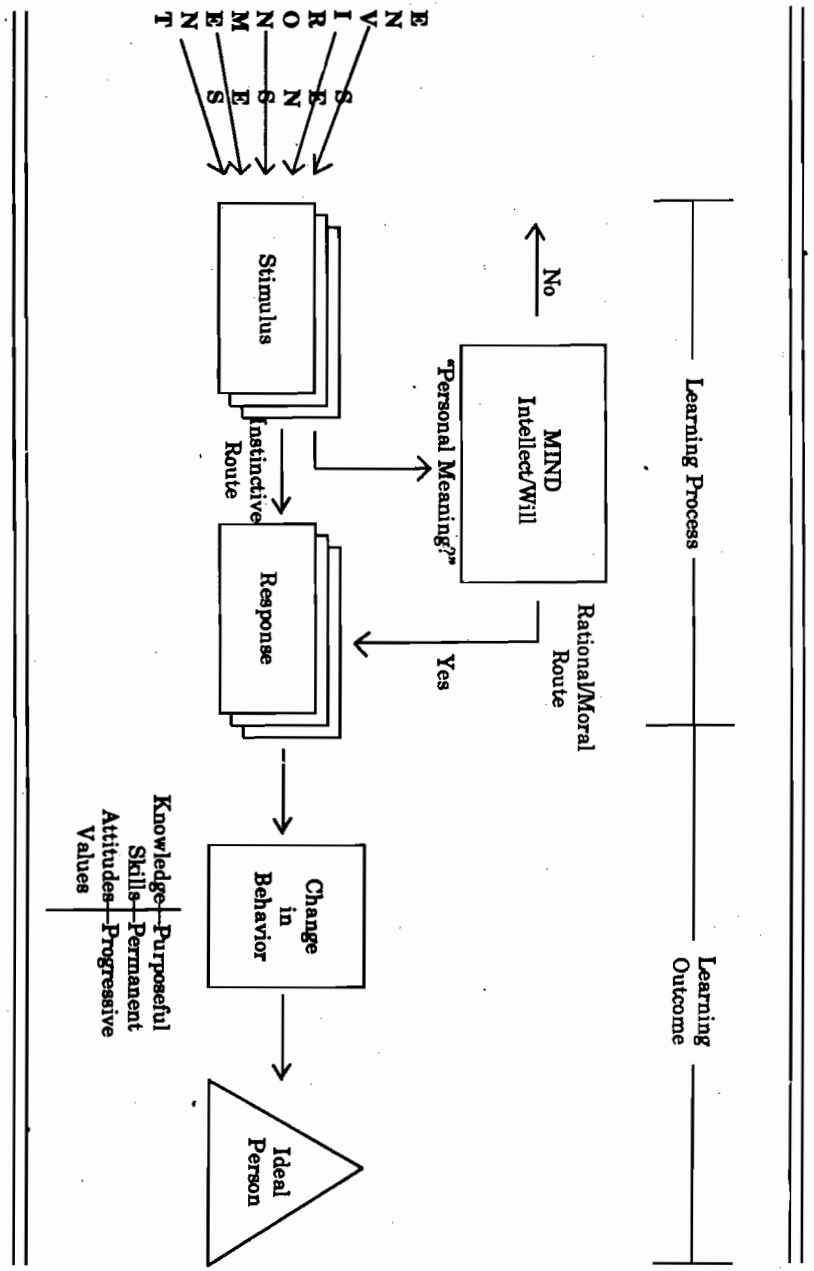


Fig. 4-3. Generic Model of Learning

encompass the key elements or the so-called 8 M's of teaching. These are:

Milieu
Matter
Method
Material
Media
Motivation
Mastery
Measurement

In preparing for teaching, the teacher should take all of these elements into consideration. These constitute the warp and woof of a unified unit and session plan or Plantilla.

We shall discuss each element succinctly in the following section of this chapter. It is not our intention to give a lengthy treatise since professional literature is replete with materials on these topics. We will simply rehash each from the perspective of a practitioner, giving a simple definition, a principle or two to keep in mind, and some helpful tips for teachers.

The 8 M's of Teaching

Milieu: The Learning Environment

"Milieu" is the environment of learning. Since learning is triggered off by stimuli in the environment, it assumes primary importance in teaching and learning. The classroom is the usual although not the exclusive environment of learning at school. The students spend a good deal of their time in the classroom although they may also have learning sessions in the laboratory, workshop, and even outside of the classroom and school campus.

An important principle for the teacher to keep in mind then is that of making the learning environment as "stimulating" as posssible. The teacher should so arrange the classroom setting as to ensure learning. This means he should see to it that every stimulus in the classroom contributes to learning. Put another way, he should remove or exclude any stimulus that distracts the students or detracts from the learning objective. Very much a part

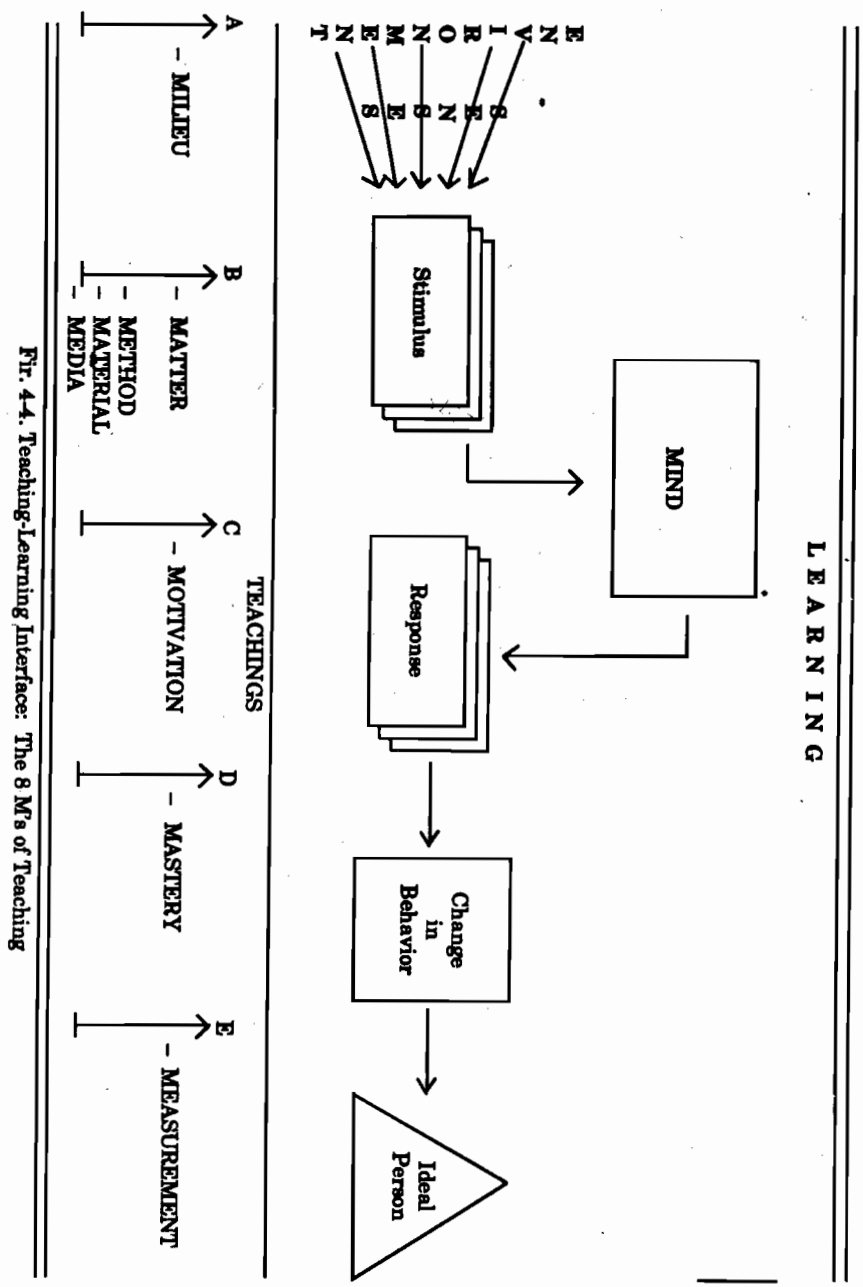


Fig. 4-4. Teaching-Learning Interface: The 8 M's of Teaching

of this environment are the human stimuli, the most important of whom is the teacher himself. A stimulating teacher contributes much to the building of a learning ecology in the classroom. Other human stimuli include the peers and other significant adults who may be in the classroom setting while instruction is going on.

Apart from the human stimuli, the teacher must pay attention also to the material stimuli abounding in the classroom. These include not only objects found in the room but also common routine activities that may contribute to or detract from learning. This observation underscores the need for good classroom management and control of student bahavior so that student attention is constantly focused on the task on hand.

One final note on this point is the necessity of spot checking the receptors of the learning stimuli, the senses, especially those of sight and hearing, to make sure that every student is properly equipped for and disposed to receive the stimuli of learning. Provisons should be made for proper lighting and acoustics as well as for corrective measures for students who may be impaired somewhat in this regard.

Matter: The Subject Content

"Matter" refers to the content of learning or what is to be learned as specified in the instructional objective. This in turn is all spelled out in the subject area Scope and Sequence Grid.

In the previous chapter, we saw how subject matter is selected and organized for teaching and learning. In organizing matter, we are reminded to follow the B-A-S-I-C principle. One very important rule-of-thumb is that of aiming for "mastery" of every lesson instead of its mere coverage by the class. The teacher should make sure that the minimum standard or level of proficiency is attained by the class before moving onto the next lesson or unit. This is the reason why curriculum workers are advised to be realistic in projecting subject matter and avoid giving the students "too much, too soon," and to teach only "little matter, but well mastered."

Method: Teaching-Learning Strategies

Nowadays, the term "method" is known as teaching-learning "strategy". This consists of purposeful, planned activities and tasks that are undertaken by the teacher and the students in the classroom to bring about the intended instructional objective. Method or strategy therefore is only a means to an end, never an end in itself. Also, there is no "good" strategy per se. A strategy is deemed good or effective only if it brings about the desired learning outcome. Furthermore, an objective may be achieved using different strategies just as a strategy may be utilized to attain different objectives.

The point that is being made is that there is a garden variety of strategies the teacher could choose from. There is no reason for him to stick to only one no matter how well-versed he may be in that strategy. To paraphrase a common saying, variety is the spice of teaching and familiarity breeds boredom. The teacher's repertoire should not be limited to the usual lecture or chalk talk strategy although this may serve the purpose when the situation calls for it. Like the magician, the teacher should include in his "bag of tricks" a wide array of strategies that he can use in appropriate situations to sustain student interest in learning.

In planning a lesson, the teacher should choose the most suitable strategy. The selection grid in Fig. 4-5 is meant to be a helpful guide for the teacher on this matter. There are three determines in selecting the strategy of teaching and learning: the learners, the learning objective, and the teacher. The two columns give the two sets of criteria, the A and E criteria. Each criterion is in the form of a question that the teacher should ask himself. He should make his decision to use or not to use a particular strategy on the basis of the answers to the questions. If most of the answers are "yes," chances are the strategy will prove useful for the session he is planning.

Determiners	Criteria	
	A	E
Learners	Appropriate?	Effective?
Learning Objective	Adequate?	Efficient?
Teacher	Adopt?	Economical?

Fig. 4-5. Selection Grid for Instructional Strategy

For the A Criteria: Is the strategy *appropriate* to the level of maturity and sophistication of the learners? Is it *adequate* or sufficient for the lesson objective? Is the teacher *adept* or skillful in the use of this strategy?

For the E criteria: Are the learners *efficient* in handling the activity and can they go through it without too much hassle? Is it going to be *effective*, that is, will the strategy yield the expected results? Will the activity be *economical* in time, effort, and expense?

It should be clear that the use of an activity or strategy involves systematic steps and requires a certain level of skill. No teacher comes naturally equipped for teaching with built-in and instant competencies needed in the classroom. A teacher must work on these strategies until he develops a certain level of proficiency that will enable him to use them with control and ease. This is the responsibility of a mature professional teacher.

Boxes 4-2, 4-3, and 4-4 contain typologies of these strategies.

Materials: The Resources of Learning

"Material" refers to the resources available to the teacher and learners which serve as stimuli in the teaching-learning situation. A material of learning may be either a "human person" or a "physical object."

The whole purpose of materials is to initiate the students to the "real world" they live in. Instructional materials represent elements found in that world and are meant to help students understand and explain reality.

Box 4-2

TYPOLOGY OF TEACHING STRATEGIES ACCORDING TO LEARNING OBJECTIVES

Objective	Suggested Strategy
Initiating a lesson, building concepts, clarifying/ strengthening students' ideas	Teacher talk, recitation, question-and-answer
Showing students how to do things, skill building	Demonstration (show-and-do), practice, drill
Applying ideas	Problem-solving, project
Effecting/changing attitudes, appreciations, ideals	Role-playing, socio-drama, simulation, games
Inquiring-discovering	Laboratory experiment, observation, recording
Hypothesizing, generalizing	Scientific method
Giving security, developing sense of belonging	Group study, group work
Getting ideas, eliciting students' participation and involvement	Brainstorming, buzz session, socialized recitation
Motivating, inducing self-activity	Independent study, research, programmed learning
Guiding or directing students' work	Controlled, guided class discussion
Adjusting, directing or assuaging feelings and emotions	Case study method
Developing critical or creative thinking (controversial issues)	Debate, panel discussion, forum, symposium
Fostering community involvement, direct exposure to reality	Educational or exposure trips, realias, talk by/interview of resource, persons, community survey, community projects
Synthesizing, integrating, evaluating, measuring, learning outcomes	Achievement testing, oral testing

Box 4-3

TYPOLOGY OF TEACHING STRATEGIES ACCORDING TO STUDENT INTERACTION AND PARTICIPATION

NATURE OF PARTICIPATION	CONTENT OF LEARNING
Set by Instructor	Determined by Learner
Learner listens and watches	Lecture, chalk-talk Reading assignment, handouts Demonstration (live, filmed, or with teacher modeling
Learner talks, writes, and responds	Dictation – note-taking Free forum, note-taking Programmed instruction Structured discussion Panel discussion (guests) Panel discussion (students) Open forum discussion Question-answer discussion Socialized recitation
Learner manipulates	Demonstration with student imitating instructor Performance try-out
Learner makes decisions on products, invests values and experiences in decreasingly explicit designs	Brainstorming Action Maze Traditional case method Jigsaw In-basket Incident process Team tasks with decisions or Products Team tasks/building agenda Fishbowls Role play Reverse role play Doubling role play Rotation role play Simulation Gaming

Box 4-4

Typology of Teaching Strategies according to Instructional Groupings

LARGE GROUP (30-to-40)	SMALL GROUP (6-to-10)	INDIVIDUAL (or one-on-one)
Lecture Dictation/note-taking Chalk Talk A-V Assisted Instruction Recitation Drill Demonstration Educational Games Film-viewing/Betamax viewing Simulation Role Playing/Socio-drama/ Skit Field Trip/Study Tour Resource Person Panel Discussion Debate Symposium	Small-group discussion Buzz session Brainstorming Laboratory/Experiment Group Project/Exhibit Case Study Committee Work	Individualized/Personalized Instruction Programmed text Self-learning kits Independent Study Book research Field research Computer-assisted Intruction (CAI) Tutorial (Peer) Tutorial (Teacher) Individual Project

There are several ways of portraying reality as shown in Fig. 4-6. The first and the one closest to reality is a direct experience of the real thing, using most if not all of the five senses. In teaching and learning, this would include exposure to reality or true-to-life objects and artifacts, reasource persons in the classroom or in the field. This is the reason behind an educational field trip which provides an experience of reality out where learning should take place in the first place were it not hazardous and time consuming.

