

COMPETENCY 1.0

Instructional Leadership Managing the Learning Environment Learning, Accountability, and Assessment

SKILL 1.1 Knowledge of instructional leadership standard as related to curriculum development and continuous school improvement process

1. Given a scenario, assess the curriculum and school wide professional development needs of an instructional program.
2. Given a set of school data, identify appropriate objectives and strategies for developing, implementing, assessing, and revising a school improvement plan.
3. Given a school data set, determine an appropriate instructional improvement strategy.
4. Identify functions and implications of various curriculum designs.
5. Given grade-level data on reading, identify strategies to align curriculum, instruction, and assessment.

The school curriculum is an action plan to educate children. The aims and goals that shape education are generated from nationwide commissions and task forces comprised of educators, and other influential citizens, including politicians. An example was the 1983 report *A Nation-At-Risk* in which the Commission on Excellent in Education reported its findings on the quality of education in America and made specific recommendations. Another example is the effort made by President Bush and state governors with the Goals 2000 effort, which emerged in 1990.

At the local level, task forces of parents, educators, and community groups impact school curriculum similar to national groups. Change is affected by data including attitudinal surveys of the students, teachers, and parent and community groups. Another data source for curriculum selection is direct student information, such as interviews and conferences. These yield information related to dispositions for learning, likes and dislikes, as well as difficulties experienced by students due to the curriculum design or related situations. Additionally, anecdotal records held by teachers and the contents of student folders, such as testing results and report cards, may contribute to the development of profiles of students to aide in the decision-making process about curricula.

Research findings about curriculum principles and design, as well as content organization, are also valuable for decision-making. Societal expectations directly impact the objectives for learning. For example, Goal Four (4) of Goals 2000 states that “By the year 2000, U.S. students will be first in the world in science and mathematics achievement.” The expectations of this societal goal affected the curriculum in every state, district, and school. Even if this goal was lofty and not fully attained, it has affected the selection and content of the local curriculum.

The Commission for Goals 2000 uncovered the deplorable student achievement in math and science. By disclosing these conditions, parent, teachers, and community groups endorsed these goals as a way of improving education. Thus, the commission influenced a chain reaction where objectives were identified at the lowest levels to change the outcomes in these subject areas. As a result, subject-area goals were clearly written and became the driving force of curriculum change.

The nation is also concerned with producing citizens who are prepared to transmit the ideals of a democratic society. Therefore, the school as a societal institution must include in its teaching and learning process objectives that will produce desirable learner outcomes.

The school curriculum should satisfy societal needs and goals to produce individuals who have the social, intellectual, moral, emotional and civic development to function as an integral part of our democratic society. However, selecting the best curriculum to meet all of these needs is not an easy task. It should be a collaborative effort, and necessary changes should be described clearly in relation to existing district and school goals. In developing and selecting curricula, administrators should also consider the motivation of students and instructional staff, feasibility of time and resources, and curriculum balance in terms of concepts, skills, and application.

Curriculum Design

The design of the curriculum accounts for the manner in which the elements of the curriculum are organized. The design must include the nature and organization of the aims, goals, and objectives, as well as the subject matter, learning activities, and evaluation. Curriculum design precedes instructional design. It is the phase concerned with the nature of the component parts, which is influenced by various philosophies, theories, and practical issues.

A curriculum designer must specify each of the elements included in the design and develop a blueprint before implementation. The goals and objectives should be specific so that all stakeholders clearly understand what will be done and what behaviors are expected of learners. The next step is to identify the resources needed to attain curricular goals and objectives. Required material and human resources must be identified and secured. Materials may include textbooks, charts, maps, and other technology and equipment, such as projectors, computers, calculators, sport equipment, and microscopes. Human resources include administrators, teachers, volunteers, support staff, and others. Facilities are classrooms, gyms, athletic fields, cafeterias, and auditoriums. The subject matter, methods of organization, and activities, as well as the methods and instruments to evaluate the program, must be determined.

The organization of the components of the curriculum consist of two distinct elements: horizontal and vertical organization. *Horizontal organization* is a side-by-side course arrangement where the content of one subject is made relative to the concepts of another related subject. *Vertical organization* is concerned with longitudinal treatment of concepts within a subject across grade levels. The success of horizontal organization depends heavily on the collaboration of teachers of various disciplines at the same grade level, while the vertical organization depends heavily on collaboration and planning among teachers of various grade levels.

