NATIONAL TEACHING COUNCIL

PEDAGOGY FOR SHS

For

Ghana Teacher Licensure Examinations

(SBGTLE)

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CONTENT AREAS

1. The concepts -methodology, pedagogy, andragogy
2. Secondary (JHS/SHS) Pedagogy examples
3. Curriculum/syllabus– concept, nature and evaluation
4. Scheme of work/Learning Scheme
5. Lesson Plan
6. Core and transferable skills (21st Century Skills)
7. Classroom Management
8. Questioning
9. Instructional Resources including ICT
10. Assessment

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CHAPTER ONE

THE CONCEPTS - METHODOLOGY, PEDAGOGY, ANDRAGOGY

Concept Of Pedagogy:

PEDAGOGY is explained as the general set of methodologies and strategies that the teacher needs in order to carry out the teaching activity. The prospective teacher must understand what constitutes effective teaching, and be able to distinguish authentic teaching practices from practices so called such as instructing, informing, training, and brainwashing.

Pedagogy refers to the way of teaching students, whether it is the theory or practice of educating. It is a relationship between the culture and techniques of learning. The main aim of pedagogy is to build on previous learning of the students and work on the development of skills and attitudes of the learners.

Pedagogy demands classroom interactions between the teacher and students which create a significant impact on the learner's mind. Pedagogy enables teachers to understand the best suitable practices for a classroom setting. It helps them to know how different students learn and grasp information so that they can tailor their lessons to satisfy those needs. It is likely to improve the quality of teaching and the way it is received by the students. Pedagogy plays an important role to help teachers understand the best ways to conduct a classroom.

Concept Of Andragogy:

The word Andragogy derives from the Greek word means "adult-leading". Andragogy refers to a theory of adult learning that details some of the ways in which adults learn differently than children. For example, adults tend to be more self-directed, internally motivated, and ready to learn. Teachers can draw on concepts of andragogy to increase the effectiveness of their adult education.

According to Malcolm Knowles, andragogy is the art and science of adult learning, thus andragogy refers to any form of adult learning.

Differential Between The Concepts Pedagogy And Andragogy

Andragogy commonly is defined as the art or science of teaching adults or helping adults learn. In contrast to pedagogy, or the teaching of children, andragogy is based on a humanistic conception of self-directed and autonomous learners where teachers are defined as facilitators of learning.

Concept Of Methodology Or Teaching Methods

The term methodology/teaching method refers to the general principles, pedagogy and management strategies used for classroom instruction. Your choice of teaching method depends on what fits you- your educational philosophy, classroom demographic, subject area(s) and school mission statement.

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Types Of Pedagogy

The practice and theory of pedagogy differ greatly as they affect the social, cultural, and political contexts differently. General types of pedagogy are:

1. **Critical pedagogy:** It refers to comprehending and deconstructing various life issues and problems. It focuses on pushing the student to dig, and an attempt is made to understand their thoughts and beliefs on a certain topic.

2. **Culturally responsive pedagogy**: It helps in comprehending the cultural differences around the student and makes them understand the culturally diverse world we live in. E.g. A teacher might conduct a meeting where the students discuss their mother tongue, their ethnicity, their family traditional habits, etc.

3. **Socratic pedagogy:** It pushes the students to look for more knowledge than originally provided to them. This approach makes the student look for more sources and alternatives to discuss and find alternative solutions.

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CHAPTER TWO
SECONDARY (JHS/SHS) PEDAGOGY EXAMPLES

1. The Lecture Method:

The purpose of the lecture method is to present basic facts or concepts to a relatively large group of students. It is useful in explaining difficult or complex concepts before students engage in an actively (such as an experiment in a science lesson) or read a text. The lecture may also be effective after an introductory activity or demonstration has captured pupils' attention and sparked their curiosity.

Here are some suggestions for more effective presentation when using the Lecture method.

Preparation

Outline the main points and organize them in an orderly manner.

a. Plan examples and illustrations.
b. List key questions and find ways of using them to involve students.
c. Prepare hand outs that will assist students in listening or taking notes.
d. Prepare visual aids for your lesson.
e. Keep the lesson presentation as brief as possible.
f. Plan the lesson time well in order to have time for questions and discussions.
g. Prepare notes for reference but not to be read while teaching.