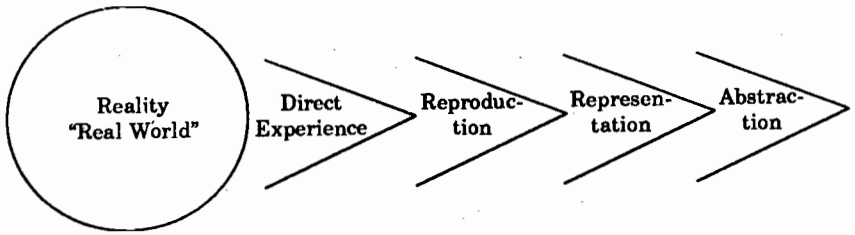


Fig. 4-6. Ways of Portraying Reality to Learners

The second way of depicting reality is through a reproduction. This is accomplished by a faithful impression of the real thing. This approach is somewhat limited to either or both of two senses, seeing and hearing. Included in this classification are the so-called audio-visual materials used by teachers such as films and video casette tapes. The third way is through a representation of reality. The result may not be too faithful to the original but it conveys the idea anyway. This approach is limited to only one sense, the sense of sight. Such materials as illustrations, dioramas, mock-ups, puppets and moppets, maps and graphs, and the like fall under this classification. The last and probably the least effective because the senses are no longer in use is the abstraction of reality. Here, only verbal symbols ae used, such as in a lecture or teacher talk.

The importance of direct, sensorial learning is perhaps summed up in the following lines from Walt Whitman:

> There was a child went forth everyday,
> and the first object he looked upon,
> with wonder, pity, love or dread,
> that object he became;

> and the object became part of him
> for the day or certain part of the day,
> or for many years or stretching
> cycles of years.

Following the dictum in philosophy that "there is nothing in the mind that was not first in the senses," we can deduce that with young learners especially, the preferred approach is that which uses concrete objects and situations to illustrate ideas and concepts or the inductive way. Where the deductive method is used, the teacher should provide ample concrete examples and not just rely on abstract explanations.

As in the case of teaching-learning strategies, the teacher should make use of a wide array of instructional materials for more effective teaching. Box 4-5 presents a list of instructional materials to choose from. The selection grid used in the choice of strategies may also be applied to the selection of instructional materials. Additionally, we may include another criterion under the set of A criteria and that is: Is the material readily *available* to the teacher for his own use? For a useful resource book on instructional materials, one may refer to "Audio-visual Methods in Teaching" by Edgar Dale.

One of the old reliable materials used, sometimes over-used, by the teacher in the classroom is the textbook. Properly used, textbooks can be an effective tool of learning. However, the teacher must remember that the textbook is only one of the purveyors of learning. One writer estimates the frequency of the use of textbooks at 65% in relation to all other instructional materials used by the classroom teacher. This may be a rather lopsided approach in the use of teaching-learning resources especially when we consider certain limitations of the textbook approach as shown in Figure 4-7 on page 65.

When using textbooks, the teacher may do well to bear in mind two injuctions. First, the textbook should follow the curriculum, not the other way around. The textbook therefore should not be followed slavishly, "from cover to cover." The teacher should use only those pages or sections of the book that help meet the requirements of the Scope and Sequence Grid and the Plantillas, even if

Box 4-5

LIST OF MATERIALS OF INSTRUCTION

A. Human and Material Resources
   1. Real Things (as in ocular inspection, field trips, etc.)
   2. People
      (a) Teacher and other people in school
      (b) Resource persons in community.
   3. Dioramas
   4. Models
   5. Mock-ups
   6. Relics, artifacts, etc.
   7. Maps, globes, etc.
   8. Others

B. STILL PICTURES/REPRESENTATIONS
   1. Flat pictures, illustrations
   2. Transparencies
   3. Slides
   4. Film strips
   5. Opaque projection
   6. Chalkboard
   7. Charts and posters
   8. Maps
   9. Bulletin boards
   10. Flannel board
   11. Magnetic board
   12. Others

C. MOTION PICTURES
   1. 16 mm films (commercial)
   2. 8 mm films (commercial _ single topic or homemade)
   3. Television shows (live) – commercial or educational
   4. Television tapes (Betamax)

D. AUDIO MATERIALS
   1. People (teacher, students, others)
   2. Records or discs
   3. Tape (reel or cassette)
   4. Radio programs (educational or commercial)
   5. Others

E. PRINT MATERIALS
   1. Textbooks (Core and supplementary)
   2. Workbooks
   3. Reference or resource books (encyclopedia, almanac, Atlas, etc.)
   4. Periodicals (newspapers, supplements, magazines, etc.)
   5. Teacher-made handouts
   6. Commercial pamphlets, brochures, ads, etc.
   7. Prototypes, documents, microfilm, etc.

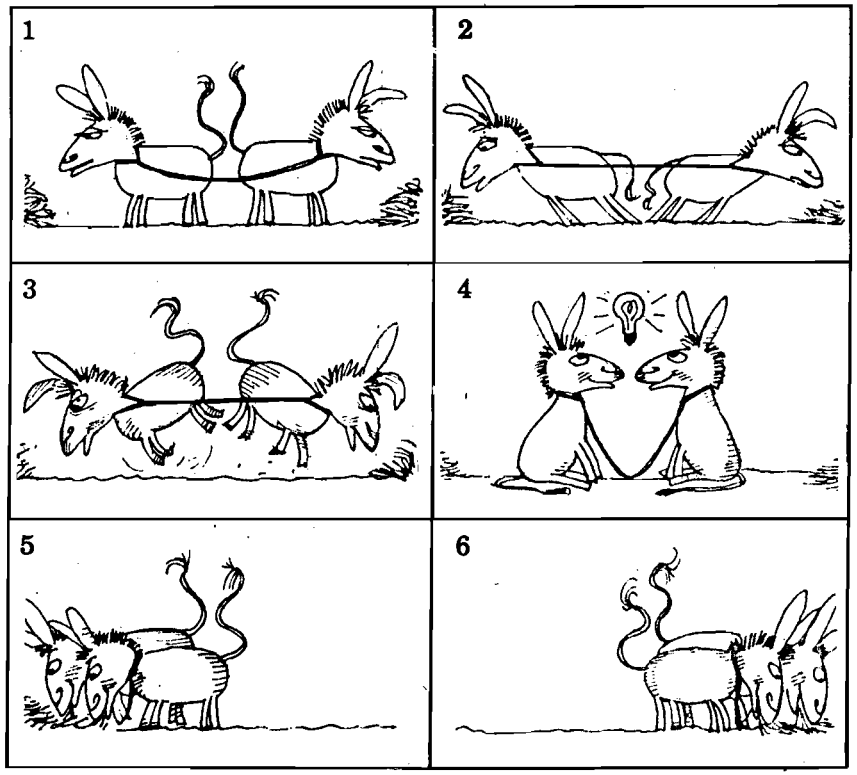
CREDIT (Assets)	DEBIT (Liabilities)
1. CONVENIENCE Cost-benefit wise, the textbook is an efficient way of providing a large group with identical instructional materials.	1. COVERAGE The textbook is necessarily limited to minimum content. No textbook can contain all the matter needed for classroom instruction in any given school.
2. CONTINUITY The textbook ensures continuation and carryover of instruction even when there is a temporary or permanent change in teaching personnel in the middle of the school year.	2. COMMON DENOMINATOR The textbook is meant to cater to all types of students. It is geared to the "average" student and uses standard pacing of learning. There is little provision for individual differences.
3. CONTROL The textbook provides a uniform tool for keeping tab of the progress of a class in the coverage of curriculum content.	3. CREATIVITY The textbook with its "cookbook" approach may kill teacher initiative. With a textbook, the teacher tends to follow the path of least resistance.
	4. CURRENCY There is always the constant threat of obsolescence of content. Textbook production takes a long time and books cannot keep up with fast turnover of knowledge and information.

Fig. 4-7. Balance Sheet for Textbooks as Instructional Materials

this means not following the order of content found in the book. Secondly, no textbook will ever satisfy completely the peculiar curriculuar requisites of a school. There is always a need for the teacher to supplement and enrich the textbook content with materials drawn from other sources.

At any rate, the adoption of a series of textbooks for a given subject area should be made on the basis of its ability to meet most if not all the requirements of the school's curriculum. This should be the collective decision or recommendation of the Subject Area Task Force and not just an individual.

Box 4-6 is a useful guide in the selection of appropriate textbooks that may be used by the curriculum committee or task force.



Curriculum Development As A Team Effort.

Box 4-6

TEXTBOOK SELECTION GUIDE

Title:_____ Level:_____

Subject Area:_____ Publisher:_____

Author(s) _____ No. of Pages: _____

Selling Price: _____

Instructions: Please rate the material per criterion on the 5-point scale: 1-hardly; 2-moderately; 3-adequately; 4-very adequately; 5-outstandingly

1. **PHILOSOPHY AND OBJECTIVES**
   - 1.1 Conforms to national development goals and priorities — 1 2 3 4 5
   - 1.2 Projects appropriate philosophy of education — 1 2 3 4 5
   - 1.3 Reflects school mission and thrusts — 1 2 3 4 5
   - 1.4 Covers basic requirements of curriculum/course — 1 2 3 4 5
   - 1.5 Has clearly defined objectives from the viewpoint of Learners — 1 2 3 4 5
   - 1.6 Are realistic and attainable by target learners — 1 2 3 4 5
   - 1.7 Are verifiable by a system of evaluation device to indicate levels of achievement — 1 2 3 4 5

2. **ORGANIZATION**
   - 2.1 Has a conceptual framework and unifying philosophy — 1 2 3 4 5
   - 2.2 Is consistent with accepted psychological and pedagogical principles — 1 2 3 4 5
   - 2.3 Correlates subject matter with different realted subject areas and disciplines — 1 2 3 4 5
   - 2.4 Follows a logical sequence and gradation of concepts — 1 2 3 4 5

2. 5	Is articulated or linked with books immediately preceding and suceeding in the series	1 2 3 4 5
2. 6	Provides for integration of concepts and skills learned	1 2 3 4 5
3.	**CONTENT: COGNITION AND COMPETENCIES**	
3. 1	Contains just enough materials to be taken up for the year	1 2 3 4 5
3. 2	Includes materials that are suitable, interesting, current and up-to-date	1 2 3 4 5
3. 3	Provides a range of learner interests and preferences	1 2 3 4 5
3. 4	Provides a variety of exercises and drill for reinforcement and mastery of concepts and skills	1 2 3 4 5
3. 5	Includes materials for extension of learner interests and independent study	1 2 3 4 5
3. 6	Has vocabulary and language that are within the comprehension of the target learners	1 2 3 4 5
3. 7	Contains illustrative materials that are appropriate and instructional	1 2 3 4 5
3. 8	Defines new and difficult concepts and terms in context or in a glossary	1 2 3 4 5
3. 9	Presents new and unfamiliar materials in a consistent, logical manner	1 2 3 4 5
3.10	Gives instructions that are easy to understand and follow	1 2 3 4 5
4.	**CONTENT: AFFECTIVE**	
4. 1	Includes a wide range of Philippine experiences – rural, urban and suburban; minority and mainstream; traditional and modern	1 2 3 4 5

4. 2	Contains a wide range of significant human experiences: past, present and future; comic and tragic; old and new; day-to-day experiences	1 2 3 4 5
4. 3	Includes materials that promote cosmopolitan outlook: worldview, cross-cultural, ecumenical	1 2 3 4 5
4. 4	Presents relevant traits and values of contemporary living in a developing society like our country – self-help, initiative, enterpreneurship, planning vs. Bahala-na-orientation, and the like.	1 2 3 4 5
4. 5	Includes the array of structures and nuances of Philippine society: family, and kinship, mores and folkways, customs and traditions, beliefs, values, ecology, etc.	1 2 3 4 5
4. 6	Reflects the thrusts of the government: responsible parenthood, tax consciousness, energy conservation, cooperatives, etc.	1 2 3 4 5
4. 7	Avoids prejudices and biases: sexism, stereotyping, religious taboo, racial discrimination, political propaganda, and the like.	1 2 3 4 5

COMMENTS/SUGGESTIONS:

Media: Communication in Teaching and Learning

"Media" in this context pertains to the communication system in the teaching-learning situation. Such communication serves a dual purpose: to promote common understanding in instruction and to set and maintain a healthy psychological climate in the classroom conducive to learning.

The plural form of the term is used purposely to indicate that there are various forms of communicating in a human environment like the classroom. The most common is the verbal form, mostly through teacher talk. Ned Flanders makes an interesting observation on this matter. Based on a wide sampling of classroom situations, he claims that two thirds of class time is preempted by some form of talk and that two-thirds of the time it is the teacher who is doing the talking.

Since oral communication is inevitable and necessary in teaching, the teacher should keep certain helpful tips in mind. First, he should make an effort to use language efficiently and effectively. He is supposed to serve as a model of a good language user, regardless of the language used. Every lesson in any subject becomes a lesson in communication. This is particularly true on the lower grade levels where the pupils are highly impressionable and learn much through plain imitation.

