

The Teacher and the School Curriculum Learning Material

I. Curriculum Essentials

The Philippine Educational system has three levels:

1. **Basic Education.** This level includes Kindergarten, Grades 1 to Grade 6 for elementary and for secondary, Grades 7 to Grade 10 for Junior High School and Grades 11 and 12 for Senior High School. Each of the levels has its specific recommended curriculum. The new basic education levels are provided in the K to 12 Enhanced Curriculum of 2013 of the Department of Education.

2. **Technical Vocational Education.** This is post-secondary technical vocational educational and training taken care of Technical Education and Skills Development Authority (TESDA). For the TechVoc track in SHS of DepEd, DepEd and TESDA work in close coordination.

3. **Higher Education.** This includes the Baccalaureate or Bachelor Degrees and Graduate Degrees (Master's and Doctorate), which are under the regulation of the Commission on Higher Education (CHED)

In various levels of schooling and in various types of learning environments, several curricula exist. Glatthorn (2000), as mentioned in Bilbao et al. (2008), classified these:

Types of Curricula Simultaneously Operating in the Schools

1. **Recommended Curriculum.** Almost all curricula found in our schools are recommended. For Basic Education, these are recommended by the Department of Education (DepEd); for Higher Education by the Commission on Higher Education (CHED); and for vocational education by TESDA. These three government agencies oversee and regulate Philippine education. The recommendations come in the form of memoranda or policies, standards and guidelines. Other professional organizations or international bodies like UNESCO also recommend curricula in schools.

2. **Written Curriculum.** This includes documents based on the recommended curriculum. They come in the form of course of study, syllabi, modules, books or instructional guides among others. A packet of this written curriculum is the teacher's lesson plan. The most recent written curriculum is the K to 12 for Philippine Basic Education.

3. **Taught Curriculum.** From what has been written or planned, the curriculum has to be implemented or taught. The teacher and the learners will put life to the written curriculum. The skill of the teacher to facilitate learning based on the written curriculum with the aid of instructional materials and facilities will be necessary. The taught curriculum will depend largely on the teaching style of the teacher and the learning style of the learners.

4. **Supported Curriculum.** This is described as support materials that the teacher needs to make learning and teaching meaningful. These include print materials like books, charts, posters, worksheets, or non-print materials like PowerPoint presentations, movies, slides, models, realias, mock-ups and other electronic illustrations. Supported curriculum also includes facilities where learning occurs outside or inside the four-walled building. These include the playground, science laboratory, audio-visual rooms, zoo, museum, market or the plaza. These are the places where authentic learning through direct experiences occur.

5. **Assessed Curriculum.** Taught and supported curricula have to be evaluated to find out if the teacher has succeeded or not in facilitating learning. In the process of teaching and at the end of every lesson or teaching episode, an assessment is made. It can either be an assessment for learning, an assessment as learning or an assessment of learning. If the process is to find the progress of learning, then the assessed curriculum is for learning, but if it is to find out how much has been learned or mastered, then it is an assessment of learning. Either way, such a curriculum is the assessed curriculum.

6. **Learned Curriculum.** How do we know if the student has learned? We always believe that if a student changed behavior, he/she has learned. For example, from a non-reader to a reader or from not knowing to know or from being disobedient to being obedient. The positive outcome of teaching is an indicator of learning. These are measured by tools in assessment, which can indicate the cognitive, affective and psychomotor outcomes. The learned curriculum will also demonstrate higher-order critical thinking and lifelong skills.

7. **Hidden/Implicit Curriculum.** This curriculum is not deliberately planned but has a great impact on the behaviour of the learner. Peer influence, school environment, media, parental pressures, societal changes, cultural practices, and natural calamities are some factors that create the hidden curriculum. Teachers should be sensitive and aware of this hidden curriculum. Teachers must have good foresight to include these in the written curriculum in order to bring to the surface what is hidden.

The Teacher as a Curricularist

The word curricularist describes a professional who is a curriculum specialist (Hayes, 1991; Ornstein & Hunkins, 2004; Hewitt, 2006). A person who is involved in curriculum knowing, writing, planning, implementing, evaluating, innovating, and initiating may be designated as a curricularist. A teacher's role is broader and inclusive of other functions, and so a teacher is a curricularist.

Let us describe the teacher as a curricularist. The teacher as a curricularist. . .

1. **knows the curriculum.** Learning begins with knowing. The teacher as a learner starts with knowing about the curriculum, the subject matter or the content. As a teacher, one has to master what are included in the curriculum. It is acquiring academic knowledge, both formal (disciplines, logic) and informal (derived from experiences, vicarious, and unintended). It is the mastery of the subject matter. **(KNOWER)**

2. **writes the curriculum.** A classroom teacher takes record of knowledge concepts, subject matter or content. These need to be written or preserved. The teacher writes books, modules, laboratory manuals, instructional guides, and reference materials in paper or electronic media as a curriculum writer or reviewer. **(WRITER)**

3. **plans the curriculum.** A good curriculum has to be planned. It is the role of the teacher to make a yearly, monthly or daily plan of the curriculum. This will serve as a guide in the implementation of the curriculum. The teacher takes into consideration several factors in planning a curriculum. These factors include the learners, the support material, time, subject matter or content, the desired outcomes, the context of the learners among others. By doing this, the teacher becomes a curriculum planner. **(PLANNER)**

4. **initiates the curriculum.** In cases where the curriculum is recommended to the schools from DepEd, CHED, TESDA, UNESCO, UNICEF or other educational agencies for improvement of quality education, the teacher is obliged to implement it. Implementation of a new curriculum requires the open-mindedness of the teacher and the full belief that the curriculum will enhance learning. There will be many constraints and difficulties in doing things first or leading, however, a transformative teacher will never hesitate to try something novel and relevant. **(INITIATOR)**

5. **innovates the curriculum.** Creativity and innovation are hallmarks of an excellent teacher. A curriculum is always dynamic, hence it keeps on changing. From the content, strategies, ways of doing, blocks of time, ways of evaluating, kinds of students and skills of teachers, one cannot find a single eternal curriculum that would perpetually fit. A good teacher, therefore, innovates the curriculum and thus becomes a curriculum innovator. **(INNOVATOR)**

6. **implements the curriculum.** The curriculum that remains recommended or written will never serve its purpose. Somebody has to implement it. As mentioned previously, at the heart of schooling is the curriculum. It is this role where the teacher becomes the curriculum implementor. An implementor gives life to the curriculum plan. The teacher is at the height of an engagement with the learners, with support materials in order to achieve the desired outcome. It is where teaching, guiding, facilitating skills of the teacher are expected to the highest level. It is here where teaching as a science and as an art will be observed. It is here, where all the elements of the curriculum will come into play. The success of a recommended, well-written and planned curriculum depends on the implementation. **(IMPLEMENTOR)**

7. **evaluates the curriculum.** How can one determine if the desired learning outcomes have been achieved? Is the curriculum working? Does it bring the desired results? What do outcomes reveal? Are the learners achieving? Are there some practices that should be modified? Should the curriculum be modified, terminated or continued? These are some few questions that need the help of a curriculum evaluator. That person is the teacher. **(EVALUATOR)**

II. The School Curriculum: Definition, Nature and Scope

Like many concepts in education, there seems to be no common definition of 'curriculum'. Because of this, the concept of curriculum is sometimes characterized as fragmentary, elusive and confusing. However, the word originates from the Latin word ***currere***, which refers to the oval track upon which Roman chariots raced.

The New International Dictionary defines ***curriculum as the whole body of a course in an educational institution or by a department*** while the Oxford English Dictionary defines ***curriculum as courses taught in schools or universities. Curriculum means different things to different people.*** Sometimes educators equate curriculum with the syllabus while a few regard it as all the teaching-learning experiences which the student encounters while in school. Numerous definitions indicate dynamism which connotes diverse interpretations as influenced by modes of thoughts, pedagogies, philosophies, political as well as cultural perspectives. Here are some of them.