The dimensions within the curriculum content must also be considered in curriculum design. Therefore, attention should be given to curriculum scope, sequence, integration, continuity, articulation, and balance. *Curriculum scope* refers to the breadth and depth of the curriculum content, learning activities, experiences, and topics. *Curriculum sequence* refers to the order of topics to be studied over time. The sequencing of the curriculum is usually organized from simple to complex topics; however, it can also emphasize chronological, whole-to-part, or prerequisite learning. *Curriculum integration* refers to linking the concepts, skills, and experiences in the subjects taught. *Curriculum continuity* deals with the smoothness of knowledge repetition from one grade level to another in specific subjects or areas of study. *Curriculum articulation* is the interrelationship within and among subjects both vertically and horizontally. *Curriculum balance* refers to the opportunities offered for the learners to master knowledge and apply it in their personal, social, and intellectual life pursuits.

Curriculum content can be based on a number of different design principles. These include subject-centered, discipline, broad fields, and process-centered designs. *Subject-centered* designs reflect the mental discipline approach to learning. The curriculum is organized according to essential knowledge that must be learned in each different subject area.

The *discipline* design is based on the organization of content, which allows for in-depth understanding of the content and the application of meaning. It is used primarily in secondary schools to emphasize the organizational content inherent to disciplines such as science, math, and English. Using this approach, the emphasis becomes experiencing the discipline as learning takes place.

Unlike the subject field, where a subject is studied separately from other subjects that are related, in the *broad fields design*, related subjects are broadened into categories. For instance, in this design social studies encompasses history, geography, and civics, and physical science encompassing physics and chemistry. The intent of the broad field design is to integrate the traditional subjects so that the learner develops a broader understanding of the areas included.

The *process centered* design addresses how students learn and apply learning processes to the subject matter. This design focuses on the student thinking-process and incorporates strategies for children to gain knowledge regardless of the topic.

Learning Theories

Curriculum selection must also take into account the contribution from the field of psychology, which is responsible for the major theories of learning. Learning theories serve as the foundation for methods of teaching, materials for learning, and activities that are age and developmentally appropriate for learning. Major theories of learning include behaviorism, cognitive development, and phenomenology or humanistic psychology.

Behaviorism represents traditional psychology that emphasizes conditioning the behavior of the learner and altering the environment to obtain specific responses. As the oldest theories of learning, behaviorism focuses specifically on stimulus response and reinforcement for learning. The work of Thorndike led to the development of connectionism theories from which come the laws of learning. These are:

Law of Readiness: when the conduction is ready to conduct, satisfaction is obtained and, if readiness is not present, it results in dissatisfaction.

Law of Exercise: a connection is strengthened based on the proportion to the number of times it occurs, its duration and intensity.

Law of Effect: responses accompanied by satisfaction strengthens the connection, while responses accompanied by dissatisfaction weakens the connection.

These laws also influenced the curriculum contributions of Ralph Tyler, Hilda Taba, and Jerome Bruner who discarded the view of specific stimuli and responses to endorse broader views of learning. For example, Taba recognized that practice alone does not transfer learning; therefore, rote learning and memorization should not be emphasized. Jerome Bruner, on the other hand, contributed the notion that learning is better transferred when students learn structure rather than by rote memorization.

Classical conditioning theories emphasized the elicited response aspect of learning through adequate stimuli. Pavlov and Watson taught a dog who learned to salivate at the sound of a bell. This was accomplished by presenting food simultaneously with a stimulus, the bell. Their experiment gave the notion that the learner could be conditioned for learning or training.

Operant conditioning is a behavioral theory promoted by B. Frederick Skinner. It emphasizes learning by following behavior with either positive or negative reinforcers. This theory uses “reinforcers” to increase desirable behavior and “punishments” to decrease unwanted behavior. Positive reinforcers give desirable stimuli and negative reinforcers take away unpleasant stimuli. In contrast, positive punishment gives unpleasant stimuli and negative punishment removes desirable stimuli.

Behavioral theories gave birth to behavior-modification approaches to discipline and learning. Albert Bandura’s theory of *observational learning and modeling* focuses on children learning through modeling the behaviors of others.

Hierarchical learning theories by Robert Gagne organize types of learning into a classical, hierarchical model of intellectual skills, information, cognitive strategies, motor skills, and attitudes learned through positive experiences.

Cognitive development theories focus on human growth and development in terms of cognitive, social, psychological, and physical development. These theories suggest that schools should not focus solely on children’s cognitive development. The *developmental theory* of Jean Piaget proposes that growth and development occur in stages. Piaget identified four stages of development including the sensory-motor stage (birth to age two) in which the child manipulates the physical surroundings; the pre-operational stage (ages 2-7) in which complex learning takes place through experiences; concrete operational stage (age 7-11) in which the child organizes information in logical forms using concrete objects; and the formal operational stage (age 11 and above) in which the child can perform formal and abstract operations.