Another thing the teacher should keep in mind is the principle of parsimony in the use of language. He should strive to keep his communication clear, concise and comprehensible at all times. In turn, he should expect, even require, his students to communicate properly. He should encourage them to express their thoughts and feelings freely. He should give them ample opportunity to engage in two-way interaction not only with the teacher but also among themselves so that the classroom becomes a functional laboratory in effective communication.

One aspect of verbal communication in the classroom that the teacher should pay special attention to is that of question-asking. The use of questions serves a very important purpose in instruction, namely, to promote and extend understanding of concepts by eliciting thoughtful respnse from the students. The teacher should aim at mastering the art of framing questions to be able to tap the

different levels and forms of thinking. He should also develop the skill in fielding these questions for optimum results. In planning the lesson, the teacher should formulate his questions and put them down in the session plan and avoid falling into the habit of shooting questions "from the hips" or at the spur of the moment.

A second important purpose of communication in the classroom is that of building rapport with the students. Flanders further observes that two-thirds of teacher talk is the kind that bring about a negative climate. This kind of teacher talk usually takes the form of directives, reprimands, even sarcasm and ridicule. Rapport building, one the other hand, calls for talk that contributes to the enhancement of the security and self-concept of students. This comes with positive stroking, encouragement and judicious praise and recognition. Such an approach gives the student a sense of well-being and self-respect and this, in turn, goes a long way in minimizing deviant behavior in the classroom situation.

Finally, aside from verbal communication, the teacher should also pay attention to the other form of communication, the non-verbals. In fact, this may be a more influential, albeit more subtle, form of communication that the teacher can use. Non-verbals include facial expressions, gestures, body language, proximics, and even plain silence. A teacher who is able to add non-verbal proficiency to verbal competency will be by far a more effective communicator in teaching and learning. As in anything, this requires consistent and conscientious application and improvement on the job.

Motivation: Arousing and Sustaining Interest in Learning

Motivation is a cardinal principle in learning. A learner will learn only those things he wants to learn. If a student is not interested in what he is learning, he will simply "go through the motion," or worse, he will not engage himself in the learning act at all. Earlier, it was mentioned that it is the learner who does the learning. Therefore, we need his full cooperation in the act of learning. But, a learner will cooperate only if has a motive for learning. The motive, in turn, springs from a need. This need-motive triggers off and sustains interest in the learning activity.

Motivation in learning then is the learner's perception of a "personal meaning" or value in the learning act based on a "felt need" (present gratification) or a "deferred value" (future reward). Unless the learner is assured of some satisfaction in what he is doing, he will find no sense in the task he is being asked to do.

Realizing this, the teacher should usher in every lesson or unit with some form of motivation. Since as we have seen in the learning process that motivation depends on "associations" or linkages, the teacher should make a conscious effort to connect the current lesson or unit with any of the following:

- previous experiences or lessons, preferably those which the learners found meaningful and satisfying
- learning outcomes from related fields or subject areas
- real contemporary life situations familiar to the learners

In actual practice, motivational activities may take the form of stories and anecdotes, pictorials and graphics, newspaper accounts; television programs, games and songs, and the like dealing with familiar human experiences. The important thing is that these are culled from the common day-to-day experiences of the young. An effective teacher is one who is able "to enter the world of the young" and draw from it situations that can serve as a motivational springboard for initiating them into new learning, leading them from what they already know to what they do not but ought to know. Such is the function of motivation in teaching and learning.

As teachers, we can take a cue from the Master Teacher Himself who, we are told in scriptures, "taught with authority" (Mk. 1,22). How did He teach? Again, scriptures tell us He "taught only through parables" (Mtt. 13,34), simple homespun stories of things, people and events from the workaday lives of ordinary folks of His time. Such was His way that the people whom He taught were in awe so much so that they asked, "How did He come to such wisdom?" (Mtt. 13,54).

Mastery: The Be-all and End-all of Learning

"Mastery" means the internalization of learning resulting in automatic or habitual change in behavior through meaningful repetition and application. Mastery comes about through a "fixation" of what is to be learned, shifting it from short-term to long-term memory, allowing for ease in use and transfer to new situations in the future. Some call it "executive control".

Mastery is the last stage in the learning circle illustrated in Fig. 4-8.

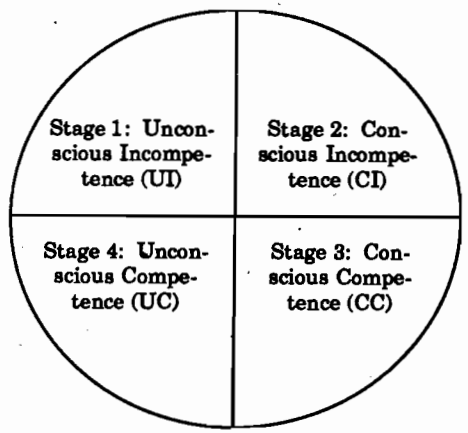


Fig. 4-8. The Circle of Learning

The circle of learning has four stages:

Stage 1: Stage of Unconscious Incompetence.

On this stage, the individual does not know at all. What is more, he does not know that he does not know, and most likely, he does not care (blissful ignorance)

Stage 2: Stage of Concious Incompetence

At this juncture, the learner, perhaps accidentally or providentially, gets to discover that he does not know and realizes that he needs to know. He now has a "motive" for and consequently an "interest" in learning (motivation). This situation is referred to as the "teachable moment".

Stage 3. Stage of Conscious Competence

The learner gets instruction from a teacher who explains what is to be learned (content) and shows him how (coaching). He tries to do it with the help and encouragement of the teacher (guided practice), gets immediate correction (feedback), and does it again and again on his own (independent application) over a period of time.

Stage 4. Stage of Unconscious Competence

Finally, he reaches a point where he is so proficient that it has become second nature to him and he is able to exhibit the new behavior without conscious effort. He has reached the level of complete mastery. Learning has taken place.

How is mastery achieved in the teaching-learning situation? The formula used for mastery principle in learning is as follows:

M = f (TD, SA/TS)
Where, M is Mastery
TD is teacher direction
SA/TS is student self-activity with teacher supervision

Hence, mastery is the function of teacher direction and student self-activity with teacher supervision. This formula uses the 1/4 rule of teaching and learning, that is, in the allocation of instructional time, one fourth of the time is for teacher use, three fourths is for the students. This rule follows the sound advice of that eminent educator, Comenius, who cautioned that "the teacher should teach less so that the student could learn more."

The 1/4 rule is further delineated in the illustration in Fig. 4-9.

TEACHER DIRECTION (1/4 of Instruction Time)	STUDENTS SELF-ACTIVITY (3/4) of Instruction Time) Time-on-task
Explanation, which includes: motivation presentation Example, through demonstration concrete examples	Exercises, including oral work boardwork seatwork drill homework

Fig. 4-9. The 1/4 Rule of Teaching & Learning Time

This scheme underscores the essence of learning as a do-it-yourself activity. The teacher should not preempt instructional time through too much teaching, worse, talking. This is especially true since the attention span of young learners is short and no matter how interesting the teacher tries to be, there comes a point when student attention wanes. Besides, the students should have ample time-on-task to practice on and apply the content of learning. They have to undergo the learning act themselves, through oral work, boardwork, seatwork, and, at home, homework. The teacher's (and, at home, the parent's) role at this point is to provide supervision, guidance and encouragement until the students gain confidence and can do it on their own without any help.

Measurement: Getting Evidence of Learning

"Measurement" is the final element in the teaching-learning sequence. This part involves the systematic collection of the evidence of learning. In discussing instructional objectives earlier, we emphasized the point that learning should result in an overt change in behavior in terms of new knowledge or skill, attitude or value. This change should not only be visible but also measurable. At the end of the period of instruction, we want to know whether what was intended to be learned was actually learned and how well.

Measurement then is concerned with the "behavior" aspect of the objective. We want to measure the change in behavior using an instrument called a "test" which will yield the evidence in the form of a "test score". However, the score by itself does not tell us much unless we relate it to the "degree" aspect of the objective. Hence, the measurement score has to be "referenced" to the stated criterion or norm so a judgment can be rendered as to the acceptability or non-acceptability of the performance. Measurement, then is but one aspect of a process called "evaluation". This will be discussed in greater detail in the last chapter of this handbook.

CDS emphasizes one important point, and that is, every unit, every lesson should culminate in an evaluation of the outcome via a test for the unit (TPO) or a quiz for the lesson (EO). Without this device there is no objective basis for deciding whether the unit or lesson has been mastered according to the prescribed standard.

Evaluation is the gauge of the success or lack of success of our teaching and the concomitant learning of the students. Following the "mastery dictum," a teacher should never proceed to the next lesson/unit unless the previous one has been well-mastered by the students as revealed by the results of evaluation. If the students, in general, fall short of the standard, there should be provision for reteaching and reevaluation.

An important principle to observe in evaluation is the so-called "matching principle". This means there should be a one-to-one correspondence between the objective and the evaluation components of instruction. The evaluation should assess the "behavior" to be performed and the "degree" of performance against the behavior and degree specified in the objective. For instance, if the behavior aspect of the objective is "to enumerate causes of the 1898 Philippine Revolution," the evaluation should have the students enumerate the causes, not enumerate and explain. Note that a new behavior, that is, explain, has been added to the original statement of objective. If the teacher had intended the students not only to enumerate but also to explain, he should have included this in the objective beforehand. Likewise, if the criterion of mastery in the objective is "at least 3 out of 4 causes", the same criterion should be used in the evaluation at the end of the lesson. The teacher should not change the criterion arbitrarily and make it "4 out of 4". If he had wanted perfect mastery, he should have put that criterion in the objective in the first place. Fig. 4-10 shows the matching principle graphically.

Instructional Objective Component	Evaluation Component
The student will –	
– enumerate in order of importance (behavior)	*Directions:* List down in order of importance the major causes of the Philippine Revolution of 1898
– at least 3 out 4 major causes of the Philippine Revolution od 1898 (degree)	*Criterion:* At least, 3 out of 4 item correctly

Fig. 4-10. Matching Principle: Objective-Evaluation Correspondence

The 8 M's of Teaching vis-a-vis the Plantilla

Since the Plantilla is the plan of instruction, it must contain the elements of teaching. The purpose of this section is to indicate the appropriate place of each element in the different components of the Plantilla. It will be noted that one of the elements, Milieu, is not found in any of the components. The reason for this is that the classroom environment is more or less a constant in teaching and transcends the confines of the lesson. The teacher has to be attentive to good housekeeping practice all throughout the school year to ensure that appropriate learning conditions exist for any form of instruction. Hence, this is almost taken for granted as a prerequisite for good instruction.

Fig. 4-11 gives the Plantilla format vis-a-vis the teaching elements:

Learning Objective (LO)	Learning Content (LC)	Learning Experiences/ Resources (LE/R)	Evaluation of Learning Outcomes (ELO)
	Matter	Motivation Method Materials Media Mastery	Measurement

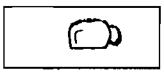
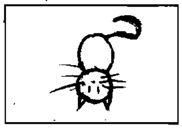
Fig. 4-11. The Plantilla and the Elements of Teaching

For sample plantillas, refer to Boxes 4-6 and 4-7 on succeeding pages.

P l a n t i l l a

GRADE: First | UNIT: Name Words (Noun)
SUBJECT AREA: Language | Numbers of Days: 4 days

OBJECTIVE COMPONENT	LEARNING CONTENT COMPONENT	LEARNING EXPERIENCE COMPONENT	EVALUATION COMPONENT
TPO: Given a set of 10 real objects or pictures of objects, the Gr. 1-Molave pupils will give the name of at least 9 of these correctly without the aid of prompters or cues.			
EO_1 The pupils will identify at least 4 out of 5 objects the teacher will name.	Identifying objects	Tell story of "The Little Dog Without a Name". The idea is to show that everybody and everything has a name. Give examples of objects and their names. Make pupils repeat the names of objects and students will point to these objects.	*Multiple Choice:* 5 items Criterion: 4 correct answers out of 5 Directions: I will say the name of an object. Put a check on the picture of that object in your answer sheet.
EO_2 The pupil will give names of at least 4 out of 5 objects that the teacher will show or point at.	Saying names of objects	Start with pronunciation session on names of objects. Pattern: This is a _____ Point to object or show a picture. Group recitation Individual practice	*Oral Test* Criterion: 4 correct answer out of 5 Directions: I will call on each one of you. Say the name of the object using the pattern. What is this? That is a _____.

OBJECTIVE COMPONENT	LEARNING CONTENT COMPONENT	LEARNING EXPERIENCE COMPONENT	EVALUATION COMPONENT
EO_3 Eighty percent (80%) of the pupils will put the correct label on objects the teacher will name or show.	Labeling of objects	Class will play a game: "Tag Me" One set of pupils have name tags of objects, the others have pictures of corresponding objects. The object is for pupils to form pairs of object-name. Drill on putting name tags on objects in the classroom	Matching Test – 5 items Norm: 100% score for 80% of class Directions: Draw a line from the name to the picture of the object Example: cap  cup 
EO_4 Eighty percent (80%) of the pupils will write the names of objects that the teacher will point at or show in a picture/illustration.	Writing the names of objects	Review past lessons: Name-object association using real objects, mock-ups, or pictures. Towards the end, remove name tag and ask pupils to write the name of object on the board, others on their paper. Seatwork drill.	*Writing Test* – 5 items Norm: 100% score for 80% of class Directions: Write the correct name of the object in the picture Example: cat  c a t

LEARNING OBJECTIVE	LEARNING CONTENT	LEARNING EXPERIENCES/ ACTIVITIES	EVALUATIONOF LEARNING OUTCOMESS
EO_1 The students will state and explain at least 3 factors that hinder socio-economic progress in an agricultural community.	Factors that hinder/ do not contribute to the socio-economic progress of an agricultural community	Motivational Activity Discuss the bulletin board displays– pictures, illustrations, graphs, news clippings, etc. put up beforehand leading to the problem statement: What's preventing socio-economic progress? Brainstorming In small groups, the students will analyze situation and come up with suggested factors hindering progress. Group reports – interpolation Synthesis	Directions Below is a set of statements (1) Put a check (✓) before 3 statements that pertain to socio-economic progress in a farming community. (2) Explain each statement in 2 or 3 sentences.
EO_2 The students will distinguish from among 10 typical Filipino character traits those which are helping and those which are hindering socio-economic progress.	Filipino character traits helping or hindering socio-economic progress in a farming community.	Film strip showing "The Philippines – The Challenge of Change" Socialized recitation: Question and answer on – – the film strip – previously assigned readings: "The Good and Bad Side of the Filipino," by Tomas Manalo	Directions Below are 10 character traits of Filipinos which may be helpful or not to progress. Write each under the appropriate category heading *Helping* *Hindering*

LEARNING OBJECTIVE	LEARNING CONTENT	LEARNING EXPERIENCES/ ACTIVITIES	EVALUATIONOF LEARNING OUTCOMESS
EO_3 The students will state choice between present tenancy system and proposed land reform scheme and support choice with 3 arguments.	Comparing present tenancy systen and proposed land reform scheme (CARP)	Proposed scheme for a just and fair distribution of the benefits of production in an agricultural community.	EO_4 The students will propose a scheme for just and equitable spread of production benefits in a farming community using the fl. criteria: Acceptability to all concerned (30%) Reasonableness and fairness (40%) Practicability (30%)
	Sunday Inquirer, Vol. II, No. 6 February 13, 1987 Reading/discussion of "Land of Bondage, Land of the Free," by Raul Manglapus. Case Study Take up/discuss the case of "Mang Pedro, Share Tenant" in textbook, pp. 117-119. Use guide questions in book. Panel discussion Problems of tenancy, landlordism, culture of dependency Funding of land reform Experience of other countries, e.g., Japan, Taiwan, etc.	Simulation Game "Stewardship of the Earth" Discussion/processing. Value clarification on concept of stewarship vs. private ownership; competitive free enterprise/capitalism vs. Christian community Synthesis	Directions: Putting all the ideas and concepts you have learned in this unit, propose a scheme for the distribution of the benefits of production in a farming community. Your proposal will be evaluated as follows: Acceptability (30%) Reasonableness (40%) Practicability (30%)
	Given the 2 options– Share-tenancy scheme and land reform scheme – which would you prefer? Give 3 convincing reasons for your choice.		