Some Definitions of Curriculum:

1. Curriculum is a planned and guided set of learning experiences and intended outcomes, formulated through the systematic reconstruction of knowledge and experiences under the auspices of the school, for the learners' continuous and willful growth in personal social competence." (Daniel Tanner, 1980)
2. It is a written document that systematically describes goals planned, objectives, content, learning activities, evaluation procedures and so forth. (Pratt, 1980)

3. The contents of a subject, concepts and tasks to be acquired, planned activities, the desired learning outcomes and experiences product of culture and an agenda to reform society make up a curriculum. (Schubert, 1987)
4. A curriculum includes "all of the experiences that individual learners have in a program of education whose purpose is to achieve broad goals and related specific objectives, which is planned in terms of a framework of theory and research or past and present professional practice." (Hass, 1987)
5. It is a programme of activities (by teachers and pupils) designed so that pupils will attain, as far as possible, certain educational and other schooling ends or objectives. (Grundy, 1987)
6. It is a plan that consists of learning opportunities for a specific time frame and place, a tool that aims to bring about behavior changes in students as a result of planned activities and includes all learning experiences received by students with the guidance of the school. (Goodland and Su, 1992)
7. It provides answers to three questions: 1. What knowledge, skills and values are most worthwhile? 2. Why are they most worthwhile? 3. How should the young acquire them? (Cronbeth, 1992)

Some Points of View of Other Curricularists

Points of view about the curriculum can either be traditional or progressive according to the person's philosophical, psychological and even psychological orientations. These views can also define what a curriculum is all about.

Curriculum from Traditional Points of View

The traditional points of view of curriculum were advanced by Robert Hutchins, Arthur Bestor, and Joseph Schwab.

- **Robert M. Hutchins** views curriculum as "permanent studies" where rules of grammar, reading, rhetoric, logic and mathematics for basic education are emphasized. The 3Rs (Reading, Writing, 'rithmetic) should be emphasized in basic education while liberal education should be the emphasis in college.
- **Arthur Bestor**, as an essentialist, believes that the mission of the school should be intellectual training. Hence, the curriculum should focus on the fundamental intellectual disciplines of grammar, literature and writing. It should include mathematics, science, history and foreign language.
- **Joseph Schwab** thinks that the sole source of the curriculum is a discipline, thus the subject areas such as Science, Mathematics, Social Studies, English and many more. In college, academic disciplines are labelled as humanities, sciences, languages, and mathematics, among others. He coined the word discipline as a ruling doctrine for curriculum development.
- Phillip Phenix asserts that curriculum should consist entirely of knowledge which comes from various disciplines.

Collectively from the traditional view of theorists like Hutchins, Schwab, Bestor and Phenix, curriculum can be defined as a field of study. Curriculum is highly academic and is concerned with broad historical, philosophical, psychological and social issues. From a traditional view, curriculum is mostly written documents such syllabus, course of study, books and references where knowledge is found but is used as a means to accomplish intended goals.

Curriculum from Progressive Points of View

On the other hand, a listing of school subjects, syllabi, course of study, and specific discipline does not make a curriculum. In its broadest terms, a progressive view of curriculum is the total learning experiences of the individual. Let us look into how curriculum is defined from a progressive point of view.

- **John Dewey** believes that education is experiencing. Reflective thinking is a means that unifies curricular elements that are tested by application.
- **Holin Caswell and Kenn Campbell** viewed curriculum as all experiences children have under the guidance of teachers.
- **Othaniel Smith, William Stanley and Harlan Shore** likewise defined curriculum as a sequence of potential experiences, set up in schools for the purpose of disciplining children and youth in group ways of thinking and acting.
- **Colin Marsh and George Willis** also viewed curriculum as all the experiences in the classroom which are planned and enacted by the teacher and also learned by the students.

III. Approaches to the School Curriculum

A. Three Ways of Approaching a Curriculum

Curriculum can be approached or seen in three ways. It can be defined as a content, a process or an outcome. If you examine the definitions provided by the experts in the field, there are three ways of approaching a curriculum. First, is to approach it as content or a body of knowledge to be transmitted. Second, is to approach it as a product or the learning outcomes desired of learners. Third, is to approach it as a process or what actually happens in the classroom when the curriculum is practised.

1. Curriculum as a Content or Body of Knowledge

It is quite common for traditionalists to equate a curriculum to a topic outline, subject matter, or concepts to be included in the syllabus or a books. For example, a primary school mathematics curriculum consists of topics on addition, multiplication, subtraction, division, distance, weight and many more. Another example is in secondary school science that involves the study of biological science, physical science, environmental science and earth science. Textbooks tend to

begin with biological science such as plants and animals; physical science with the physical elements, force and motion; earth science with the layers of the earth and environmental science with the interaction of the biological and physical science and earth's phenomena, climate, vegetation followed by economic activities such as agriculture, mining, industries, urbanization and so forth.

If curriculum is equated as content, then the focus will be the body to students using appropriate teaching of knowledge to be transmitted method. There can be a likelihood that teaching will be limited to the acquisition of facts, concepts and principles of the subject matter, however, the content or subject matter can also be taken as a means to an end.

All curricula have content regardless of their design or models.

There are four ways of presenting the content in the curriculum. These are:

1. **Topical Approach**, where much content is based on knowledge and experiences are included;
2. **Concept Approach** with fewer topics in clusters around major and sub-concepts and their interaction, with relatedness emphasized;
3. **Thematic Approach** as a combination of concepts that develop conceptual structures, and
4. **Modular Approach** that leads to complete units of instruction

There are some suggested criteria in the selection of knowledge or subject matter. (Scheffer, 1970 in Bilbao, et al 2015)

1. **Significance.** Content should contribute to ideas, concepts, principles and generalization that should attain the overall purpose of the curriculum. It is significant if content becomes the means of developing cognitive, affective or psychomotor skills of the learner. As education is a way of preserving culture, content will be significant when this will address the cultural context of the learners.

2. **Validity.** The authenticity of the subject matter forms its validity. Knowledge becomes obsolete with the fast changing times. Thus there is a need for validity check and verification at a regular interval, because content which may be valid in its original form may not continue to be valid in the current times.

3. **Utility.** Usefulness of the content in the curriculum is relative to the learners who are going to use these. Utility can be relative to time. It may have been useful in the past, but may not be useful now or in the future. Questions like: Will I use this in my future job? Will it add meaning to my life as a lifelong learner? Or will the subject matter be useful in solving current concerns?

4. **Learnability.** The complexity of the content should be within the range of experiences of the learners. This is based on the psychological principles of learning. Appropriate organization of content standards and sequencing of contents are two basic principles that would influence learnability.

5. **Feasibility.** Can the subject content be learned within the time allowed, resources available, expertise of the teachers and the nature of the learners? Are there contents of learning which can be learned beyond the formal teaching-learning engagement? Are there opportunities provided to learn these?

6. **Interest.** Will the learners take interest in the content? Why? Are the contents meaningful? What value will the contents have in the present and future lives of the learners? Interest is one of the driving forces for students to learn better.

BASICS: Fundamental Principles for Curriculum Contents

Palma, in 1952, proposed that the contents of the curriculum should be guided by Balance, Articulation, Sequence, Integration and Continuity. However, in designing a curriculum contents, Hunkins and Ornstein (2018) added an important element, which is Scope, hence from BASIC to BASICS initials of Balance, Articulation, Sequence, Integration, Continuity.

1. **Balance.** Content should be fairly distributed in depth and breadth. This will guarantee that significant content should be covered to avoid too much or too little of the content needed within the time allocation.

2. **Articulation.** As the content complexity progresses with the educational levels, vertically or horizontally, across the same discipline, smooth connections or bridging should be provided. This will assure no gaps or overlaps in the content. Seamlessness in the content is desired and can be assured if there is articulation in the curriculum. Thus, there is a need for a team among writers and implementers of curriculum.

3. **Sequence.** The logical arrangement of the content refers to sequence or order. This can be done vertically for deepening the content or horizontally for broadening the same content. In both ways, the pattern usually goes from easy to complex, from what is known to the unknown, and from what is current to something in the future.

4. **Integration.** Content in the curriculum does not stand alone or in isolation. It has some ways of being related or connected to other content. Contents should be infused in other disciplines whenever possible. This will provide a holistic or unified view of the curriculum instead of segmentation. Contents which can be integrated to other disciplines acquire a higher premium than when isolated.