Phenomenology or humanistic psychology is not widely recognized as a school of psychology. Those who disregard it believe that psychology in-and-of-itself is humanistic in nature; therefore, there is no need for such school. However, those who believe in the theory regard it as a third grouping because it emphasizes the person as a total organism during the learning process rather than separating learning into the domains of behavior and cognition. *Gestalt psychology* is representative of phenomenology and humanistic psychology. In this theory, the end-product is a wholesome, happy and healthy child/person who is self-actualized and fulfilled, incorporating Maslow's hierarchy of needs.

Curriculum Development

Identifying the educational goals and setting priorities before developing the curriculum are essential aspects of planning. Additionally, setting and prioritizing the goals must be carefully linked to the performance of the learner. Next, the curriculum design occurs with careful selection of instructional materials and equipment, as well as methods to attain the pre-established goals and objectives. The final steps include organizing the personnel involved and implementing a plan to supervise and give direction and focus to the project. Finally, the product planning and implementation at the classroom level are followed by the evaluation process, which determines the effectiveness and attainment of the goals and objectives of the curriculum.

A needs assessment is always the initial step in program or curriculum planning. It provides the opportunity to survey stakeholders and identify the context in which the program will be developed. The needs assessment survey should focus primarily on the needs of the students. This focus can identify achievement problems, goals can be written for the initial planning stage, and specific instructional objectives can be formulated.

Systematic assessment of school needs may range from grade level surveys of needs to school-wide surveys. This practice will not have full impact unless careful attention is given to a cohesive set of goals developed jointly with administrators, teachers, parents, and members of the school community to address specific needs. It is important that the instrument gathers pertinent information related to students' needs and the program environment at the school.

In any assessment process, data gathering is a key step that gives meaning to what is being measured. Ornstein and Huskins (1993) identify five distinct phases for gathering data to assess program effectiveness. These include identifying the curriculum phenomena to be evaluated and collecting, organizing, analyzing, and reporting and recycling the data/information.

In the first phase, identifying the curriculum phenomena to be evaluated, the evaluator determines the design of the evaluation and specifies exactly what will be evaluated. The evaluators will determine if the entire school will be included or just selected grade levels or subject areas. Whatever is decided at this stage must include a clear delineation of the relationship between the variables. This includes establishing a clear relationship between the objectives, the constraints of the learning activities, and the expected outcomes.

In the collection phase, the evaluator must identify the sources of information, which is based on the design established in the previous phase. A plan must be developed to collect hard-data from various sources including parents, teachers, staff, students, and other members of the school community. Organizing the information leads the evaluator to arrange the data so that it is usable. This includes coding and storing the data in a system where it can be retrieved for analysis. The data is then analyzed based on statistical approaches that are suitable for the information collected.

Reporting the information requires the evaluator to decide the level of formality that will meet the needs of the various audiences. Finally, recycling the information shows that evaluation is a continuous process. The implication is that the information received from this process will provide feedback for program modification and adjustment, which will lead to continuous change in an organization that is itself continuously changing.

Curriculum and Program Evaluation

In the process of educational program evaluation or classroom instructional evaluation, outcomes are reflected in terms of aims, goals, and objectives. Aims are general statements that reflect value judgments that give overall direction of the curriculum. They guide the educational process to achieve future learning outcomes. Aims are the results of societal concerns, which usually are expressed through national commissions and task forces. Goals are more specific than aims.

Even though goals may be written in a general manner similar to aims, aims become goals when the statement of purpose gives specificity to particular areas of the curriculum. Objectives are the most specific statements of expected learner outcomes. Examples of goals are expressed in the 1990 national initiative *Goals 2000*. Goal one states "By the year 2000 all children in America will start school ready to learn. Goal two states "By the year 2000 the high school graduation rate will increase."

As observed, these goal statements are very general and they do not include specific behaviors or parameters for the behavior. Objectives are generally expressed in behavioral terms, which are measurable. Non-behavioral objectives, on the other hand, are generally used to express higher-order learning. This suggests non-quantifiable measurement, such as appreciation and understanding. In most schools, behavioral objectives are preferred to ones that are non-behavioral. Behavioral objectives state what is expected of the student at the conclusion of the unit or lesson. They state the terms for the behavior and the minimum expectancy. This is an example of a well-written behavioral objective: *after completing the unit on telling time, students will be able to complete 25 problems with 80% accuracy within a thirty minute time span.*

Objectives should be written in measurable terms. With specific objectives, attention is given to the *behavior* to be measured, the *situation* in which the performance will take place and the *criterion* for the performance. For example, students will be able to solve multiplication word problems (behavior) at the rate of one problem per minute (situation) with 80% accuracy (condition). Objectives can be written to give directions at various program levels including grade levels or subject levels.