Plantilla

Year Leve l : First Year
Quarter : Second
Topic : Socio-economic progress

Subject : Social Studies
Unit/Week No.: 3rd
No. of Days : 4.

TPO – Given a situation in an agricultural community and a set of 5 essay questions, the I-A students will analyze the situation and answer correctly at least 4 of the questions showing an understanding of the elements of socio-economic progress.

REFERENCES

Banks, James A. and Ambrose A. Clegg, Jr. *Teaching Strategies for the Social Studies*. Reading, Mass.: Addision-Wesley Publishing Company, 1983.

Biehler, Robert F. *Psychology Applied to Teaching*, 2nd ed. Boston: Houghton Mifflin Company, 1982.

Blue, Terry *The Teaching and Learning Process*. Washington, D.C.: National Educational Associations, 1981.

Clark, Leonard J. and Irving S. Starr. *Secondary and Middle School Teaching Methods*, 5th ed. New York: Macmillan Publishing Company, 1979.

Dale, Edgar. *Audio-Visual Methods in Teaching*, 3rd ed. New York; Holt, Rinehart and Winston, 1969.

Gage, N. L. *The Psychology of Teaching Methods*. Seventy-Fifth Yearbook of the National Society for the Study of Education (NSSE). Part I. Chicago: University of Chicago Press, 1976.

_____, *Educational Psychology*, 3rd ed. Boston: Houghton Mifflin Company, 1984.

Gagne, Robert R. *Conditions of Learning*. New York: Holt, Rinehart and Winston, 1965.

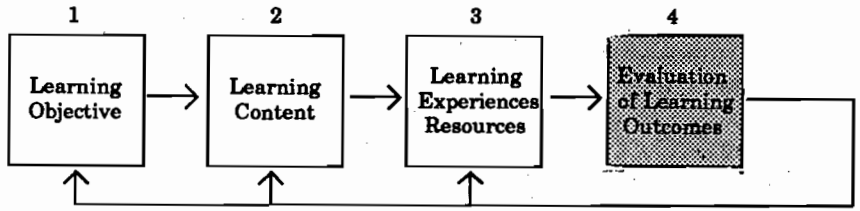
Joyce, Bruce and Marsha Weil. *Models of Teaching*, 3rd ed. Englewood Cliffs, N.J.: Prentice-Hall, Inc.,1986

Orlich, Donald C. et al. *Teaching Strategies: A Guide to Better Instruction*, 2nd ed. Lexington, Ma: D.C. Heath, 1985.

Popham, James W. *Criterion-Preferenced Instruction*. Fearon, Publishers, 1975.

Troisi, Nocholas F. *Effective Teaching and Student Achievement*, Reston, VA: National Association of Secondary School Principals (NASSP), 1983.

Chapter FIVE: EVALUATION OF LEARNING



The different components of curriculum point to the importance of the evaluative process in learning. As we have already seen, the curriculum development process includes the formulation of learning objective, the selection, organization and utilization of learning experiences and the evaluation of learning outputs. Objectives serve as the guides for determining the learning experiences and resources to be used. In turn, the learning experiences act as the basis for the evaluative scheme even as they clarify the objectives. Finally, the evaluation part validates the objectives and points out the effectivity and propriety of the learning experiences.

Therefore, evaluation cannot be undertaken apart from teaching. It is not to be considered even as a mere adjunct of instruction. It is *de facto* an integral part, that is part and parcel of the teach-

ing-learning process. A teacher who teaches without testing for results is in much the same situation as a person who prepares a meal and serves it without benefit of tasting it beforehand. A popular saying goes, "the test of the pudding is in the eating." By the same token, the proof of learning is seen in the testing.

What is Evaluation?

Benjamin Bloom defines evaluation as "the systematic collection of evidence to determine whether in fact certain changes are taking place in the learner as well as to determine the amount or degree of change in individual students." Two aspects of evaluation can be gleaned from this definition, the first which is *quantitative*, namely, the gathering of data on student learning in terms of scores in a test, the second, *qualitative*, the judgment as to the acceptability or non-acceptability of the learning level based on present standards. The first is referred to as "measurement," the second, "valuation." Thus, the term "evaluation" consists of a measurement aspect and a valuation aspect (Fig. 5-1). Although evaluation depends upon accurate measurement, this is not the be-all and end-all of evaluation. The more important question is: Is the obtained measure desirable or not, acceptable or not?"

EVALUATION	
Measurement Aspect	Valuation Aspect
Quantitative Uses test and other measuring devices For obtaining data on learning outcomes or gains	Qualitative Utilizes "standards," i.e., criterion or norm For judging whether such gains are on acceptable level or not

Fig. 5-1. Components of Evaluation of Learning

Types of Evaluation

Evaluation may either be "formative" or "summative." The former refers to that type of evaluation that is given in the process of instruction, that is, while the students are being "formed." The latter is used for evaluation that is done at the end of the process to "sum" up the learning outcomes in a predetermined terminal behavior. In the CDS context, formative evaluation is given at the end of a lesson (a quiz) or at the end of the unit (a unit test). Summative evaluation, on the other hand, is given at the end of a series of related units, midway or at the end of an academic grading period, say, a quarter or semester (quarterly or semestral examination).

Evaluation may further be classified as "criterion-referenced" or "norm-referenced." Criterion-referenced evaluation is meant to determine whether or not a learner can independently perform a clearly defined set of behavior samples. In this type of evaluation, we are "referencing" or comparing the change in learner behavior resulting from instruction as revealed by his performance in a test with the terminal behavior and the degree specified in the objective. Norm-referenced evaluation is designed to gauge the learner's level of performance in "reference" to that of a group of learners who have undergone the same set of learning experiences and the same test. In short, in this kind of evaluation we are comparing the performance of the learner with that of the class as a whole to determine his relative position in the normal distribution of scores.

As in many issues and problems in schooling, this is not a case of either-or, mutually exclusive type of choice. Actually, both types have their advantages and limitations as well as their appropriate uses.

Characteristics of Evaluation Instrument

Books on measurement and evaluation give a comprehensive listing of characteristics of measuring instruments. For our purposes, we shall review briefly three of these, namely: validity, reliability and objectivity.

Validity

A test is given precisely to measure what has been taught and learned. Hence, when a teacher gives a so-called "surprise test" on some matter that has not been covered in class or matter still to be taken up, such a test can hardly be considered as "valid."

Validity is that characteristic of an evaluation instrument or test whereby it measures what it is supposed to measure. This put simply in question form is: Is the test appropriate or not? One may ask, appropriate to what? Well, it should be appropriate to what has been taught and learned. Thus, if the objective calls for an oral skill in reproducing a certain consonant blend, this is best measured through an oral reproduction test, not a written one. A Mathematics test, on the other hand, should measure math concepts or skills. A teacher could "invalidate" such a test by insisting on deducting points for misspelling or wrong grammar which are alien to the test objective.

Reliability

An evaluation measure is said to be reliable when it yields the same results when given to the same group at some other time or to another comparable group under more or less similar conditions. The term then refers to the level of "consistency" or "dependability" of the measuring device. Such a quality renders the test useful for future applications and distinguishes it from the one-shot, discard-after-use type of tests.

Objectivity

This characteristic refers to the degree of freedom a test has from factors that could unduly influence the outcomes of the test. These factors could be "internal" to the testee, i.e., conditions in the person himself that could affect the test-taking either way, such as his physical condition (health, alertness, etc.) or psychological state (mood, anxiety, emotions, etc.). The factors may be "external" or environmental such as ventilation, lighting, noise, etc. as well as human such as the socio-emotional climate in the testing environment. Why do

we want to control these factors? The reason is that we would like to be able to attribute the outcomes of testing to one and only one factor, that is, the level of mastery achievement of the learner, and nothing else.

Rationale for Evaluation

A ditty going the rounds of the faculty room in one school goes this way:

Why test yet?
Why is it parents beget,
Children whom teachers regret.
When in school a test they get
The answers they readily forget.
Why test yet?

In the same vein, one professor in a teacher-training institute asked his class of would-be teachers: What is the difference between a dull student and a bright one? His answer: The dull student forgets the answers to the questions *before* the test, whereas the bright one forgets them *after* the test. In either case, they both forget, sooner or later.

The above observations although meant to be funny may in fact be based on classroom realities. This may be true in teaching-learning situations where the stress is on rote learning. In such a situation, the teacher dishes out facts and information for memory and treats the lesson as a discrete independent bit of knowledge rather than aiming at helping students undergo experiences that help them get a unified view of reality and to use this integrated learning to improve their behavior and outlook in life. Meaningful learning is what the school wants to determine through the systematic and continuing process of evaluatin of instruction.

Benjamin Bloom, in his book, *All Our Children Learning*, asserts that students attempt to learn what they anticipate to see in the test and on which they will be judged and graded. Teachers, on the other hand, teach according to evaluation procedures used. If evaluation is limited to recall, they will teach their students to memorize. If it deals with application of ideas to new problems, then they will attempt to develop these kinds of learning in their

students. In short, students learn what teachers teach and teachers teach what will be given in the test.

Generally speaking, evaluation of learning outcomes in school can serve the following purposes:

1. From the learner's perspective. We would like to be assured that the learner has mastered the lesson or unit and that he is ready to tackle the next one. If that is not the case, then we can give individual students some form of remediation and, if it is the majority of the class who have not met the criterion of mastery, some form of reteaching.

2. From the teacher's perspective. Evaluation helps the teacher make a judgment whether he has taught effectively or not. If not, what has gone wrong? Was the objective too much? Did he use the appropriate means in terms of methods and or/materials of instruction? What can be improved in the future?

3. From the supervisor's perspective. A teacher who shows a pattern of ineffective teaching as revealed by evaluation may need more help through supervision or in-service training.

4. From the perspective of the curriculum task force. The evaluation results give a picture of how the students are coping with the learning content of the curriculum. It may indicate aspects of the curriculum that need revision in relation to its appropriateness for the level and the readiness of the students to cope with it.

5. From the parents' perspective. Keeping parents abreast of the results of evaluation will give them an idea as to the type and intensity of intervention or help their children need at home in their home work assignments and private study.

6. From the administrators' perspective. Evaluation provides solid data on which administrative decision can be firmed up as to the promotion, retention, and even separation of students in school.

Process of Evaluation of Instructional Outcomes

Like any human and rational undertaking, evaluating the outcomes of instruction requires careful planning and execution. This is something that cannot be done haphazardly or at the spur of the moment. Nothing in our instructional program can be left to chance. Our currriculum as fleshed out in the Scope and Sequence Grid and the Plantillas will all go to naught unless we can measure the outcomes scientifically and use the data for further improvement.

It must be obvious at this point that the key ingredient in this process is the measuring instrument. Although there are other means of measuring and evaluating school learning, the one most widely used for convenience and efficiency is the paper-and-pencil test or examination. In this section, we shall focus our attention more on the summative test instrument although many of the principles and guidelines will also have application to the formative instrument.

Again, it should be pointed out that we shall simply rehash the process from the lay teacher's point of view as there are many excellent materials on this subject in professional literature.

The presentation will dwell on the three stages of the process: *before* (preparation of test instrument), *during* (administration of the instrument), and *after* (utilization of test results).

Preparation Phase

Making a Table of Specifications. The Table of Specifications is the design or blueprint that serves as a guide to the test constructor in ensuring a valid, reliable and objective test. Through such a device, we are in a better position to assure a fair and just measurement of the outcomes of instruction as enunciated in our curriculum guides.

One immediate advantage of the use of such a device is that it ensures an adequate coverage of instructional objectives and content taken up within a certain prescribed time frame, say, one academic quarter. The Table provides a systematic procedure for determining a representative sample of

expected learner behavior gains in each of the areas to be measured. Since there is a definite time limit for the test, one cannot possibly cram a lot of subject matter in it.

Another advantage of the Table is that it enables the test constructor to determine which of the different TPOs covered within the period need to be given emphasis and which could be glossed over. The Table can specify what could be considered as "musts" that would constitute 75% of the total value of the test. These make up the minimum expectations or standard for "passing" on to the next higher level. The balance of the test can be given to the "wants" or enrichment matter meant to challenge the more advanced students and will serve as a basis for determining honors and distinctions.

A third benefit to be derived from the use of a table such as this is that it helps in attaining an equitable distribution of skills measurement. Without a table, a test constructor, following the path of least resistance, may unwittingly concentrate more on the lower levels of thinking skills. A table would make him more conscious of the need to spread out this coverage to include the higher cognitive skills.

For purposes of testing, cognitive skills can be categorized into the following:

Remembering, which is defined as the ability to simply recall previously learned information, facts, ideas and principles. These may include verbatim recall, routine manipulation, or simple reproduction.

Comprehending, defined as the ability to restate or interpret previously learned information. This may include classification, application, and translation, in verbal or graphic forms.