5. **Continuity.** Content, when viewed as a curriculum, should continuously flow as it was before. to where it is now and where it will be in the future. It should be perennial! It endures time. Content may not be in the same form and substance as seen in the past since changes and developments in curriculum occur. Constant repetition, reinforcement and enhancement of content are all elements of continuity.

6. **Scope.** The breadth and depth of the curriculum content are vital in a curriculum. The scope consists of all the contents, topics, and learning experiences comprising the curriculum. In layman's term scope refers to coverage. The scope shall consider the cognitive level, affective domain and psychomotor skills in identifying the contents. Other factors will be considered, but caution is given to overloading the contents. "More content is not always better."

2. Curriculum as a Process

We have seen that the curriculum can be approached as content. On the other hand, it can also be approached as a process. Here, curriculum is not seen as a physical thing or a noun but as a verb or an action. It is the interaction among the teachers, students and content. As a process, curriculum happens in the classroom as the questions are asked by the teacher and the learning activities are engaged in by the students. It is an active process with emphasis on the context in which the processes occur. Used in analogy of the a recipe in a cookbook, a recipe is the content while the ways of cooking is the process.

Curriculum as a process is seen as a scheme about the practice of teaching. It is not a package of materials or a syllabus of content to be covered. The classroom is only part of the learning environment where the teacher places action using the content to achieve an outcome.

Hence, the process of teaching and learning becomes the central concern of teachers to emphasize critical thinking, and heads-on, hands-on learning and many others.

As a process, curriculum links to the content. While content provides materials on what to teach, the process provides curriculum on how to teach the content. When accomplished, the process will result to various curriculum experiences for the learners.

The content is the substance of the curriculum, how the contents will be communicated and learned will be addressed by the process.

When curriculum is approached as a PROCESS, guiding principles are presented.

1. Curriculum process in the form of teaching methods or strategies are means to achieve the end.
2. There is no single best process or method. Its effectiveness will depend on the desired learning outcomes, the learners, support materials and the teacher.
3. Curriculum process should stimulate the learners' desire to develop the cognitive, affective, psychomotor domains in each individual.
4. In the choice of methods, learning and teaching styles should be considered.
5. Every method or process should result to learning outcomes which can be described as cognitive, affective and psychomotor.
6. Flexibility in the use of the process or methods should be considered. An effective process will always result to learning outcomes.
7. Both teaching and learning are the two important processes in the implementation of the curriculum.

3. Curriculum as a Product

The product is what the students desire to achieve as learning outcomes.

The product from the curriculum is a student equipped with the knowledge, skills and values to function effectively and efficiently. The real purpose of education is to bring about significant changes in students' patterns of behavior.

It is important that any statement of objectives or intended outcomes of the school should be a statement of changes to take place in the students. The products of learning are operationalized as knowledge, skills, and values.

Curriculum product is expressed in the form of outcomes which are referred to as the achieved learning outcomes. There may be several desired learning outcomes, but if the process is not successful, then no learning outcomes will be achieved.

Curriculum Development Process

IV. Curriculum Development: Processes and Models

Curriculum development is a dynamic process involving many different people and procedures. Development connotes changes which is systematic. A change for the better means alteration, modification or improvement of existing condition.

To produce positive changes, development should be purposeful, planned and progressive. Usually it is linear and follows a logical step-by-step fashion involving the following phases: **curriculum planning, curriculum design, curriculum implementation and curriculum evaluation.** Generally, most models involve four phases.

1. **Curriculum planning** considers the school vision, mission and goals. It also includes the philosophy or strong education belief of the school. All of these will eventually be translated to classroom desired learning outcomes for the learners.

2. **Curriculum designing** is the way curriculum is conceptualized to include the selection and organization of content, the selection and organization of learning experiences or activities and the selection of the assessment procedure and tools to measure achieved learning outcomes. A curriculum design will also include the resources to be utilized and the statement of the intended learning outcomes.

3. **Curriculum implementing** is putting into action the plan which is based on the curriculum design in the classroom setting or the learning environment. The teacher is the facilitator of learning and together with the learners, uses the curriculum as design guides to what will transpire in the classroom with the end in view of achieving the intended learning outcomes. Implementing the curriculum is, where action takes place. It involves the activities that transpire in every teacher's classroom where learning becomes an active process.

4. **Curriculum evaluating** determines the extent to which the desired outcomes have been achieved. This procedure is on-going as in finding out the progress of learning (formative) or the mastery of learning (summative). Along the way, evaluation will determine the factors that have hindered or supported the implementation. It will also pinpoint where improvement can be made and corrective measures, introduced. The result of evaluation is very important for decision-making of curriculum planners and implementors

Curriculum Development Process Models

1. Ralph Tyler Model: Four Basic Principles

Also known as Tyler's Rationale, the curriculum development model emphasizes the planning phase. This is presented in his book *Basic Principles of Curriculum and Instruction*. He posited four fundamental principles which are illustrated as answers to the following questions:

1. What education purposes should schools 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?

Tyler's model shows that in curriculum development, the following considerations should be made:

1. Purposes of the school
2. Educational experiences related to the purposes
3. Organization of the experiences
4. Evaluation of the experience

2. Hilda Taba Model: Grassroots Approach

Hilda Taba improved on Tyler's model. She believed that teachers should participate in developing a curriculum. As a grassroots approach, Taba begins from the bottom, rather than from the top as what Tyler proposed. She presented six major steps to her linear model which are the following:

1. Diagnosis of learners' needs and expectations of the larger Society
2. Formulation of learning objectives
3. Selection of learning contents
4. Organization of learning contents
5. Selection of learning experiences
6. Determination of what to evaluate and the means of doing it

3. Galen Saylor and William Alexander Curriculum Model

Galen Saylor and William Alexander (1974) viewed curriculum development as consisting of four steps. Curriculum is "a plan for providing sets of learning opportunities to achieve broad educational goals and related specific objectives for an identifiable population served by a single school center."

1. Goals, Objectives and Domains. Curriculum planners begin by specifying the major educational goals and specific objectives they wish to accomplish. Each major goal represents a curriculum domain: personal development, human relations, continued learning skills and specialization. The goals, objectives and domains are identified and chosen based on research findings, accreditation standards, and views of the different stakeholders.

2. Curriculum Designing. Designing a curriculum follows after appropriate learning opportunities are determined and how each opportunity is provided.

3. Curriculum Implementation. A designed curriculum is now ready for implementation. Teachers then prepare instructional plans where instructional objectives are specified and appropriate teaching methods and strategies are utilized to achieve the desired learning outcomes among students.

4 Evaluation. The last step of the curriculum model is evaluation. A comprehensive evaluation using a variety of evaluation techniques is recommended. It should involve the total educational programme of the school and the curriculum plan, the effectiveness of instruction and the achievement of students. Through the evaluation process,

curriculum planners and developers can determine whether or not the goals of the school and the objectives of instruction have been met.

All the models utilized the processes of **(1) curriculum planning, (2) curriculum designing, (3) curriculum implementing, and (4) curriculum evaluating**

V. Designing the Curriculum

Building on Peter Oliva's 10 Axioms for Curriculum Designers

All teachers need to know the different axioms or theorems regarding the curriculum as presented by Gordon, W., Taylor R., and Oliva, P. in 2019.

These axioms will be used to guide curriculum designer in designing a curriculum. Axioms are principles that practitioners as curriculum designer can use as guidelines or a frame of reference.

Ten Axioms About Curriculum That Teachers Need as Reminders

1. Curriculum change is inevitable, necessary, and desirable. Earlier it was stated that one of the characteristics of curriculum is its being dynamic. Because of this, teachers should respond to the changes that occur in schools and in their context. Societal development and knowledge revolution come so fast that the need to address the changing condition requires new curriculum designs.

2. Curriculum is a product of its time. A relevant curriculum should respond to changes brought about by current social forces, philosophical positions, psychological principles, new knowledge, and educational reforms. This is also called timeliness.

3. Curriculum changes made earlier can exist concurrently with newer curriculum changes. A revision in a curriculum starts and ends slowly. More often, curriculum is gradually phased in and phased out, thus the changes that occur can coexist and oftentimes overlap for long periods of time.