Program effectiveness can only be measured through an evaluation. Program evaluation is the process of collecting and analyzing data to discover whether a design, development, or implementation is producing the desired outcomes as stated by the goals and objectives. This may lead to changing or eliminating aspects of the program or curriculum.

The CIPP (Content Input Process Product) developed by Daniel Sufflebeam is a popular program evaluation model. In a three-step process, information is provided for decisions, information is delineated for collection, obtained, and provided to stakeholders. These steps must then correspond with four distinct types of evaluation: content, input, process, or product (Ornstein and Hunskin 1993).

Content evaluation reviews the program environment and its met and unmet needs. *Context evaluation* is the diagnostic stage of the evaluative process. It provides baseline information related to the entire system of operation. *Input evaluation* provides information and determines how to utilize resources to attain the goals of the program. It focuses on whether the goals and objectives of the program are appropriate for the expected outcome or if the goals and objectives are stated appropriately. It also takes into account whether the resources to implement specific strategies are adequate, whether or not the strategies are appropriate to attain the goals, or if the time allotted is appropriate to meet the objectives set forth for the program.

In schools, *process evaluation* focuses on decisions regarding curriculum implementation. It is concerned with whether planned activities are being implemented, procedures are recorded as they occur, and monitoring is continuous to identify potential problems. Continuously identifying potential problems allows corrections to be made before or during the implementation of the program. For example, it might be necessary to establish special planning sessions or in-service workshops at specific grade levels to work on modifying strategies due to problems uncovered. Process evaluation is also known as the piloting process prior to the actual implementation of a school-wide or district-wide program (Ornstein and Hunskin, 1993). Finally, *product evaluation* takes into account whether the final product or curriculum is accomplishing the goals or objectives and to what degree.

At this point decisions must be made regarding the continuation, termination or modification of the program. Since the evaluation process is continuous, the evaluators may, at this point in the cycle, link specific actions back to other stages or make changes based on the data collected. The data obtained may indicate the need to delay full implementation of the program until corrections are made, or it may lead to the decision that the program is ready for large scale implementation.

In summary, the main purpose of the evaluative process is to diagnose strengths and weaknesses, and to provide feedback to make appropriate decisions for programs and schools. The data collection for the evaluation process originates from a number of sources, including classroom observations, interviews and discussions with students, discussion with teachers and parents, testing and measurement data, information from pupil services or guidance services, and surveys of the school and school community.

Communicating Curriculum Change

Successful curriculum implementation is highly dependent on effective communication of the changes that are occurring, especially when the new curriculum will upset the status quo. The channels of communication must always be open so that discussion and exchange are ongoing at all levels and across groups. Effective communication requires high quality exchange through two-way channels within a defined network. While the formal network remains the official way of communicating in organizations, the informal network should not be ignored or discouraged. It can be shaped into a very healthy system of communication between members of the organization.

School restructuring calls for communication models different from the traditional top-down approach. Curriculum implementation requires that administrators and support personnel not only understand the curriculum but provide support to the classroom. Effective lateral communication allows information flow among participants at varying levels. This shows value for their contribution and promotes involvement through the process of networking. While lateral communication is usually formal, informal channels tend to be lateral as well.

Informal lateral communication might be a small group of teachers deciding amongst themselves to get together and share ideas from an article that could be useful in their classroom, or it could be the development of a simulation project for the grade level. Formal lateral communication messages may be written and disseminated systematically through newsletters, bulletin, memos, and reports. Formal lateral communication may also be verbal and communicated through speeches, lectures, and oral reports where body language, tone of voice, and other physical expressions can enhance the message being communicated.

The mode of communication should be adjusted to meet the needs of the audience. Workshops, bulletins, lectures, and other written and oral reports are all appropriate formats for disseminating program information, but while each approach serves a definite purpose they must be adjusted to meet the needs of their intended audiences. The approach used with teachers may generally be in-service training. These sessions teach procedures and methods for curriculum implementation where well-defined educational terms are used and specific strategies are developed or practiced. Conversely, a presentation for parents, community groups, and other lay individuals should be free of educational jargon and adjusted to their educational levels and school experiences. Whatever the mode or approaches to communication, a steady flow of information exchange at every stage of program implementation is necessary.

Organizational Change Theories and Models

Understanding theories of organizational change can be very useful in the process of implementing new curricula. Kurt Lewin's force field model looks at how two groups of opposing forces, when equalized, acquire a balance or equilibrium. This model states once change begins (what is described as "unfreezing") there is a driving force and a restraining force. The driving force reduces the power of the restraining force, thereby increasing actions to attain change. The restraining force is generally governed by fear of the unknown, strong identification with traditional values of the organization, or obsolete knowledge, which helps to maintain the status quo. The driving force is armed with new knowledge, technology, societal values, processes, or institutional approval to initiate the change process.