Thinking, defined as a more or less complex intellectual activity involving analysis, synthesis, and judgment.

A very simple Table of Specifications may simply be a listing of the content to be tested and indicating which of these skills are involved (Fig. 5-2).

Content	Skills		
	Remembering	Comprehending	Thinking
1. Definition of Matter	x		
2. Three forms of Matter		x	
3. Changes in Matter			x

Fig. 5-2. Simplified Table of Specifications for a test in Science

For purpose of CDS, we are giving in Box 5-1 a prototypic model that is simple but comprehensive enough. Following is a brief description of each of the column heading in this format:

Objectives/Content. This portion corresponds to the minimum objectives set for the academic period concerned.

Skills/Concepts. This column will include the specific skills corresponding to the objectives. These could fall under the broader headings of remembering, understanding, and thinking. If so desired, the sub-skills could be indicated, *viz*., recall, translation, analysis, etc.

Type of Test Items. This will indicate the particular test item type to be used, i.e., objective or essay, and if objective, the specific form, i.e., Completion, Matching, Multiple Choice, etc.

No. of Items. For each type of test, the entry indicates the number of test items, e.g., 5 or 10 items, as the case may be.

Item No. This indicates the number sequence of the item type as it will appear in the final form of the test, e.g., Test I, No. 1 to 10, etc.

Score Count/Percentage. This will include the corresponding weight for the items, e.g., 10 x 2 = 20 pts., that is, 10 items, 2 points per item.

III. *Algebraic Expressions:*						
1. Identify the properties of polynomials	Comprehension	True or False	1	I 10		1 pt.
2. Simplify algebraic expressions involving polynomials under fundamental operations	Analysis, Application	Multiple Choice Problem Solving	3 1	II 2,9,12 III 2		6 pts. 5 pts.
3. Transform algebraic expressions according to patterns of special products	Analysis, Application	Multiple Choice Problem Solving	3 1	II 8,16,18 III 3		6 pts. 5 pts.
4. Simplify algebraic expressions involving rational exponents and radicals	Analysis Application	Multiple Choice Problem Solving	4 1	II 10,11, 13,15 III 4		8 pts. 5 pts.
IV *Relations and Functions:*						
1. Identify relations as subsets of R2 in terms of the cartesian product A x b	Comprehension	Multiple Choice	1	II 5		2 pts.
2. Identify a function from a relation	Comprehension Analysis	Multiple Choice	1	II 14,19		4 pts.
3. Find the domain and range of a function	Analysis, Application	Multiple Choice	2	II 17,20		4 pts.

Summary:
I. True or False – 10 nos. x 1 pt. – 10 pts.
II. Multiple Choice – 20 nos. x 2 pts. – 40 pts.
III. Problem Solving – 4 nos. x 5 pts. – 20 pts.
Highest Possible Score 70 pts.

Box 5-1

Table of Specifications

YEAR : 4TH
SUBJECT : Math
School Year : 1982-1983
Quarter : First

Instructional Objectives/ Content	Skills/ Concepts	Type of Test Item	No. of Item	Item Number	Score/Count Percentage
I Sets:					
1. Specify relationships defined over sets	Comprehension	True of False	2	I 1, 2	2 pts.
2. Perform operations defined over sets	Analysis, Application	Multiple Choice	2	II 1, 3	4 pts.
II. Real Number System:	Comprehension	True or False	1	I 3	1 pt.
1. Identify properties of the Natural No. System	Comprehension	True or False	2	I 4, 5	2 pts.
2. Identify the properties of the Whole No. System	Comprehension	True or False	1	I 6	1 pt.
3. Identify the properties of the integers	Comprehension	True or False	1	I 7	1 pt.
4. Identify the properties of the rational nos.	Comprehension	True or False	1	I 8	1 pt.
5. Identify the properties of the irrational nos.	Comprehension	Multiple Choice	3	II 4,6,7	6 pts.
6. Identify the properties of the Real Nos. System	Analysis, Application	Proving		III 1	5 pts.

Selecting Test Item Types

In preparing the Table of Specifications, the test writer will consider the types of test items to be included in the test. The decision as to the type to be used is based on the listing of test objectives. There are different types of test items and each could be useful in relation to what is to be tested. In general, test item types fall under two broad groups, the Non-essay or Objective Type and the Essay Type.

The Non-essay or Objective Type generally requires a succinct answer and lends itself to the lower cognitive level objectives. It has the following useful features:

1. It allows for a broader, albeit superficial, coverage of subject matter.
2. It is appropriate for checking knowledge of a factual or informational nature.
3. It is less prone to subjective interpretation of the response.
4. It is easier to correct although it may be time-intensive in its preparation.

The Essay Type calls for more extended response and may be preferred in certain instances due to the following advantages:

1. Although somewhat limited in coverage, it allows a deeper treatment of subject matter.
2. It is useful for testing the higher levels of thinking and reasoning.
3. It can be used to check the student's ability to organize and express his ideas.
4. It is easier to construct although the checking of responses may be tedious and time consuming.

The table on the next page gives a breakdown of the two types of test and their sub-types.

Objective Type	Essay Type
Supply Type + Short Answer + Completion or Fill in Blanks	Unrestricted Type
Selection Type + Alternative Response + Matching Test + Multiple Choice	Restricted Type

The Objective Item Type

Short Answer Type. This type uses a direct question to which a response in one or two sentences is expected. This variety lends itself to memory or comprehension objectives but is rarely used, if at all, for thinking and problem solving. It is amenable to the key word approach to checking with perhaps a point or two given for correct structure or substance.

> Example: What are the characteristics of solid matter?

Completion Type, a.k.a. Filling Blanks. In this type, there is a statement that has to be completed with an appropriate word or phrase. This is a relatively straightforward kind of test which probes the student's recall ability. However, it is prone to guessing. Also, when using this type, the teacher should make sure there is only one possible answer. If the item admits of other correct options, the teacher should give credit for such an answer.

> Example: Gen Aguinaldo proclaimed Philippine Independence in the year _____.

Alternative Answer Type. This type limits the answer to only two options in a forced-choice situation. The options, usually opposites, may either be true or false, yes or no, agree or disagree.

By its nature, such a test gives a 50% probability of the student getting the correct response. For this reason, it may not give a true picture of the student's mastery of matter. This type should probably be confined to the lower levels and should not be resorted to except as a last alternative when time pressure does not allow any other kind of item types.

Some teachers try to correct the guessing factor with a modified form by adding such phrase in the test directions as, "If the statement is false, underline the word that makes it false," or "Change the word or words in the sentence that will make it true," or words to that effect.

How about the use of a right-minus-wrong scheme to discourage guessing? This may be used on the higher levels where students are more mature for such a deterrent. The problem with this device is that the student may even end up with a score deficit. In such a case, the mastery level cannot be clearly ascertained and the validity factor may be affected.

Example: _____ The square of 4 is 8. True or False

Matching Test Type. In this type, there are two columns. One column has a list of descriptors or identifiers, the other has a corresponding list of names, places, objects, dates, ideas, etc. In this test, the student is to match each item in the first column with an appropriate item in the second. The second column would normally include "distractors" or items that are not among the correct choices to be made.

This test is useful for checking the ability of the student to associate factual information. It is also a good way of testing the student's ability to recognize examples of a concept. One problem is to decide whether to allow a student partial credit if he should put down both a correct and incorrect answer for an item. To avoid this, it is best to indicate in the set of directions that there should only be one answer per item.

Example:

Column A	Column B
_____ 1. First president under the Malolos Constitution	a. Pres. Aguinaldo b. Pres. Aquino c. Pres. Magsaysay d. Pres. Marcos e. Pres. Quezon f. Pres. Quirino g. Pres. Roxas
_____ 2. First president of the Commonwealth Government	
_____ 3. First president after Philippine independence from the United States	
_____ 4. First president to declare martial law	

Multiple Choice Type. The Multiple Choice Type has an advantage over other selection type tests in that it gives the student more options to choose from. It consists of a "stem" or an incomplete statement and a set of "options," one of which is the appropriate response. Although guessing is not completely eliminated, it is at least minimized.

This type of test is preferred and is used in standarized tests. It is both educationally sound and efficient in terms of teacher preparation time. It lends itself to item analysis and could be useful in setting up a test item bank. It is also a great time saver and yet it fulfills the requirement of testing knowledge on all levels from simple memory to complex problem solving. Thus, it offers the convenience of an Objective Type and the cognitive and metacognitive probing feature of the Essay Type test. However, it does not test writing or creative ability and should not be thought of as a substitute for other kinds of examinations where these skills are an important part of the course objectives.

It requires a certain amount of skill and practice to come up with a good Multiple Choice test item. The first task of the test writer is to think of a full statement and determine which will be the stem part and which will be option part. Then formulate other options that will become the "distractors." One problem is to determine the number of options per stem. Since the student can guess the answer in this type of test, it is prudent to reduce the probability that a student can pass by chance. With three alternative answers, the probability is one out of three or 33%. Four options would reduce the probability to 25 %. Increasing the number of options to five lowers the guess-probability to 20% but increases the difficulty of the test writer in coming up with plausible but incorrect answers. Four probably represents the best compromise.

Another problem in this type is thinking of "good" distractors. The secret of a good Multiple Choice type test is precisely to have options that are close to the correct answer and may be thought of as possible correct answers themselves. If the distractors are obviously non-options, we are technically increasing the probability of guessing by reducing the number of options. So we are back where we started.

In general, a Multiple Choice test must consist of only one option that is acceptable. It is then incumbent on the teacher to be sure that indeed there is only one possible correct answer. If inadvertently another acceptable option has been included, this should be credited. Although not advisible, sometimes the test writer may find it useful or necessary not to limit himself to but a single correct option or accept more than one correct answer. The difficulty, however, is that this may lead to the problem of partial credit. If this approach is used, the test directions should so indicate it for the benefit of the student.

Another question that usually crops up with this type of a test is when to use as an option, "all of the above" or "none of the above." If multiple answers are accepted as in the frist case, all that the student has to do is notice that two or three of the options are correct to conclude that "all of the above" is the correct choice. As for the other option, "none of the above,"

properly and judiciously used it can test the student's recall, rather than mere memory. But it must be used sparingly and with great caution and not just to bail out the test writer from a situation when he has run out of options.

Another thing to observe in a Multiple Choice test is to locate the correct option in different places in the set of options and avoid a discenable pattern of correct responses. It has been observed that in a five-option test, the letter "c" is usually assigned the correct response more times than the other letters. This is because perhaps test writers are reluctant to put the correct response in "a" or "e" fearing that they will be conspicuous. A student can easily pick up this pattern and give himself an advantage by always picking "c" when he does not know the answer.

To sum up, given its limitations, the Multiple Choice type can be an efficient and effective measure for all levels of learning and is valuable to the time-pressed teacher who chooses to learn to use it well.

The Essay Type

The Essay Type invloves a certain degree of thought and requires the student to organize and present these ideas in a coherant way. Unfortunately, many Essay Type of questions do not accomplish these goals. This is especially true of the "Unrestricted" or "Extended" type of Essay question. In such a question, the student has almost complete freedom in responding. An example is the question:

> What is the importance of U.S. military bases in the Philippines?

To this question the student might write a long answer containing some ideas that he has simply memorized without much understanding and the teacher being impressed with the length of the response and recognizing the ideas he has given in class would give him a high score.

Such an item could be improved perhaps if formulated thus:

> What do you think will happen if the U.S. military bases are removed from the Philippines?

This kind of a question would stimulate the student to put together what he knows about U.S. bases in the country, deduce their importance or lack of it and project what would happen if they are pulled out. Furthermore, he would have to put his arguments in his own words rather than just parrot the teacher's lecture notes.

Besides the problem of correct wording of the Essay Type questions, there are two chief difficulties of this type of test, namely, the great amount of time required to check the answers and the difficulty of arriving at fair a grade for responses. The question of fairness arises because in any Essay test, students will have divergent answers and it is difficult to compare these answers objectively. One way is to prepare a list of all "key ideas" that can be expected and to check the answers against this list. Another is to have a set of criteria with corresponding weights to guide the teacher in checking student responses.

To offset the foregoing problems, it may be better, especially on the lower levels, to use the "Restricted" variety of Essay Type questions. In this approach, some limitations are put forth on the nature, length or organization of the student's response. This ensures brevity and focus of response. For instance, the question given previously may be restricted by restating it thus:

> What are two advantages and two disadvantages of the presence of U.S. military bases in the Philippines? Explain each advantage or disadvantage briefly.

Which Type to Use?

After considering the different types and subtypes of tests, the question comes up: Which type should be used? As we have said earlier, this should not be an either-or question. A good test will have a combination of both Objective and Essay Type test items. The criteria to be used in deciding as to which types to include in the examination are the test objectives and the level of maturity of the students.

It may be good school policy to start out with a preponderantly Objective Type test on the lower levels and then gradually increase the Essay Type portion on the upper levels. Each school will have to work out its own scheme based on existing conditions.

The following table gives a suggested proration of general item types.

Level	Objective Type Items	Essay Type Items
Grades 1-2	100%	10%
Grades 3-4	90%	20%
Grades 5-6	80%	20%
Years 1-2	70%	30%
Year 3	60%	40%
Year 4	50%	50%

Such a schema will provide a gradual adjustment of the students from the relatively easy Objective items to the more difficult Essay items. It is also consistent with the developmental patterns of learning from the simpler, lower levels to the higher and more complicated thought processes. By the time the students get to the terminal year on the secondary level, they would have been fully prepared for the college level where they will be expected to synthesize and articulate their ideas through examinations that are preponderantly of the Essay Type.

Wrting Test Items

In writing test items, one of the test writer's concerns is that the items call for the particular behavior indicated by the learning outcomes pertinent to the instructional objectives. This is imperative if we are to accept the student's response to the items as sufficent evidence that the learning outcomes, and consequently the curricular objectives, have been mastered.

The writing of good test items is both an art and a science. It is an art in the sense that it calls for a touch of creativity. It is a science in that it requires a set of skills that can be learned. These

are the selfsame skills that are found in effective teaching, such as, a thorough grasp of subject matter, a clear conception of desired learning outcomes, a psychological understanding of the learners, perserverance, sound judgment, and common sense. Additionally, the writer needs a skillful application of basic rules and caveats given in materials on test construction.