4. Curriculum change depends on people who will implement the change. Teachers who will implement the curriculum should be involved in its development, hence should know how to design a curriculum. Because the teachers are the implementers of the curriculum, it is best that they should design and own the changes. This will ensure an effective and long lasting change.

5. Curriculum development is a cooperative group activity. Group decisions in some aspects of curriculum development are suggested. Consultations with stakeholders when possible will add to a sense of ownership. Even learners should participate in some aspect of curriculum designing. Any significant change in the curriculum should involve a broad range of stakeholders to gain their understanding, support, and input.

6. Curriculum development is a decision-making process made from choices of alternatives. A curriculum developer or designer must decide what contents to teach, philosophy or point of view to support, how to provide for multicultural groups, what methods or strategies, and what type of evaluation to use.

7. Curriculum development is an ongoing process. Continuous monitoring, examination, evaluation, and improvement of curricula are to be considered in the design of the curriculum. As the needs of learners change, as society changes, and as new knowledge and technology appear, the curriculum must change.

8. Curriculum development is more effective if it is a comprehensive process, rather than a "piecemeal". A curriculum design should be based on a careful plan, should clearly establish intended outcomes, support resources and needed time available and should equip teaching staff pedagogically.

9. Curriculum development is more effective when it follows a systematic process. A curriculum design is composed of desired outcomes, subject matter content complemented with references, set of procedures, needed materials and resources and evaluation procedure which can be placed in a matrix.

10. Curriculum development starts from where the curriculum is. Curriculum planners and designers should begin with existing curriculum. An existing design is a good starting point for any teacher who plans to enhance and enrich a curriculum

VI. Approaches to Curriculum Designing

Types of Curriculum Design Models

1. Subject-Centered Design

This is a curriculum design that focuses on the content of the curriculum. The subject-centered design corresponds mostly to the textbook because textbooks are usually written based on the specific subject or course. Henry Morrison and

William Harris are the few curricularists who firmly believed in this design. As practised, school hours are allocated to different school subjects such as Science, Mathematics, Language, Social Studies, Physical Education, and others. This is also practised in the Philippines, because a school day is divided into class period, a school year into quarters or semester. Most of the schools using this kind of structure and curriculum design aim for excellence in the specific subject discipline content.

Subject-centered curriculum design has also some variations which are focused on the individual subject, specific discipline and a combination of subjects or disciplines which are a broad field or interdisciplinary.

1.1. Subject design.

Subject design curriculum is the oldest and so far the most familiar design for teachers, parents and other laymen. According to the advocates, subject design has an advantage because it is easy to deliver. Textbooks are written and support instructional materials are commercially available. Teachers are familiar with the format, because they were educated using also the design. In the Philippine educational system, the number of subjects in the elementary education is fewer than in the secondary level. In college, the number of subjects also differs according to the degree programs being pursued. For each subject, a curriculum is being designed.

It stresses so much the content and forgets about students' natural tendencies, interests and experiences. The teacher becomes the dispenser of knowledge and the learners are the simply the empty vessel to receive the information or content from the teacher. This is a traditional approach to teaching and learning

1.2 Discipline design. This curriculum design model is related to the subject design. However, while subject design centers only on the cluster of content, discipline design focuses on academic disciplines. Discipline refers to specific knowledge learned through a method which the scholars use to study a specific content of their fields. Students in history should learn the subject matter like historians, students in biology should learn how the biologists learn, and so with students in mathematics, who should learn how mathematicians learn. In the same manner, teachers should teach how the scholars in the discipline will convey the particular knowledge.

Discipline design model of curriculum is often used in college, but not in the elementary or secondary levels. So from the subject-centered curriculum, curriculum moves higher to a discipline when the students are more mature and are already moving towards their career path or disciplines as science, mathematics, psychology, humanities, history and others.

1.3 Correlation design. Coming from a core, correlated curriculum design links separate subject designs in order to reduce fragmentation. Subjects are related to one another and still maintain their identity.

For example, English literature and social studies correlate well in the elementary level. In the two subjects, while history is being studied, different literary pieces during the historical period are also being studied. The same is true when science becomes the core; mathematics is related to it, as they are taken in chemistry, physics and biology. Another example is literature as the core with art, music, history, geography related to it. To use correlated design, teachers should come together and plan their lessons cooperatively.

1.4 Broad field design/interdisciplinary. Broad field design or interdisciplinary is a variation of the subject-centered design. This design was made to cure the compartmentalization of the separate subjects and integrate the contents that are related to one another. Thus, subjects such as geography, economics, political science, anthropology, sociology and history are fused into one subject called social studies. Language arts will include grammar, literature, linguistics, spelling, and composition. Sometimes called holistic curriculum, broad fields draw around themes and integration. Interdisciplinary design is similar to thematic design, where a specific theme is identified, and all other subject areas revolve around the theme.

2. Learner-Centered Design

Among progressive educational psychologists, the learner is the center of the educative process. This emphasis is very strong in the elementary level, however, more concern has been placed on the secondary and even the tertiary levels. Although in high school, the subject or content has become the focus and in the college level, the discipline is the center, both levels still recognize the importance of the learner in the curriculum.

Here are some examples of curriculum designs which are learner-centered.

1.1 Child-centered design. This design is often attributed to the influence of John Dewey, Rousseau, Pestalozzi and Froebel. This curriculum design is anchored on the needs and interests of the child. The learner is not considered a passive individual but one who engages with his/her environment. One learns by doing. Learners actively create, construct meanings and understanding as viewed by the constructivists. In the child-centered design, learners interact with the teachers and the environment, thus there is a collaborative effort on both sides to plan lessons, select content and do activities together. Learning is a product of the child's interaction with the environment.

1.2 Experience-centered design. This design is similar to the child-centered design. Although the focus remains to be the child, experience-centered design believes that the interests and needs of learners cannot be pre-planned. Instead, experiences of the learners become the starting point of the curriculum, thus the school environment is left open and free. Learners are made to choose from various activities that the teacher provides

2. Problem-Centered Design

Generally, problem-centered design draws on social problems, needs, interest and abilities of the learners. Various problems are given emphasis. There are those that center on life situations, contemporary life problems, areas of living and many others. In this curriculum, content cuts across subject boundaries and must be based on the needs, concerns and abilities of the students. Two examples are given for the problem-centered design curriculum.

2.1 Life-situations design. What makes the design unique is that the contents are organized in ways that allow students to clearly view problem areas. It uses the past and the present experiences of learners as a means to analyze the basic areas of living. As a starting point, the pressing immediate problems of the society and the students' existing concerns are utilized. Based on Herbert Spencer's curriculum writing, his emphases were activities that sustain life, enhance life, aid in rearing children, maintain the individual's social and political relations and enhance leisure, tasks and feelings. The connection of subject matter to real situations increases the relevance of the curriculum.

2.2 Core problem design. Another example of problem-centered design is core design. It centers on general education and the problems are based on the common human activities. The central focus of the core design includes common needs, problems, and concerns of the learners. Popularized by Faunce and Bossing in 1959, it presented ways how to proceed using core design of a curriculum

Approaches to Curriculum Design Models

A. Child or Learner-Centered Approach. This approach to curriculum design is based on the underlying philosophy that the child or the learner is the center of the educational process. It means that the curriculum is constructed based on the needs, interest, purposes and abilities of the learners. The curriculum is also built upon the learners' knowledge, skills, previous learnings and potentials.

From its design, how should a child-centered curriculum be approached? Let us consider these principles.

Principles of Child-Centered Curriculum Approach:

1. Acknowledge and respect the fundamental rights of the child.
2. Make all activities revolve around the overall development of the learner.
3. Consider the uniqueness of every learner in a multicultural classroom.

B. Subject-Centered Approach. This is anchored on a curriculum design which prescribes separate distinct subjects for every educational level: basic education, higher education or vocational-technical education. This approach considers the following principles:

1. The primary focus is the subject matter.
2. The emphasis is on bits and pieces of information which may be detached from life.
3. The subject matter serves as a means of identifying problems of living.
4. Learning means accumulation of content, or knowledge.
5. Teacher's role is to dispense the content.