Introduction

Outline the main points on the chalkboard (especially if pupils are expected to take notes.)
Generate interest from the beginning. Provoke the thoughts of pupils by using pictures, questions, story, simple puzzle,etc.

Delivery

a. Maintain eye contact with different pupils.
b. Vary your voice, facial expressions, gestures and positions.
c. Illustrate the main points with concrete examples, analogies and stories.
d. Use non-verbal stimuli and illustrations like pictures, models, props, symbols and gestures.
e. Involve pupils by soliciting questions, examples and responses from them.
f. Weave in provocative and rhetorical questions; check on pupils' comprehension at intervals during the lecture period.
g. Repeat and reinforce key words and main points and concepts.
h. Use silence and pauses for emphasis and to stimulate thought.

Summary

a. End the lesson before pupils' attention is lost.
b. Repeat the main points, or
c. Guide pupils to summarize the main points,
d. Leave some unanswered questions for pupils to ponder over and discuss

Question/ Answer period and discussion

a. Solicit and respond positively to pupils' questions
b. Redirect questions for other pupils' to answer.
c. Structure small group discussions with problems to solve questions to answer.

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2. The Discussion Method:

Discussion is an activity in which people talk together, in order to share an idea about a topic or a problem, or to seek possible available evidence or a solution to a problem.

Discussion may be implemented in a number of ways. The types of discussions available to the teacher include the following:

a) Whole-Class Discussion
b) Small Groups Discussion (which includes debates, panels, buzz-sessions and forum)

Whole Class Discussion

The whole-Class Discussion is generally preferred when the teacher employs the discussion method of teaching. By this methodological approach, the teacher simply leads an informal discussion involving the whole class as a whole. The teacher, as a director of the discussion, asks questions, clarifies students' comments and make tentative summaries to help students achieving understanding of the topic.

Small Group Discussion

Dividing the class into smaller groups has its own advantages. These include increasing the amount of students in the lesson. Small groups of approximately two to seven are used to help bring individuals together to share ideas.

Note: When using this method of teaching, one task is to be assigned.

Types of Small Group Discussion

1. Debate
   It is generally used in the classroom as a small-group technique with a small group of students teamed on each side of an issue. Each group is given a specific amount of time to present its side of the issue. The members can alternate presentations. The members of the two opposing groups are identified as pros (that is those speaking for the motion) and cons (i.e., those speaking against the motion.) after the debating session, the teacher can bring the whole class together enter into a whole class discussion on the issue.

2. Panels
   When using panels, the teacher can divide the class into three to six students. The students forming the panel then organize themselves, research into the topic, discuss their data and then present their findings that lead into a whole class discussion.

3. Buzz sessions
   In buzz sessions, students are placed in small groups for a specific amount of time to discuss a given issue or topic. Reports of the results of the various buzz groups are then presented to the entire class and this stimulates whole-class discussion.

4. Forum
   The forum is a specific discussion type in which a small number of students present information to a larger group. Upon the conclusion of the presentation, the presenters then solicit questions on the topic from the audience. This puts the presenters in the role of "authorities" on the topic

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for discussion and questions from the class or audience or may be directed to specific members of the group or the presenters who are regarded as "experts".

General suggestions for small group Discussion

a. If possible, move chairs in small circles.
b. Make activity very clear before the class breaks into groups.
c. The teacher should move from group to group as a facilitator.
d. Mix up groups for different activities.
e. The teacher should spend some time with each group during the discussion session and he or she encourages individual participation.
f. Alternate Small Group with whole class activities.

3. The Demonstration Method

Demonstration is a process whereby one person does something in the presence of others, in order to show them how to do it or illustrate a principle. Demonstration is used to show how something is done properly or correctly. It utilizes both auditory and visual means of communication.

Advantages

a. Demonstration adds to learning by giving students the opportunity to see or hear what is actually happening.
b. Demonstration can be used to illustrate ideas, principles and concepts for which students are inadequate to express.
c. Good demonstration holds the learner's attention.
d. Demonstration can be financially economical since only the demonstration needs materials.
e. Students can conduct demonstration, thus building associated skills and attitudes.
f. Demonstrations can reduce hazards before students begin experimentation or operation with materials involved. Demonstrations lead to a reduction in the trial-and-error time.