Norman Groundlund in his excellent book. *Measurement and Evaluation in Teaching 4th Ed.*, gives many useful tips in writing the different item types. He sums it up by reminding the test writer that the preparation of a relevant test items involves the following:

1. Matching of items with the learning outomes as directly as possible. This refers to the one-to-one correspondence between the instructional objective and the test objective, although the latter would have greater content generality and applicability to transfer of learning.
2. Obtaining a representative sample of all intended outcomes.
3. Selecting the proper level of item difficulty.
4. Eliminating irrelevant barriers to effective item writing such as ambiguous statements, excessive wordings, difficult vocabulary, complex sentences, and unclear directions.
5. Avoiding unintended clues to correct reponses such as verbal associations, grammatical inconsistencies, use of specific determiners and revealing patterns of correct responses.
6. Focusing on the ultimate purpose of testing, that is, improving teaching and learning.

Assembling the Test In preparing the test items, the test constructor need not do it in one sitting. In fact, some may find it easier to do this piecemeal as one is moved by the spirit. Writing a test is much the same as writing a literary piece, one needs grace and inspiration. Also, the test parts need not be written in sequence in which they will appear in the final form. It is good suggestion to write the different test parts in separate index cards which can easily be assembled in sequence for the writing of the final draft.

In putting the test in final form, the test writer may need to take the following points into consideration. The first is format. To use a current phrase, the test should be percieved as "user-friendly." A good test format sets the proper tone and puts the test taker in the right psychological frame of mind for the test in much the same way that proper food preparation whets the appetite of the partaker. A good test layout should have "eye appeal" and avoid a "cluttered look." It may be wrong application of the principles of economy to cram every available space on the test paper with text. On the lower levels especially, attention will have to be given to proper spacing and margining to suit eye movement and motor skills of young children.

One aspect of test format is the proper sequence of test types or parts. In this connection, it is good practice to put the Objective Type questions ahead of the Essay Type. If there are several Objective types, it is sound to put the easier ones like Completion and Alternative Response ahead of the more difficult ones like Matching and Multiple Choice. This is to provide motivation to the students and to give them an initial feeling of adequacy in tackling the test. If a student gets bogged down in the earlier portion of the test, it may affect him negatively for the balance of the test.

Another aspect of format is the set of directions for each item type or part. The purpose of these directions is precisely to tell the student what needs to be done. Since the test is self-administered with minimum, if any, teacher intervention, the student has to decode for himself the instruction. Hence, the importance of making these instructions as clear, concise, and comprehensible as possible. The old KISS principle of communication in appropriate here: Keep it short and simple. No frills, no fuss. In fact, in a given school, it may be good policy and practice to "standardize" these directions so that the students develop a common understanding and avoid confusion that could affect test validity. To get ideas for writing directions, one will find it useful to look at those found in standardized tests and those used by testing agencies and groups. It may also be advisable to indicate the weight for the test

part or type after the set of directions so that the student is apprised of the relative importance of the different test parts or items.

The test writer will also do well to pay particular attention to the textual and illustrative materials to be used in the test. The former includes the vocabulary level, sentence length, quality of printing, and the like. As for illustrations, attention should be given to clarity of details and accuracy of reproduction especially where the reponses of the students depend on the material.

When the test draft is assembled the test writer should give it a once over, considering the test *as a whole* and reacting to the following questions:

- How is the over-all difficulty of the test?
- Is there adequate coverage of subject matter?
- Is there any undesirable repetition of matter or concepts being tested?
- Are there important topics that have been omitted or insufficiently emphasized?
- Is there a variety and balance of skills and concepts measured by the test?
- How well does the test fulfill the purpose for which it was designed?
- How is the clarity and adequacy of directions?
- How appropriate is the length and difficulty of the test in relation to the testing time?

As the test writer reviews the test draft, it is a good idea to answer the items for himself (without reference notes, if possible). This serves the purpose of making an answer key. At the same time, it helps the test writer determine the degree of difficulty of his test. If he himself has a hard time completing the test in half the time allowed to the students, how can he expect them to do it within the prescribed time?

After the review, the test draft should be prepared for printing. However, before it finally goes on print, the test draft needs to be edited by a second person for content and style. Usually, this would be done by the Subject Area Coordinator or Department Head or some other knowledgeable and accountable person. It is then given to the typist with instructions for the cutting of the stencil. After it is cut on stencil, a final proofreading is necessary to correct all errors so that when the test is finally printed there will be minimal, if any, mistakes. This is especially important since as has been mentioned the test is self-administered and the student is left to his own devices during the exam.

The final point on the preparation of the test is the safekeeping of the test papers prior to administration, to guard against any "leakage" which could invalidate the test. The test paper is like a roll of film. Once exposed it is useless and will not serve its purpose. It is for the same reason that teachers are cautioned against conducting a "practice test" or "test rehearsals" as this goes against the whole purpose of evaluation.

Administration Phase

A summative test is one given at the end of a course or period of instruction within the course such as a semester or a quarter. This type of test is intended for a comprehensive evaluation of all learning outcomes for the period tested and is a major basis for assigning course grades.

The administration of a summative test will take the following into account:

Test Schedule

In planning the school calendar, prime consideration should be given to the test schedule. The following questions need to be addressed:

- In what months will the tests be given?
- How many days for the set of exams?
- How many tests a day?

- What time of the day?
- What is the time limit per test?
- What is the test combination, i.e., which subject tests will be given on the same day? Which subject test will be given first? Next?

These administrative decisions should be arrived at in consultation with the faculty. Students and parents should be apprised of the schedule ahead of time.

Test Conditions

Students should be properly conditioned for the tests. Properly presented to and understood by students, tests can become part of school routine and should not be cause for undue anxiety.

The best preparation for a test, of course, is diligent and consistent application to studies. This puts students in a state of constant readiness so that they have nothing to fear when made to account for their learning. Another thing that may be helpful is to teach the students how to take a test (without tears). This could be part of the school program for teaching students how to study and learn in their homeroom or guidance period. In this session, the students get to know the purpose of a test, how to prepare oneself for a test, how to follow directions, how to tackle the different types of test, what to do when one gets stuck on an item, and other relevant techniques.

On examination days, the school should take pains to create and maintain the appropriate climate or mood for test taking. Without undue strain, the students should be impressed with the fact that the test is a serious matter and should not be treated lightly. A review of matter to be covered in the test should be conducted on the days prior to the exam dates. On exam days, the Silence Rule should prevail. The test is self-administered and teacher explanation is kept to a minimum perhaps just to indicate additional instructions and corrections, if any. In fact, it may be best to write these on the

board. The room should be neat and comfortable with ample light and ventilation. Students should bring with them only those mateirals needed for the test.

Cheating in an exam is, unfortunately, a fact of academic life and almost every teacher has to deal with this problem sooner or later. While, generally, we want to trust our students, we have to contend with their "fallen nature." There are, of course, ways of preempting and detecting cheating but the most important factor is the teacher himself. Cheating can be prevented by an alert, sustained proctoring effort. One technique is to make sure there is adequate space in between seats. Another is to reshuffle students in their seats to break up any collusion. Still another, a bit cumbersome though, is to use two alternative forms of the test and giving each set to alternate columns so that students having the same form are set apart and have no opportunity to "share" their answers.

In spite of all precautions, we may still have isolated cases of dishonesty through the use of crib notes, copying from another's paper, or asking for or passing on answers. In such a case, sanctions will have to be applied. What may be helpful here is a Test Code, a part of the Code of Discipline in the Student's Handbook, where all forms of test dishonesty are listed with their corresponding sanctions. This should be duly promulgated and explained to the students at the start of the school year.

In the end, the school has to make a strong statement about dishonesty in examinations if only to drive home the point that "he who is dishonest in little things will be dishonest in bigger things." Students need to be impressed with the fact that honesty is a prime virtue in life and that nobody likes a dishonest man.

Making the students know about the unequivocal stand of the school is one matter. Enforcing the policy consistently is another. It will not help if some teachers interpret the rule to the letter while others do it diffidently. Whatever the range of penalties indicated in the code, these must be meted out without any exception. A warning for the first offense may be

given where indicated. But subsequent offense must be dealt with firmly. Otherwise the code could lose its effectivity and the school its credibility.

Utilization Phase

After the test has been administered, there remains the task of gathering the test papers, checking them, translating the test scores into student grades, and using these grades to determine the status of students and communicating this to the parents.

Checking Test Results

One of the policies to be determined in connection with test administration is setting the time limit for the exam. In the primary grades, a time limit of thirty to forty minutes per test would be ideal. For upper elementary perhaps an hour and for the secondary level the limit could go to an hour and a half at the most. This would vary from school to school, of course.

A more important rule might be to set a minimum time limit for turning in test papers. The idea is to prevent a student from hurrying up with his work and to give him ample time to go over his test paper. An efficient system of collection of papers should be instituted so that the Silence Rule is maintained and those who are still working on their test are not unduly disturbed and agitated by the departure of the early finishers.

The next task of the teacher is to check the test papers. In some schools, correction of papers is a common undertaking especially in a situation where there is a "common" or departmental examination. Teachers organize a "Correction Bee" using a kind of an assembly line checking process where each teacher is responsible for working on a specific part of the test for all classes. This has the advantage of ensuring fair and accurate checking particularly for Essay Type questions. What helps, of course, is the use of a common correction key by all the teacher-correctors., A third advantage of common checking is that any questionable response can be threshed out then and there. This will preclude any arbitrary decision

and subjective interpretation. Where individual teachers correct test papers, a review and double checking by another party may help ensure accuracy and fairness.

Translating Test Scores into Grades

Thus far, we have been concerned with the measurement part of the evaluation process. Now, comes the more important part. The "raw scores" in the test have to be translated into meaningful grades.

There is no perfect grading system. Put another way, no grading system is without its share of flaws. The most a grading system can do is approximate the real level of student achievement vis-a-vis the course objectives. One of the marks of a good school and good teaching is a well thought-out examination and grading system. In a credentials-oriented society like ours, students' futures and careers are largely dependent on grades and it is incumbent on the school and teachers to expend all efforts to develop and maintain an evaluation system that is efficient, just and humane.

Whatever grading scheme is used, there are certain assumptions that have to be taken into account, such as the following.

- The class represents a normal range and distribution of abilities.
- The students are exposed to the same curriculum
- The students are diligent and motivated.
- The teachers teach for mastery.
- The tests are valid, reliable and objective.
- The grading system is efficient and consistent.

The grading system is ultimately hooked up to the scholastic standard set by the school. This standard represents the school's level of expectations of its students. Standards vary from school to school since they have varying curricular requirements and emphases but hopefully not within the same

school. A witty slogan seen in the faculty room of a school states: "If everything else fails, lower your standards." Meant to be funny, this statement hopefully does not reflect a prevailing sentiment among teachers. School standards are vital in that they are indicators of the kind of "quality control" needed to turn out products who approximate the "Ideal Graduate" of the school.

It does not speak well of a school to have multiple or shifting standards. In such a case, a grade of 75 or 90 would mean different things to different teachers. A grade of 90 from a teacher who gives 90s left and right and who is prone to giving the "benefit of the doubt" to low-achieving students "at the drop of a hat" will mean much less than a 90 from a teacher who considers this to be the highest attainable grade and gives it only "once in a blue moon" and then only to a student of "export quality." But, of course, both extremes are to be avoided and rather than leave this matter to individual conscience, it behooves the school to work out with the teachers a "standardized" standard to which every teacher would adhere as closely as possible.

This is the reason for the adoption of common curriculum guides like the Scope and Sequence Grid and the Plantillas in the first place. Another approach that would contribute to this is the use of a common or departmental examination based on the curriculum. This test may be constructed either by the Subject Area Coordinator or Departmental Head or a group of teachers teaching the subject on the same level. Still another option is that of a common grading scheme using either raw scores or transmuted marks.

One device that is useful is the so-called Transmutation Table. This is a chart which lists equivalence between raw scores and corresponding percentage points (Box 5-2). Used judiciouly, the table would correct arbitrariness in grading and ensure a uniform interpretation of student grades. This is of great use in a school with several classes on each level. The uniformity of grading becomes crucial since parents tend to compare marks given by different teachers. A system like this would preempt such unwarrented criticism.