C. Problem-Centered Approach. This approach is based on a design which assumes that in the process of living, children experience problems. Thus, problem solving enables the learners to become increasingly able to achieve complete or total development as individuals.

This approach is characterized by the following views and beliefs:

1. The learners are capable of directing and guiding themselves in resolving problems, thus developing every learner to be independent.
2. The learners are prepared to assume their civic responsibilities through direct participation in different activities.
3. The curriculum leads the learners in the recognition of concerns and problems in seeking solutions. Learners are problem solvers themselves

Curriculum Mapping

Curriculum mapping is a model for designing, refining, upgrading and reviewing the curriculum resulting in a framework that provides form, focus and function (Hale and Dunlap, 2010). It is a reflective process that helps teachers understand what has been taught in class., how it has been taught and how learning outcomes are assessed. This process was introduced by Heidi Hayes Jacobs in 2004 in her book *Getting results with Curriculum Mapping* (ASCD, 2004). This approach is an ongoing process or "work-in-progress". It is not a one time initiative but a continuing action, which involves the teacher and other stakeholders, who have common concerns. Curriculum mapping can be done by teachers alone, a group of teachers teaching the same subject, the department, the whole school or district or the whole educational system.

Benefits of Curriculum Mapping:

1. Curriculum mapping ensures alignment of the desired learning outcomes, learning activities and assessment of learning.
2. Curriculum mapping addresses the gaps or repetitions in the curriculum. It reveals if certain program goals or learning outcomes are not adequately covered or overly emphasized in the current curriculum.

3. Curriculum mapping verifies, clarifies and establishes alignment between what students do in their courses and what is taught in the classrooms and assessed as their learning.
4. The curriculum maps visually show important elements of the curriculum and how they contribute to student learning.
5. Curriculum mapping connects all initiatives from instruction, pedagogies, assessment and professional development. It facilitates the integration of cross-curricular skills

VII. Curriculum Implementation

Curriculum implementation means putting into practice the written curriculum that has been designed in syllabi, course of study, curricular guides, and subjects. It is a process wherein the learners acquire the planned or intended knowledge, skills, and attitudes that are aimed at enabling the same learners to function effectively in society. (SADC MoE Africa, 2000)

Loucks and Lieberman (1983) define curriculum implementation as the trying out of a new practice and what it looks like when actually used in a school system. It simply means that implementation should bring the desired change and improvement.

In the classroom context, curriculum implementation means "teaching" what has been written in the lesson plan. Implementing means using the plan as a guide to engage with the learners in the teaching-learning process with the end in view that learning has occurred and learning outcomes have been achieved

In a larger scale, curriculum implementation means putting the curriculum into operation with the different implementing agents. Curriculum implementation takes place in a class, a school, a district, a division, or the whole educational system. In higher education, curriculum implementation happens for the course, a degree program, the institution, or the whole higher education system. It requires time, money, personal interaction, personal contacts, and support

Curriculum Implementation as a Change Process

● **Kurt Lewin's Force Field Theory and Curriculum Change**

Kurt Lewin (1951), the father of social psychology explains the process of change. The model can be used to explain curriculum change and implementation.

In the education landscape, there are always two forces that oppose each other. These are the driving force and the restraining force. When these two forces are equal, the state is equilibrium, or balance. There will be a status quo, hence there will be no change.

The situation or condition will stay the same. However, when the driving force overpowers the restraining force, then change will occur. If the opposite happens that is when the restraining force is stronger than the driving force, change is prevented. This is the idea of Kurt Lewin in his Force Field Theory

Categories of Curriculum Change

McNeil, in 2000 categorized curriculum change as follows:

- 1. Substitution.** The current curriculum will be replaced or substituted by a new one. Sometimes, we call this a complete overhaul. Example, changing an old book to entirely new one, not merely a revision.
- 2. Alteration.** In alteration, there is a minor change to the current or existing curriculum. For example, instead of using a graphing paper for mathematics teaching, this can be altered by using a graphing calculator.
- 3. Restructuring.** Building a new structure would mean major change or modification in the school system, degree program or educational system. Using an integrated curriculum for the whole school for K to 12 requires the primary and secondary levels to work as a team. Another example is a curriculum that will be restructured when there is a significant involvement of parents in the children instead of leaving everything to the teacher. Using the "In-school, Off-school" or a blended curriculum is an example of restructuring.
- 4. Perturbations.** These are changes that are disruptive, but teachers have to adjust to them within a fairly short time. For example, if the principal changes the time schedule because there is a need to catch up with the national testing time or the dean, the teacher has to shorten the schedule to accommodate unplanned extracurricular activities.
- 5. Value orientation.** To McNeil, this is a type of curriculum change. Perhaps this classification will respond to the shift in the emphasis that the teacher provides, which is not within the mission or vision of the school or vice versa. For example, when new teachers who are recruited in religious schools emphasize academics and forget the formation of values or faith, they need a curriculum value orientation. Likewise, all teachers in the public schools, undergo teacher induction program which is a special curriculum for newly hired teachers.

Regardless of the kind of change in curriculum and implementation, the process of change may contain three important elements. As a process, curriculum implementation should be **developmental, participatory and supportive**.

It should be **developmental** in the sense that it should develop multiple perspectives, increase integration and make learning autonomous, create a climate of openness and trust, and appreciate and affirm strengths of the teacher. There should be teacher support in trying new tasks, reflection on the new experiences and challenge.

There are simple stages in the developmental change process for the teachers. First, is orientation and preparation. The initial use is very mechanical or routinary. However, as the skills are honed and mastery of the routine is established, refinement follows. This means adjustments are made to better meet the needs of the learners and achieve the learning outcomes. In this step, there will be continuous reflection, feedback and refinement.

Participatory. For curriculum implementation to succeed, it should be participatory, specially because other stakeholders like peers, school leaders, parents and curriculum specialists are necessary. Characteristics of teacher styles, commitment, willingness to change, skills, and readiness are critical to implementation. This should be coupled with organizational structure, principal style, student population characteristics and other factors. Trust among key players should also be sought as this is a positive starting point. Involvement and participation encourage sense of ownership and accountability. Participation builds a learning community which is very necessary in curriculum implementation.

Supportive curriculum implementation is required in the process of change. Material support like supplies, equipment and conducive learning environment like classrooms and laboratory should be made available. Likewise, human support is very much needed. The school leader or head should provide full school or institutional support to the implementation of the new curriculum. They too have to train to understand how to address curriculum change as part of their instructional as well as management functions. Support from peers, principals, external stakeholders will add to the success of implementation. When teachers share ideas, work together, solve problems, create new materials, and celebrate, success, more likely that curriculum implementation will be welcomed

VIII. Implementing a Curriculum Daily in the Classrooms

Laying Down the Curriculum Plan

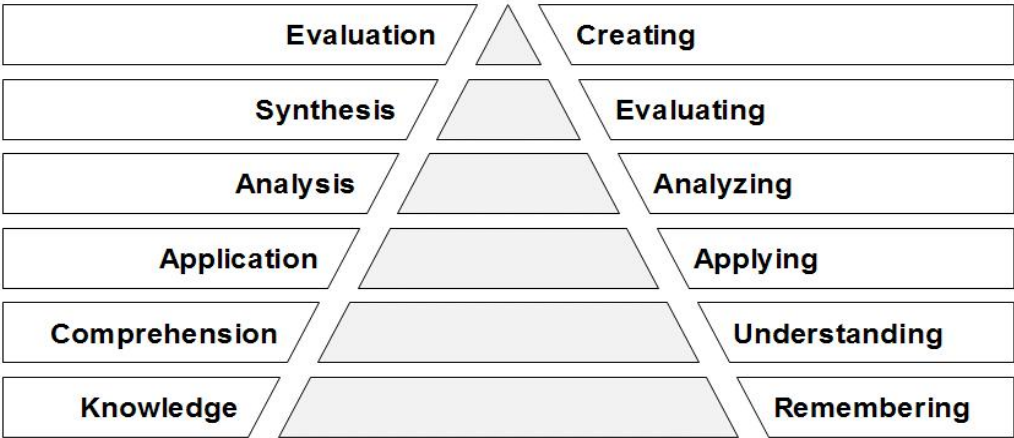
DepED Order No. 70 s. 2012

Teachers of all public elementary and secondary schools will not be required to prepare detailed lesson plans. They may adept daily lesson logs which contain the needed information and guide from the Teacher Guide (TG) and Teacher Manual (TM) reference material with page number, interventions given to the students and remarks to indicate how many students have mastered the lesson or are needing remediation. However, teachers with less than 2 years of teaching experience shall be required to prepare Daily Lesson Plans which shall include the following:

- I. Objectives
- II. Subject Matter
- III. Procedure
- IV. Assessment
- V. Assignment

1. Intended Learning Outcomes (ILO). These are the desired learning that will be the focus of the lesson. Learning outcomes are based on Taxonomy of Objectives presented to us as cognitive, affective and psychomotor. Bloom's Taxonomy has been revisited by his own student, Lorin Anderson, and David Krathwohl. Let us study both in the comparison below.