Box 5-2

Sample Transmutation Table

10 Items	25 Items	25 – 88	26 – 76	1 – 60	43 – 74	62 – 84	80 – 92
		26 – 90	27 – 77	4 – 61	45 – 75	63 – 85	81 – 93
1 – 60	1 – 60	27 – 92	28 – 79	7 – 62	46 – 76	64 – 86	82 – 94
2 – 63	2 – 60	28 – 95	29 – 81	10 – 63	47 – 77	65 – 87	83 – 95
3 – 66	3 – 61	29 – 98	30 – 83	13 – 64	48 – 78	66 – 88	85 – 96
4 – 69	4 – 62	30 – 100	31 – 84	17 – 65	49 – 79	67 – 89	86 – 97
5 – 72	5 – 63		32 – 86	19 – 66	50 – 80	68 – 90	87 – 98
6 – 76	6 – 64	35 Items	33 – 89	22 – 67	51 – 81	70 – 91	88 – 98
7 – 79	7 – 65		34 – 90	25 – 68	52 – 82	71 – 92	89 – 99
8 – 86	8 – 66	1 – 60	35 – 91	28 – 69	53 – 83	72 – 93	90 – 100
9 – 93	9 – 67	2 – 61	36 – 93	30 – 70	54 – 84	73 – 94	
10 – 100	10 – 68	3 – 62	37 – 95	31 – 71	55 – 85	74 – 95	100 Items
	11 – 69	6 – 63	38 – 97	33 – 72	56 – 86	75 – 96	
15 Items	12 – 70	8 – 64	39 – 98	35 – 73	57 – 87	76 – 97	1 – 60
	13 – 71	10 – 65	40 – 100	37 – 74	58 – 88	77 – 97	5 – 61
1 – 60	14 – 72	12 – 66		39 – 75	59 – 89	78 – 98	10 – 62
2 – 61	15 – 74	13 – 67	50 Items	40 – 76	60 – 90	79 – 99	15 – 63
3 – 62	16 – 75	16 – 68		41 – 78	61 – 91	80 – 100	20 – 64
4 – 63	17 – 78	18 – 70	1 – 60	42 – 79	62 – 92		25 – 65
5 – 64	18 – 80	19 – 71	3 – 61	43 – 80	63 – 93	90 Items	30 – 66
6 – 66	19 – 83	20 – 72	5 – 62	44 – 81	64 – 94		35 – 67
7 – 68	20 – 86	21 – 73	7 – 63	45 – 82	65 – 95	1 – 60	40 – 68
8 – 70	21 – 89	22 – 74	9 – 64	46 – 84	66 – 96	2 – 61	45 – 69
9 – 73	22 – 92	23 – 76	11 – 65	47 – 85	67 – 97	9 – 62	50 – 70
10 – 76	23 – 92	24 – 78	13 – 66	48 – 86	68 – 98	13 – 63	53 – 71
11 – 81	24 – 97	25 – 80	16 – 67	49 – 87	69 – 99	18 – 64	56 – 72
12 – 85	25 – 100	26 – 82	19 – 68	50 – 88	70 – 100	22 – 65	59 – 73
13 – 90		27 – 84	22 – 69	51 – 89		27 – 66	62 – 74
14 – 95	30 Items	28 – 86	25 – 70	52 – 90	80 Items	31 – 67	65 – 75
15 – 100		29 – 88	26 – 71	53 – 92		36 – 68	66 – 76
	1 – 60	30 – 90	27 – 72	54 – 93	1 – 60	40 – 69	67 – 77
20 Items	2 – 60	31 – 92	28 – 73	55 – 94	4 – 61	45 – 70	68 – 78
	3 – 60	32 – 94	30 – 74	56 – 95	8 – 62	47 – 71	70 – 79
1 – 60	4 – 60	33 – 96	31 – 75	57 – 96	12 – 63	50 – 72	71 – 80
2 – 61	5 – 61	34 – 98	33 – 78	58 – 97	16 – 64	53 – 73	73 – 81
3 – 62	6 – 62	35 – 100	35 – 79	59 – 98	20 – 65	56 – 74	74 – 82
4 – 63	7 – 63		36 – 80	60 – 100	24 – 66	58 – 75	75 – 83
5 – 64	8 – 64	40 Items	37 – 82		28 – 67	59 – 76	77 – 84
6 – 65	9 – 65		38 – 83	70 Items	32 – 68	60 – 77	78 – 85
7 – 66	10 – 66	1 – 60	39 – 85		36 – 69	62 – 78	80 – 86
8 – 67	11 – 67	2 – 61	40 – 86	1 – 60	40 – 70	63 – 79	81 – 87
9 – 68	12 – 68	4 – 62	41 – 87	3 – 61	42 – 71	64 – 80	83 – 88
10 – 70	13 – 68	6 – 63	42 – 89	7 – 62	44 – 72	65 – 81	84 – 89
11 – 72	14 – 69	8 – 64	43 – 90	10 – 63	46 – 73	66 – 81	85 – 90
12 – 74	15 – 70	10 – 65	44 – 92	14 – 64	48 – 74	67 – 82	87 – 91
13 – 76	16 – 71	12 – 66	45 – 93	17 – 65	51 – 75	68 – 83	88 – 92
14 – 79	17 – 72	14 – 67	46 – 94	21 – 66	52 – 76	69 – 84	89 – 93
15 – 82	18 – 74	16 – 68	47 – 96	24 – 67	54 – 77	71 – 85	91 – 94
16 – 86	19 – 75	18 – 69	48 – 97	28 – 68	55 – 78	72 – 86	93 – 95
17 – 89	20 – 76	20 – 70	49 – 98	31 – 69	56 – 79	73 – 87	94 – 96
18 – 93	21 – 79	21 – 71	50 – 100	35 – 70	57 – 80	74 – 88	95 – 97
19 – 96	22 – 81	22 – 72		37 – 71	58 – 81	76 – 89	97 – 98
20 – 100	23 – 83	24 – 73	60 Items	39 – 73	59 – 82	77 – 90	98 – 99
	24 – 85	25 – 75		41 – 73	60 – 83	78 – 91	100 – 100

It should be reiterated at this point, that testing is not just for grading purposes although that is one of its uses. We have seen earlier that testing serves the important purpose of helping improve instruction. When test papers have been corrected, the teacher would do well to analyze the patterns and trends in student responses. This may well indicate certain ambiguities and weaknesses of instruction that could be remedied in the future. It is good practice to go over and reteach these points before taking up new matter in class. Following the dictum, "Strike while the iron is hot," the teacher should seize the moment and rehearse matters that need relearning or deepening while these are still fresh in the minds of the students.

Reporting Student Achievement

An important, although not exclusive, purpose of evaluation is to ascertain the academic progress or standing of a student. This is indicated by grades in the progress report card. Most schools use percentage scores with 75 as the "passing mark." and 100 as the highest. Some use letter marks, i.e. A, B, C, etc., indicating categories of achievement. Some give percentage equivalents (A=93 to 100, B-88 to 92, etc.) while others provide a description (A = Outstanding, B = Very Good, NI = Needs Improvement, etc.).

Whatever scheme is used, the important thing to remember is that grades are a form of communication from the school to both the students and their parents. Therefore they must be understandable and provide them with guidance for any future course of action. Hence, it may be helpful to accompany the progress report with some explanation, description or set of recommendations. A more preferred arrangement is to ask the parents to come for a one-on-one conference with the teacher when the report cards are issued. This way, misunderstandings may be avoided and the basis for a joint plan of action can be laid out for the benefit of the student.

Making Administrative Decisions

At the end of the school year, the summative evaluation serves another purpose. This is to help the school authorities arrive at a definitive decision on the promotion or non-promotion of a student

to the next higher level. In most schools, there is a laudable practice of holding a deliberation or review session on students with marginal or submarginal grades. This is done by the Academic Standards Board (ASB) which is usually made up of administrators, teachers, the guidance counselor, and other school personnel who have a professional concern for the students.

Deliberations represent the human and humane side of evaluation. In these sessions, questions such as the following are addressed: What do you do with a student who is a point or two short of the passing grade? What do you do with a student who started out slowly but by the end of the school year was doing well? However, his early deficiencies pulled his grade average below the cut-off point. What do you do with a students who was doing well all along but had one disastrous exam–perhaps he was indisposed but did not want to miss the exam and that one bad stroke pulled his score below the required average point?

These *ex allunde* or extenuating "personal factors" are taken into consideration by the Board together with the student's historical academic data when recommending the action to be taken by the school administration. It is both defensible and justifiable unler extraordinary conditions to upgrade a student's mark especially when indications point that he deserves to pass. If evaluation were purely quantitative, a machine would do a better job. But evaluation is a rational and moral activity and human judgment must play a vital part in it. At any rate, the bottom line question is: Can the student cope with the work on the next higher level? If he can, in the collective and studied judgment of the school, the grade notwithstanding, he should be given a chance to prove himself.

However, it is a reality of evaluation that some students will invariably fall short of expectations beyond reasonable doubt. That is what school standards are about anyway. If everybody passes including those who cannot tackle the work on the next higher level, let us forget standards. The school, let alone the teachers, does not enjoy distributing failing grades. Substandard grades produce a lot of tears, arguments, and even guilt feelings. How much easier it would be to "give the student a break." After all, who is harmed if a student is passed even when he does not deserve it? The answer, of course is: both the student and the teacher on the next level.

The student himself is harmed because he is not able to come to terms with his deficiencies and proceeds with a false sense of competency and adequacy to cope with more difficult matter. If the student passes underservedly he will not take any action to remedy his poor study habits and lackadaisical performance. If he then goes on to the next level and he is not ready to do work on that level he will keep lagging behind incrementally owing to poor foundation. On the other hand, the teacher of the next level will be affected because he will spend more time and give more attention to the student through remedial work. He will also have the odium of having to retain the student eventually should he not be able make up for his deficiencies.

Shakespeare in one of his plays said, "You have to be cruel to be kind." Sometimes you have to hurt someone in order to help him. Non-promotion of a student is an application of this aphorism. In making such a judgment, it is not as if we are playing gods visiting vengeance on hapless subjects. The school has a job to do. It has standards to uphold. No student will publicly thank the school or a teacher for not being promoted, but if he learns a hard lesson from this situation and mends his ways that is enough compensation.

At any rate, if appropriate procedures are followed and objective criteria are used consistently in making decision on non-promotion the school need not be apologetic or defensive about it. The records will always back up the action and parents will even appreciate the fact that the school has taken time and effort to consider all options. This would not be the case if the decision had been done solely and arbitrarily by a teacher. And just to assuage ruffled feelings and remove any doubt in the minds of the parents, the school may even institute an appeal system if only to assure them that the school is ever concious of due process and would like to see to it that every child is given his "day in court."

Evaluating the CDS Program

The evaluation of student learning outcomes is but a part of a larger undertaking of program evaluation. Any program worth its salt needs to be evaluated. Unless objectively assessed, there is no way we could tell how good a program is. Expressed simply, program evaluation is the process by which we try to decide how well we have done what we have set out to do in the beginning. In the school context, evaluation goes *parri pasu* with acountability.

Program evaluation, however, cannot occur unless we know exactly what we are trying to accomplish, i.e., our school goals. It requires an answer to or a decision on "how well" we have carried out these goals. That decision in turn has to be made on the basis of some particular judgmental norm.

Evaluation of the curriculum keeps track of the progress of our efforts at achieving desired goals. Actually, this phase in curriculum work is a "validation" of results to make sure that changes are occurring as desired, that the improvements are directional and that outcomes are as anticipated by the school.

When all aspects of the procedure are combined, that is, awareness and understanding of the goal, action taken to attain the goal, an appropriate norm for analyzing the action, a monitoring device for gathering data on the activity, and a final judgment to be rendered on the enterprise, then the evaluation process is securely in place.

As in the evaluation of learning, there are two types of program evaluation, *formative* and *summative*. Formative program evaluation consists of periodic feedback arrangements which enable the curriculum planners and implementors to make continuous, on-going adjustments during the planning and implementing phases. Summative program evaluation, on the other hand, comes at the end of the whole process and deals directly with the assessment of the total curriculum plan. This type of feedback mechanism provides baseline data for the program in the future, whether to continue, replace or modify it.

For CDS purposes, we suggest the use of a modified form of Daniel Stufflebeam's CIPP model of evaluation. Earlier in Chapter One, we mentioned that the CDS curriculum udergoes a 3-year cycle of development with a built-in evaluation. The CIPP paradigm fits in very well with this evaluation scheme, as illustrated in the model, Fig. 5-3.

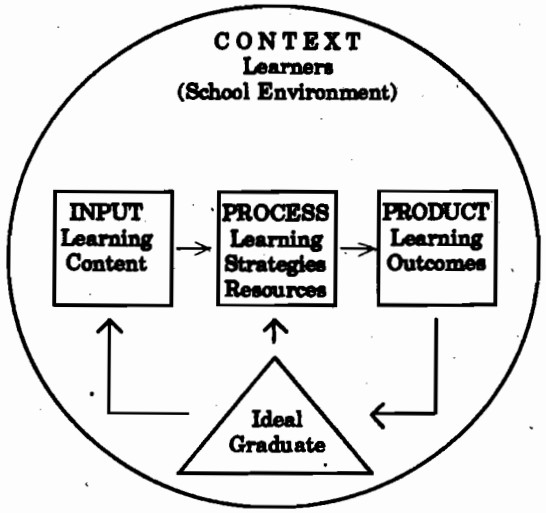


Fig. 5-3. CDS/CIPP Program Evaluation Model

CIPP is an acronym for four program components – Context, Input, Process, and Product – which need to be evaluated.

Context represents the environment, both internal and external to the school. It includes both the needs and interests of the clientele, the school child or youth, as well as the environmental and sociological factors affecting the school enterprise.

Input in CDS context refers to curriculum content and learning objectives used in the program and expressed principally in the Scope and Sequence Grid.

Process consists of the wide range of learning strategies and resources used in the program as found in the Plantillas and session plans. It also includes the personnel who carry out the program following "quality control" specifications.

Product refers to learning gains of the students as revealed by tests and valuated against the school standards embodied in the set of behavioral indicators based on the profile of the "Ideal Graduate."

The CIPP model is a wholistic, systemic approach to curriculum evaluation. It takes into account all the components of the program from inception to conclusion.

Context evaluation attempts to examine the nature of the school population being served and their peculiar ecology. This involves looking carefully at the nature of the students who are the intended beneficiaries of the program, not just some vague group of learners. If the curriculum does not serve the actual needs of the learners and the community, the prospects of its success are dim. Feedback from context evaluation enables the curriculum developers to adjust program goals accordingly. It provides a kind of "reality test" that allows the school to ascertain the validity of its assumptions about the learners and other aspects of the environment in which the program operates.

The school also needs to look closely at the means being used to meet the goals of the curriculum. Input evaluation is concerned with the curriculum content spelled out in the curriculum blueprint or master plan of instruction. The key question here is: Given the goals and the available range of content options for meeting them, have we made the most appropriate choice? Input evaluation then attempts to validate the accuracy and adequacy of the curriculum and instructional design in meeting program goals.

Process evaluation is concerned with the mechanics of implementation. It looks at the program as it is being carried out. The idea is to assess the resources and strategies of the delivery package. The school has to reassure itself that the program is on track as designed. This is especially crucial in a large-scale operation involving the whole school and so many teachers. This phase calls for frequent and immediate feedback to and from those who are part of the program. This will then enable the school to introduce contingent or corrective measures for the ongoing improvement of the program.

Product evaluation is the last component of the CIPP evaluation process. It answers the question: When all is said and done, were the goals of the curriculum achieved optimally. This phase occurs at the end of the program implementation. Data obtained in this phase may be used as a basis for modifying the design before the program is recycled.

REFERENCES

Bellance, James A. *Grading*. Washington, D.C.: National Educational Association, 1977.

Bloom, Benjamin S., George F. Madaus, and J. Thomas Hastings. *Evaluation to Improve Learning*. New York: McGraw-Hill Book Company, 1981.

Ebel, Robert L. *Essentials of Educational Measurement*, 3rd ed. Englewood Cliffs, N.J.: Prentice-hall, Inc., 1981.

Gronlund, Norman E. *Improving Marking and Reporting in Classroom Instruction*. New York: Macmillan Publishing Company, 1974.

Hopkins, Charles D. and Richard L. Antes. *Classroom Measurement and Evaluation*, 2nd ed. Ithaca, Ill.: F.E. Peaccock, 1984.

Measurement and Evaluation in Education, 5th ed. New York: Macmillan Publishing Company, 1985.

Mehrens, Wiliam A. and Irvin J. Lehmann. *Measurement and Evaluation in Education and Psychology*, 3rd ed. New York: Holt, Rinehart and Winston, Inc., 1984.

Roche, Edward F. *An Administrator's Guide for Evaluating Programs and Personnel*. Boston: Allyn And Bacon, Inc., 1981.

Stufflebeam, Daniel L. *Systematic Evaluation*. Boston: Kluwer-Nijhoff Publishing, 1985.