Blooms Taxonomy (1956) VS. Revised Bloom’s by Anderson (2001)



Somehow the two are similar, however the highest level of cognition in the revised version, is eating. Take note that the original version is stated as nouns while the revised version is stated as verbs which implies more active form of thinking.

There are three major changes in the revised taxonomy. These are:

- a. Changing the names in the six categories from nouns to verbs.
- b. Rearranging these categories.
- c. Establishing the levels of the knowledge level in the original version.

*Intended learning outcomes (ILO) should be written in a **SMART** way. **Specific, Measurable, Attainable, Result Oriented (Outcomes) and Time-Bound.**

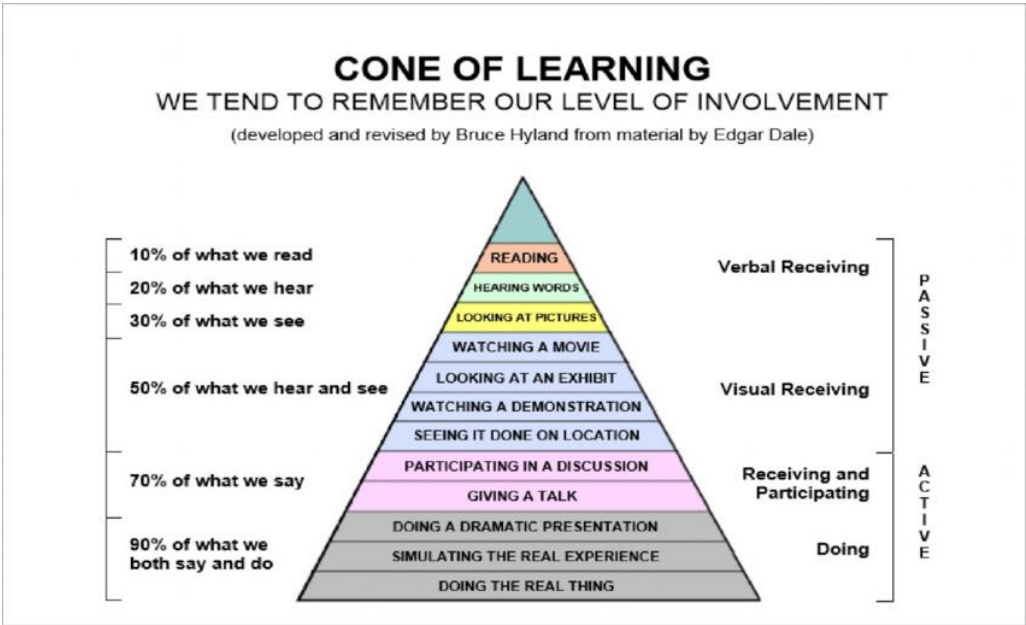
Levels of Knowledge

- Factual knowledge**- ideas, specific data or information
- Conceptual knowledge**- words or ideas known by common name, common features, multiple specific examples which may either be concrete or abstract. Concepts are facts that interrelate with each other to function together.
- Procedural knowledge**- how things work, step-by-step actions, methods of inquiry.
- Metacognitive knowledge**- knowledge of cognition in general, awareness of knowledge of one's own cognition, thinking about thinking.

Students have different learning styles. There are many classifications of learning styles according to the different authors. These three preferred styles can help teachers choose the method and the materials they will use.

Common Characteristics	Tips for Teachers about Learners
Visual- uses graphs, charts, pictures; tends to remember things that are written in form.	Turn notes into pictures, diagrams, maps. Learn the big picture first than details. Make mind maps and concept maps.
Auditory- recalls information prefers to be told how to do things orally; learns aloud.	Record lectures and listen to these. through hearing and speaking; Repeat materials out loud "parrots". Read aloud.
Kinesthetic- prefers hands-on approach; demonstrates how to do, rather than explain; likes group work with hands on-minds on.	Learn something while doing another thing (eats while studying). Work while standing. Like fieldwork. Do many things at one time

CONE OF LEARNING by Edgar Dale



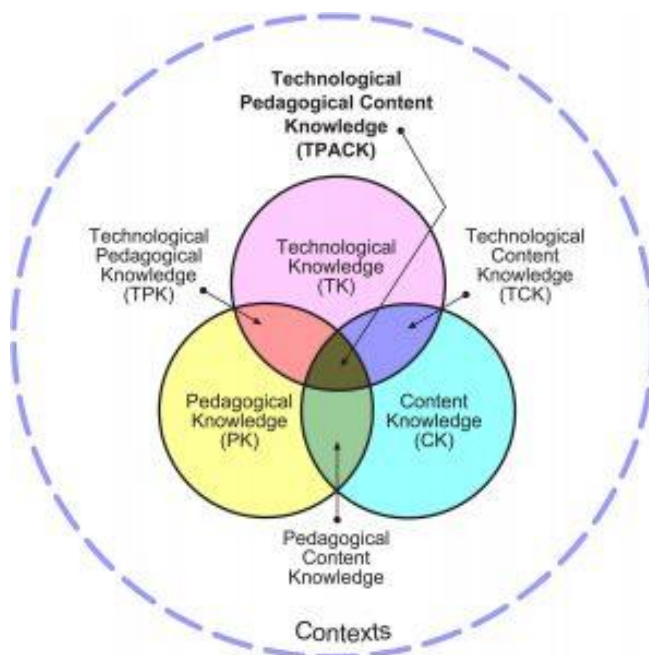
Here are some guidelines.

- Use of direct purposeful experience through learning by doing retains almost all of the learning outcomes. Ninety percent of learning is retained. Examples are field trip, field study, community immersion, practice teaching.
 - Participation in class activities, discussion, reporting and similar activities where learners have the opportunity totalk and write. Seventy percent of learning is remembered. Examples are small group discussion, buzz session, individual reporting, role play, panel.
 - Passive participation as in watching a movie, viewing exhibit, watching demonstration will retain around 50% of what has been communicated.
 - By just looking at still pictures, paintings, illustrations and drawings, will allow the retention of around 30% of the material content.
 - By hearing as in lecture, sermon, monologues, only 20% is remembered.
 - Reading, will ensure 10% remembering of the material.
- Regardless of the amount of remembering from the concrete to abstract, each layer contributes to learning and requires instruction support materials.

TPACK

TPACK framework, which focuses on technological knowledge (TK), pedagogical knowledge (PK), and content knowledge (CK), offers a productive approach to many of the dilemmas that teachers face in implementing educational technology (edtech) in their classrooms.

According to the TPACK framework, specific technological tools (hardware, software, applications, associated information literacy practices, etc.) are best used to instruct and guide students toward a better, more robust understanding of the subject matter. The three types of knowledge – TK, PK, and CK – are thus combined and recombined in various ways within the TPACK framework. Technological pedagogical knowledge (TPK) describes relationships and interactions between technological tools and specific pedagogical practices, while pedagogical content knowledge (PCK) describes the same between pedagogical practices and specific learning objectives; finally, technological content knowledge (TCK) describes relationships and intersections among technologies and learning objectives.