Tuckman, B.W. *Measuring Educational Outcomes: Fundamentals of Testing*. New York: Harcourt Brace Jovanovich, 1975.

EPILOGUE

"Teacher Empowerment" is the catch phrase these days. This simply means that teachers who are directly affected by the consequences of school decisions should be actively involved in the formulation of such decisions and that they should be provided with whatever is essentially required in carrying out these decisions.

It has been our contention that teachers should play a more pivotal role in all phases of curriculum-making from initial planning through development try-out, installation, evaluation and revision. Curriculum is not and should never be the exclusive preserve of specialists. More and more classroom teachers are being tapped to serve in school curriculum committees and task forces. Hence, the need for well-prepared and well-motivated teachers who are conversant with the principles and procedures of curriculum development and instructional planning.

A perplexed teacher once observed that the curriculum is like a maze, in his words " a complex situation involving a multiplicity of considerations that require profound study." It is our contention that it need not be so. Stripped to its bare essentials, curriculum making is surprisingly simple. If the reader finds this book not so "high fallutin," it was really meant to be so. The simplicity is part of our intention. We have purposely used simple explanations and

easy-to-understand terms and cut through the usual educational jargon precisely to reduce the "multiplicity."

This handbook has attempted precisely to provide school practitioners, teachers on the elementary and secondary levels particularly, with practical ideas and guidelines to enable them to heighten their awarness of the scope of curriculum study, learn more about curriculum procedures, and, in the end, take an active part in making or re-making the curriculum in their school instead of merely implementing it. It is hoped that this handbook will also help prospective practitioners presently in our teacher formation schools in preparing themselves for the great work of educating children and youth.

It is our fervent prayer that after going through this book, the reader will no longer say, " I don't know how to make a curriculum," or, " I don't know how to begin." As a practitioner and a professional, you have to do it and you can do it. You only need to make the first move. Remember," a journey of a thousand miles, begins with the first step."

Good luck.

APPENDIX A

Glossary of CDS Terminology

ABCD *Format* – a way of writing instructional objectives. The letters refer to: Audience, the target group of learners; Behavior, the action or performance to be exhibited by the learners at the end of instruction; Conditions, circumstances under which the behavior is to be exhibited; and, Degree, accpetable level of performance.

ACCOUNTABILITY – responsibility of the school for accomplishing its a vowed purpose and the degree in which it is accomplished.

ACHIEVEMENT TEST – a test given at the end of instruction to determine the level of mastery of the intended outcomes of teaching and learning.

CRITERION-REFERENCED TEST – a test designed to determine whether or not a learner can perform a clearly defined set of desired behavior changes.

CURRICULUM – sum of learning content and experiences that are selected, organized, and implemented by the school in pursuit of its purpose and for which it can be held accountable.

CURRICULUM CRISIS – confusion in curriculum arising from a lack of clear-cut definition of accountability in the educative process.

CURRICULUM DEVELOPMENT SYSTEM (CDS) – a systematic, developmental process of on-going analysis and improvement of curriculum and instruction in a school the better for it to attain its purpose.

DEVELOPMENT – a deliberate, planned change that brings an enterprise or institution to a higher level of perfection or quality of performance.

DIAGNOSTIC TEST – a test given before instruction to determine the areas of strengths and weaknesses of the learner which will guide instruction.

DYSFUNCTIONAL COMPONENT – a component of the system which is causing disharmony or disorder in the smooth operation of the system.

EVALUATION – a systematic collection of the evidence of learning to determine whether in fact certain desired changes are taking place in the learner as well as the amount or degree of change.

EVALUATION OF LEARNING OUTCOMES (ELO) – a component of CDS curriculum model which is concerned with the inventory and appreciation of the results of the teaching-learning process.

FEEDBACK – information or data that is reported back from one system component to another for correction purposes.

FORMATIVE TEST – a test given during or within the instruction unit where the purpose is to improve student learning.

GOAL – a broad target of achievement, general and long-range in scope.

IDEAL GRADUATE – the desired end product or output of the school whose profile may be described in terms of a set of knowledge, skills, attitudes and values and the corresponding behavioral indicators.

INSTRUCTION – a phase of the curriculum process that has something to do with the organizing of the learning environment to optimize learning. It has two components: teaching and learning.

INSTRUCTIONAL OBJECTIVE – also, Performance Objective, a statement describing and communicating a specific intended learning outcome. There are two types:

ENABLING OBJECTIVE (EO) – a statement of intermediate outcome or behavior which the learner must accomplish in order to eventually exhibit a terminal behavior.

TERMINAL PERFORMANCE OJECTIVE (TPO) – a statement which describes the final behavior to be exhibited by the learner upon successful completion of an instructional unit. Several related EOs lead to a TPO.

INSTRUCTIONAL RESOURCES – materials and strategies used in the teaching-learning sequence.

INSTRUCTIONAL TECHNOLOGY – application of systematic process for the design, implementation and evaluation of the total instruction and the systematic utilization of human and material resources to bring about more effective teaching and learning.

INSTRUCTIONAL UNIT – a block of learning content that may be broken down into a series of related lessons resulting in the mastery of a certain concept or generalization, skill or value.

LEARNING – interaction of the learner with stimuli in the environment that results in positive, progressive and permanent change in his behavior.

LEARNING CONTENT – also called Subject Matter, a component of the CDS curriculum system. This includes universal truths and beliefs accumulated by man in the Fund of Knowledge which have been organized, simplified, and encapsulized in the different disciplines or subject areas in the school curriculum.

LEARNING ENVIRONMENT – the physical and human aspects and conditions of the learner's surroundings specifically

those found in the classroom and other venues of teaching and learning.

LEARNING EXPERIENCE – a situation or condition in the teaching-learning sequence that has been purposely set up to elicit certain desired responses from the learner in line with the instructional objective.

LEARNING OUTCOMES – intended results of learning experiences generally expressed in terms of knowledge, skills, attitudes and values.

MINIMUM REQUIREMENTS – the basic set of learning outcomes required of a learner in a course or level that will make him eligible for a passing grade and/or promotion to the next higher level.

MISSION STATEMENT – a set of general statements that spell out what school is all about or the direction it intends to take in keeping with its Philosophy.

NORM-REFERENCED TEST – a test designed to determine the learner's performance in relation to that of a group of individuals who are taking or have taken the same test or course.

OBJECTIVE – a specific target of accomplishment that can be verified within a given time and under specifiable conditions, which, if attained, advances the learner towards a corresponding goal.

OBJECTIVITY – that characteristic of a test instrument whereby it is free from undue influence from internal factors in the examinee or external factors in the environment.

PHILOSOPHY – world view, a way of looking at reality; a composite statement of concepts and beliefs about man and society and their relationship.

PLANTILLA, also Unit Plan – A systemic model of planning a unit of instruction incorporating 4 components: Learning Objective (LO), Learning Content (LC), Learning Experiences and Resources (LE/R), and Evaluation of Learning Outcomes (ELO).

RELIABILITY – that characteristic of a test instrument whereby it yields the same results under the same conditions; the level of consistency of the testing device.

SCOPE AND SEQUENCE GRID – a global representation of learning content showing the extent of coverage and gradation of subject matter to be learned on the different levels of schooling.

SESSION PLAN – also, lesson plan, a segment of the Plantilla or Unit Plan corresponding to one lesson in the Unit of instruction.

STANDARD – also called Degree, the level of acceptable performance or quality of learning deemed necessary for mastery. This may be expressed either as a "criterion" or a "norm."

SUMMATIVE TEST – a test given at the end of a period of instruction covering several units used primarily for grading purposes.

SYSTEM – the totality of separate but interdependent parts working together as one to achieve a desired outcome.

SYSTEMIC APPROACH TO CURRICULUM – a strategy which logically accounts for and relates in an orderly fashion the components of curriculum and instruction for the purpose of optimizing learning.

SYSTEM DISSONANCE – a disharmony, disorder or malfunction caused by a dysfunctional component of the system.

TAXONOMY OF LEARNING OBJECTIVES – an arbitrary classification of learning outcomes, from general to particular, using certain divisions or domains of learning. Benjamin Bloom's model, for example, has the following domains:

COGNITIVE DOMAIN – category of learning objectives connected with the intellectual component of behavior; deals with what a learner knows, understands, or comprehends (e.g. an objective that calls for recall of facts or ideas).

AFFECTIVE DOMAIN – category of learning objectives emanating from the emotional component of behavior; concerned with how the learner feels (e.g. an objective involving increased interest or motivation in doing a task).

PSYCHOMOTOR DOMAIN – category of learning objectives concerned with how a learner controls or moves his body (e.g. an objective requiring manipulation of an object).

TABLE OF SPECIFICATIONS – a blueprint or design used in preparing a test. It normally includes the test objectives, the content to be tested, the type of test items, and the scoring scheme.

TEACHING – act of intervention by the teacher to help the learner in the learning process; process of facilitating learning.

TEST ITEM – a specific question or statement in a paper-and-pencil test to be answered by the examinee.

VALIDITY – that characteristic of a test instrument whereby it measures what it is supposed to measure; degree to which a test measures what it purports to measure.

VISION – end product envisioned at the conclusion of the educational effort based on shared beliefs and values of the school staff.

APPENDIX B

Micro-curriculum Planning and Development Exercises

Having gone thorugh this handbook, you are now in a position to try the following hands-on exercise. This simple exercise involves the fundamental steps in curriculum planning and development, from beginning to end. The idea is for you to "experience" the process. You are not expected to come up with a comprehensive scheme but a "capsulized" version which is a tangible outcome of the whole process. Hopefully, having gone through the exercise, you and others can make use of what you have learned in a broader scope in designing a full-blown curriculum for your school.

Part I : Setting the Purpose and Directions

Step 1: Drawing Up the School Philosophy

Assume that you are the chairperson or a member of the School Curriculum Committee of your school at present or a school you are setting up.

Draw up a brief preliminary draft of the School Philosophy. State it succinctly in a series of "We believe ...." statements.

Name of the School _____

Level of Schooling _____

Our School Philsophy

Step 2: **Statement of Mission and Goals**

Now, using your school Philosophy as your basis and considering the level of schooling and the nature of the educands and the expectations of your clientele, state your Mission Statement and a set of corresponding relevant and realistic goals.

Mission Statement

School Goals

Step 3: **Making a Profile of Your School's "Ideal Graduate"**

In this step, you are to "visualize" the end product of your school by drawing up a profile or description of your intended graduate. This is a concrete manifestation of what you put down in your School Philosophy, Mission Statement, and Goals.

The list should contain behavioral indicators or descriptors of the graduate in terms of the three recognized domains of learning, that is,

- What he knows, believes in etc. (knowledge, concepts, beliefs, etc.)
- What he can do (skills, competencies, habits, etc.)
- How he will behave (feelings, sensitivities, attitudes, values, ideals, etc.)

List at least 10 per domain

Our Ideal Graduate

Part II: **Carrying Out School Purpose**

In Part I, you drew up the School Philosophy, Mission Statement, Goals and the Profile of your "Ideal Graduate." Keeping all of these in mind as background reference, you will now plan to implement them in the instructional program.

The exercise is now focused on the following:

1. Inferring objective from the following:
   (a) Data about the target learners
   (b) Data about the expectations of the community and clientele
   (c) Data on the nature of learning
   (d) Requirements of and developments in the subject area concerned
2. Stating objectives in terms of desired student behavior
3. Preparing an instructional plan for carrying out the objectives

Step 1: **Gathering Relevant Data**

Assume a teaching role on any grade/year level in your school and choose a subject area of interest to you.

Now, make a tentative list of some known characteristics of the target learners at this stage of their development. Include only those which in you judgment have major implications for formulating instructional objectives.

Opposite each characteristic, indicate an objective you can deduce from it. List at least 10.

Characteristics of Learners	**Corresponding Objectives**

In like manner, make a list of the expectations of the larger community, sponsoring agencies, and the school clientele. Opposite each expectation indicate a possible objective.

List at least 10 of these.

Expectations of Community & Clientele	**Corresponding Objectives**

Look up and state some principles and current findings on how children learn at the appropriate level of your target learners. Again, opposite each principle or finding, indicate a suggested objective. List at least 10.

Principles of/Findings on Learning	**Corresponding Objectives**

Consult any reference on requirements of and developments and trends in the teaching of the subject area you have chosen. Another source would be the reports and pronouncements of professional groups and subject area specialists and experts. From these reference sources, indicate some concepts or generalizations with implications for teaching. Again, opposite each idea indicate a suggested objective. List at least 10.

Requirements of/Developments in Subject Area	Corresponding Objectives

Step 2: **Formulating Instructional Objectives**

In Step 1, you have made a list of *tentative* objectives. Now, review these tentative objectives and select those which are consistent with your view on —

(a) Nature of man, society and school (Philosophical Screen), and
(b) Nature of the learning process (Phychological Screen)

In selecting the final list of objectives, ask yourself these questions: "Is the Objective desirable for our school?" and, "Can the objective be attained realistically, or, is it possible?"

This final list of "filtered" objectives should now be stated in terms of specific student behavior using the ABCD format. List at least 10 of these.

Final List of Instructional Objectives

Step 3: Preparing an Instructional Plan

Now, choose *one* of the final objectives you have listed in Step 2. Then, draw up an instructional plan for implementing this objective, using the format below. Use another sheet if more space is needed.

Learning Objective	Learning Content	Learning Experiences/ Resources	Evaluation of Learning Outcomes

INDEX

ABOUT THE AUTHOR

DR. JESUS C. PALMA graduated with a liberal arts degree magna cum laude from the Ateneo de Manila University in 1955. Since then, he has been in school work as teacher or administrator. He has had experience on all levels of schooling from the elementary to the graduate school.

Currently, he is an associate professor at the Ateneo Graduate School of Education and resident consultant on curriculum and the gifted program of the Ateneo Grade School.

Dr. Palma obtained his MA degree from the same institution and his Ed. D. degree from Centro Escolar University, majoring in educational administration and curriculum planning and development.

He has been teaching these two courses in the graduate school for many years now. He conceptualized and developed the Curriculum Development System (CDS), a management-based approach to curriculum and instruction in 1980 and has since been selling the idea to different schools all over the country. He is much sought after as a speaker/resource person on this topic in school in-service training sessions and professional outreach seminar-workshops.

He is also involved in school textbook and instructional materials production. Additionally, he serves as a consultant to different private and congregational schools on school organizational development, planning and management, curriculum improvement, and faculty professional advancement.