IX. Stakeholders in the Curriculum Implementation

Curriculum Stakeholders

1. Learners are at the core of the curriculum.

To what extent are the students involved in curriculum development? The old view that students are mere recipients of the curriculum, is now changing. Learners have more dynamic participation from the planning, designing, implementing and evaluating. However, the degree of their involvement is dependent on their maturity. The older they are in high school or college, the more they participate. From another angle, whether learners are at the elementary or college level, they can make or break curriculum implementation by their active or non-involvement. After all, learners together with the teachers, put action to the curriculum.

2. Teachers are curricularists.

Teachers are stakeholders who plan, design, teach, implement and evaluate the curriculum. No doubt, the most important person in curriculum implementation is the teacher. Teachers' influence upon learners cannot be measured. Better teachers foster better learning. But teachers need to continue with their professional development to contribute to the success of curriculum implementation. Teachers should have full knowledge of the program philosophy, content and components of curriculum and ways of teaching.

A teacher designs, enriches and modifies the curriculum to suit the learners' characteristics. As curriculum developers, teachers are part of textbook committees, teacher selection, school evaluation committee or textbooks and module writers themselves.

When a curriculum has already been written, the teacher's role is to implement it like a technician, however, teachers are reflective persons. They put their hearts into what they do. Some of the roles that the teachers do in curriculum implementation are:

1. guiding, facilitating and directing the activities of the learners;
2. choosing the activities and the methods to be utilized;
3. choosing the materials that are necessary for the activity;
4. evaluating the whole implementation process and

5. making a decision whether to continue, modify or terminate the curriculum.

3. School leaders are curriculum managers.

Principals and school heads, too, have important roles in curriculum implementation process in schools. They should understand fully the need for change and the implementation process. They should be ready to assist the teachers and the students in the implementation. Communication line should be open to all concerned should the school leaders lead in curriculum teamwork. Convincing the parents on the merits of the new curriculum is the job of the school heads. They should be committed to change and should employ strategies to meet the needs of the teachers and learners like buildings, books, library and other needed resources

4. Parents

Parents are significant school partners. Besides the students, teachers and school administrators play an important role in curriculum implementation. When children bring home a homework from school, some parents are unable to help. Schools need to listen to parents' concerns about school curriculum like textbooks, school activities, grading systems and others. Schools have one way of engaging parents' cooperation through Brigada Eskwela. In this event, parents will be able to know the situation in the school. Most often parents volunteer to help. They can also be tapped in various co-curricular activities as chaperones to children in Boy and Girl Scouting, Science Camping and the like. Parents may not directly be involved in curriculum implementation, but they are formidable partners for the success of any curriculum development endeavor.

5. Community as Curriculum Resources and Learning Environment

"It takes the whole village to educate the child" is an African proverb as mentioned by former U.S first lady Hillary Clinton. What do you understand about this statement?

Yes, it is true that the school is in the community, hence the community is the extended school ground, a learning environment. All the barangay leaders, the elders, others citizens and residents of the community have a stake in the curriculum. It is the bigger school community that becomes the venue of learning. The rich natural and human resources of the community can assist in educating the children. The community is the reflection of the school's influence and the school is a reflection of the community support.

Other Stakeholders in Curriculum Implementation and Development

Some stakeholders may not have direct influence on the school curriculum. These are agencies and organizations that are involved in the planning, design, implementation and evaluation of the school curriculum. To name a few, the list follows.

1.1 Government Agencies:

1. **DepEd, TESDA, CHED**- trifocalized agencies that have regulatory and mandatory authorities over the implementation of the curricula.
2. **Professional Regulation Commission (PRC) and Civil Service Commission (CSC)**- the agency that certifies and issues teacher licenses to qualify one to teach and affirms and confirms the appointment of teachers in the public schools. Local
3. **Government Units (LGU)** include the municipal government officials and the barangay officials. Some of the teachers are paid through the budget of the LGUs. They also construct school buildings, provide equipment, support the professional development teachers and provide school supplies and books. They are the big supporters in the implementation of a school curriculum.

1.2 Non-Government Agencies and Professional Organizations.

Non-government agencies are organizations and foundations that have the main function to support education. To name a few, this includes the following:

1. **Gawad Kalinga (GK)** to build communities means to include education. The full support of GK in early childhood education is very significant. In each village, a school for pre- school children and out-of-school youth have been established.
2. **Synergia** an organization/foundation that supports basic education to elevate education through Reading, Science, Mathematics and English.
3. **Metrobank Foundation** - supports continuing teacher development programs.
4. **Professional Organizations** like Philippine Association For Teachers and Educators (PAFTE), State Universities and Colleges. Teacher Educators Association (SUCTEA), National! Organization of Science Teachers and Educators (NOSTE), Mathematics Teachers Association of the Philippines (MTAP) and many more.

X. Curriculum Evaluation and the Teacher

Curriculum Evaluation: A Process and a Tool

An analysis of the various definitions reveals that evaluation is both a process and a tool. As a **process** it follows a procedure based on models and frameworks to get to the desired results. As **a tool**, it will help teachers and program implementers to judge the worth and merit of the program and innovation or curricular change. For both process and a tool, the results of evaluation will be the basis to IMPROVE curriculum.

- ✓ Persons Ornstein, A.& Hunkins, F, (1998). Curriculum evaluation is a process done in order to gather data that enables one to decide whether to accept, change, eliminate the whole curriculum of a textbook.
- ✓ McNeil, J. (1977). Evaluation answers two questions: 1. Do planned learning opportunities, programmes, courses and activities as developed and organized actually produce desired results? 2. How can a curriculum best be improved?
- ✓ Gay, L. (1985). Evaluation is to identify the weaknesses and strengths as well as problems encountered in the implementation, to improve the curriculum development process. It is to determine the effectiveness of and the returns on allocated finance.
- ✓ Oliva, P. (1988) It is a process of delineating, obtaining and providing useful information for judging alternatives for purposes of modifying, or eliminating the curriculum.

Reasons for Curriculum Evaluation

Why is there a need to evaluate a curriculum? The curriculum processes presented by Tyler, Taba and others at the end of the line or cycle undergo an evaluation. All of them agree that planning, designing and implementing are less useful unless there is evaluation. Here are some of the specific reasons.

1. Curriculum evaluation identifies the strengths and weaknesses of an existing curriculum that will be the basis of the intended plan, design or implementation. This is referred to as the needs assessment.
2. When evaluation is done in the middle of the curriculum development, it will tell if the designed or implemented curriculum can produce or is producing the desired results. This is related to monitoring
3. Based on some standards, curriculum evaluation will guide whether the results have equalled or exceeded the standards, thus can be labelled as success. This is sometimes called terminal assessment.
4. Curriculum evaluation provides information necessary for teachers, school managers, curriculum specialist for policy recommendations that will enhance achieved learning outcomes. This is the basis of decision making.

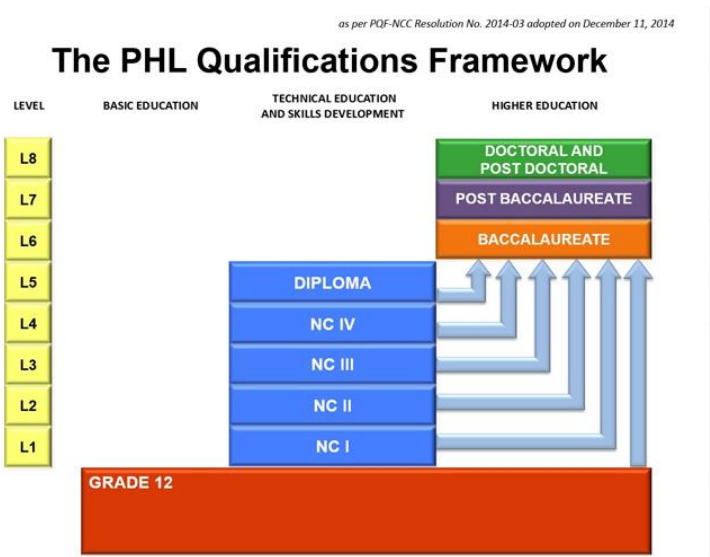
In curriculum evaluation, important processes were evolved such as (a.) needs assessment, (b) monitoring, (c) terminal assessment and (d) decision making.

XI. Curriculum Evaluation Through Learning Assessment

Philippines Qualification Framework (PQF)

PQF is a reference system of national standards of what qualifications one has earned by education and training in the Philippines. It specifies what an individual has learned in and out of formal schooling (lifelong learning) based on qualification, levels and degree of competencies on knowledge, skills, applications, values and degree of independence. A person is deemed qualified if he or she achieved the specific learning outcomes necessary for the academic, work and community requirements for which an official qualification recognition shall be conferred. (RA 10968, s. 2018)

Below is the diagram of the Philippine Qualification Framework, detailing the levels from basic education to higher education in the Philippine Educational System.



The PQF is divided into eight levels, Level 1 to Level 8. The first level L1 is to be achieved by Grade 12 graduates, who can be awarded a National Certification 1 (NC 1) if qualified by the TESDA. The other levels of qualifications progress along

the educational ladder in the Philippine Educational System from Grade 12 in Basic Education to Higher Education from Baccalaureate to Doctoral and Post-Doctoral Levels.

In all the eight levels, the individual is expected to achieve specific standards and competencies as evidenced in the learning outcomes. The competencies are clustered into three domains, which are:

1. Knowledge, Skills and Values
2. Application
3. Degree of Independence in Responsibility

XII. Curriculum Development Reforms and Enhancement

Kto12 Curriculum

Republic Act 10533, otherwise known as the Enhanced Basic Education Act of 2013, is the latest educational reform in Philippine Education signed into law by President Benigno Aquino III last May 15, 2013. It is an act enhancing the Philippine Basic Education system by strengthening its curriculum and increasing the number of years for basic education, appropriating funds therefore, and for other purposes. The Enhanced Basic Education Act of 2013, popularly known as K to 12, includes one (1) year of kindergarten education, six (6) years of elementary education, and six (6) years of secondary education. This six-year secondary education includes four (4) years of junior high school and two (2) years of senior high school. With K to 12, the existing 10 years of basic education is increased to 12 years, with Kindergarten education as a prerequisite to entry in Grade 1.

Why K to 12?

K to 12 makes the Philippine education system at par with the international standard of 12-year basic education, thereby contributing to a better-educated society capable of pursuing productive employment, entrepreneurship, or higher education studies. After going through kindergarten, elementary, junior high and a specialized senior high school program, every K to 12 graduate is ready to go into different paths - higher education, middle level skills development, employment, or entrepreneurship. The K to 12 graduates are also expected to be equipped with 21st century skills like information, media and technology skills, learning and innovation skills, effective communication skills, and life and career skills.

Section 5 of the Enhanced Basic Education Act of 2013, stipulates the following curricular standards which the curriculum developers adhered to in crafting the K to 12 curriculum:

- (a) The curriculum shall be learner-centered, inclusive and developmentally appropriate;
- (b) The curriculum shall be relevant, responsive and research- based;
- (c) The curriculum shall be culture-sensitive;
- (d) The curriculum shall be contextualized and global;
- (e) The curriculum shall use pedagogical approaches that are constructivist, inquiry-based, reflective, collaborative and integrative;
- (f) The curriculum shall adhere to the principles and framework of Mother Tongue-Based Multilingual Education (MTB-MLE) which starts from where the learners are and from what they already knew proceeding from the known to the unknown; instructional materials and capable teachers to implement the MTB-MLE curriculum shall be available;
- (g) The curriculum shall use the spiral progression approach to ensure mastery of knowledge and skills after each level;
- and (h) The curriculum shall be flexible enough to enable and allow schools to localize, indigenize and enhance the same based on their respective educational and social contexts. The production and development of locally produced teaching materials shall be encouraged and approval

XIII. EDUCATION 4.0 IN THE SCHOOL CURRICULUM

Industrial Revolution 4.0 and Educational 4.0

A. IR 1.0 was the invention of the steam engine. With the steam engine, human labor was replaced by the machine. Many laborers lost their jobs because machines did their jobs even more efficiently.

B. IR 2.0 was the age of science and mass production. Things started to speed up with the discovery of electricity. There were a number of key inventions - gasoline engines, airplanes, chemical fertilizer. Advancements in science weren't limited to the laboratory. Scientific principles were brought right into the factories, the most notable of which is the assembly line, which effectively powered mass production. Recall here Henry Ford's company where by the early part of the 20th century mass-produced cars with gasoline engine built on an assembly line.

C. IR 3.0 is the digital revolution. We moved from analog electronic and mechanical devices to digital technology which dramatically disrupted industries, especially global communications. We are now enjoying the blessings of digital revolution- computers. cellphones. We used to tune in our television with an antenna (analog). This is now replaced by an Internet-connected tablet that lets you stream movies (digital).

D. IR 4.0 is computers connected to computers. It is inteconnectivity. It's the Internet of Things (IoT), Artificial Intelligence. In IR4.0 we have robots, driverless cars, genetic sequencing and editing, miniaturized sensors, and 3D printing, to name some. We get digitally connected to one another across the globe. We can know anything, anytime,

anywhere. Global community connects everything, everywhere always INTERNET of Everything. Stem cell curing becomes obsolete. With genetic sequencing and editing, we can now remove the sickness.

IX. CURRICULAR MODIFICATION IN BASIC EDUCATION DURING AND POST-PANDEMIC

Various Curriculum Delivery Modes

Delivery mode is contextualized in the DepEd's Learning Continuity Plan. Since schools and communities are differently situated, the choice of the learning delivery modality of schools will depend on the local COVID-19 situation as well as access to certain learning platforms.

The various curriculum delivery modes include: 1) Online learning, 2) Alternative Delivery Mode, 3) Distance Learning, 4) Homeschooling, and 5) Alternative Learning System.

The DepEd explains that online learning is only one of the delivery modes among all others in this new learning environment. The DepEd directed its field units to determine the most appropriate combinations or strategies of learning delivery for every locality taking equity concerns into consideration. It is wise that schools consider valid concerns related to online learning raised by stakeholders. Most of these concerns are connectivity and accessibility, lack of or poor internet connection in schools, access for teachers and students, availability of equipment such as computers, smart phones, printers for both teachers and students.

A. Alternative delivery mode (ADM) refers to the nontraditional education program recognized by the Department of Education (DepEd), which applies a flexible learning philosophy and a curricular delivery program that includes non-formal and informal sources of knowledge and skills.

Three (3) accredited ADMs are 1) Modified In-School and Off-School Approach (MISOSA); 2) Enhanced Instructional Management by Parents, Community, and Teachers (e-IMPACT) for primary education;

This alternative modality was developed to address the problems of seasonal absentee learners and congested classrooms in schools.

B. Distance learning modes of education include delivery of educational content online, digitally or through radio and television. There used to be "School-on-the Air". In this COVID-19 crisis, the Philippine government offered government-run television and radio stations as platforms for delivering lessons.

C. Homeschooling is another flexible learning option recognized by DepEd. In fact, this is not only a stop-gap solution in times of crisis. Based on the policy guidelines released by DepEd, homeschooling provides learners with access to formal education while staying in an out-of-school environment. It is meant for learners in unique circumstances, such as illness, frequent travel, special education needs and other similar contexts. Authorized parents, guardians or tutors take the place of teachers as learning facilitators and are given flexibility in learning delivery, scheduling, assessment and curation of learning resources.

To enrol children in a homeschool program, parents or guardians should do so through a public school, through a private school that has been given a permit to offer a homeschool program or through homeschool providers, which are learning centres or institutions that provide homeschooling.

Homeschooling is not the same as home-based schooling. It is much more than using the home as a setting for schooling.

D. Alternative Learning System or ALS is a "parallel learning system in the Philippines that provides a practical option to the existing formal instruction. When one does not have or cannot access formal education in schools, ALS is an alternative or substitute. ALS includes both the non-formal and informal sources of knowledge and skills."

There are two major programs on ALS that are being implemented by the Department of Education, through the Bureau of Alternative Learning System (BALS). One is the Basic Literacy Program and the other is the Continuing Education Program Accreditation and Equivalency (A&E). Both programs are modular and flexible. This means that learning can take place anytime and any place, depending on the convenience and availability of the learners