Guidelines for Maximum Utilization

a. Spend the necessary.
b. Practice or rehearse demonstration in its entirety with an eye on time limitations.
c. When it is time to demonstrate, make sure that all needed materials are available.
d. Make sure seating arrangements are such that the audience can see and hear.
e. During demonstrations, make use of questions to get feedback from the learners.
f. At the end of the demonstration, conduct a brief preview of the steps involved or a short summary of what has happened.

4. The Case Study/History Method

Case studies and Case Histories are essentially the same, the only differences being that Case Histories usually refer to patients whereas Case Studies refer to situations. A Case Study is basically a description of what happened in a particular situation, for example how the funeral of a chief was organized.

The main point of providing case histories is to show how the facts or knowledge learned during the course can be applied in the difficult situation.

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Case histories and case studies are usually most successful when they are based on real cases with the teacher (or perhaps one of the students) has actually dealt with. This makes sure that the cases are realistic and that it is possible to provide additional background details.

5. The Use of Resource Persons

The teacher is duty-bound to handle all topics in the syllabus. However, some of the topics may be so technical that the teacher may not be able to handle them contently. He/she would therefore need the services of a person or an expert who is very knowledgeable in the topic to be treated or handled. Such an expert is called "Resource Person". For example, to teach a topic in management like "recruitment, law of contract and CV writing)" lawyers and human resource managers may be used as a Resource Person.

How to use a Resource Person

a. Make contact with the Resource Person several days before the lesson is to be delivered. This is to enable him/her to have adequate time to prepare and make all teaching aids available.
b. On the day that the lesson is to be delivered, the teacher should arrange to bring the Resource Person to the class.
c. The teacher should introduce the topic for discussion.
d. The teacher should introduce the Resource Person to the class.
e. The Resource Person should deliver the lesson.
f. If the Resource Person uses the local language (L1), the teacher should interpret it to English Language (L2). If he/she cannot do it himself /herself, it should be arranged for someone to interpret.
g. After the delivery, the Resource Person should allow the pupils to ask questions for him/her to answer. He/she should also allow the pupils to ask questions for him/her to answer in the course of the lesson delivery.
h. The Resource Person or the class teacher should ask pupils questions to test their understanding of the lesson.
i. The teacher should give a summary of the lesson and bring it to a close.
j. The teacher should thank the Resource Person for honouring the invitation. One of the pupils in the class should alternatively be asked to thank the resource person for honouring the invitation.

6. The Field Trip Method

Field Trips help to link the real world to the classroom. They show how studies can be applied to real life situation, and help to bridge the gap between the classroom and the community. Appropriate field trips can be planned for any subject. Science classes can conduct observations of nature and collect specimens; Social Studies classes can also change in local community investigations and interview members of the community. In a Religious and Moral Education Lesson, an arrangement could be made for students to visit a place of worship and talk to the religious leader.

Below are some guidelines for effective planning and implementation of Field Trips:

1. Before even considering the Field Trips, become unfamiliar with the legal aspects of the teacher liability involved.
2. Make sure the trips if of educational value, in that it relates directly to what is being taught in the classroom.

ALASCA-0540770189

3. Plan the field trip by visiting the site and talking to the people before actually making the decision to undertake the Field Study.
4. Obtain permission from school authorities.
5. Make all transportation arrangements.
6. Prepare the class by relating the trip to what is being studied and what they might observe.
7. Establish safety, dress and behaviour standards.

7. The Role Play/Dramatization Method

The basic idea is that a few students are asked to play the part of other people in a specified situation. For example, one student may be asked to act like a father, another to act like a mother, and two others to act like a brother and a sister. This situation could be used to teach the topic, "The Nuclear Family". In general, the teacher should define the people and the situation in some detail. The teacher should describe each of the roles and the situation to the class. The role players should then be asked to act.

Role playing is a very powerful and effective tool to be used in the classroom. Role playing is a highly motivating activity because students can learn through experience and apply their learning in a relevant, yet relaxed situation. It can help to promote student-student interaction, encourage empathy for others and develop social skills and values.

8. The Question and Answer Method

Almost any teaching model requires the use of questioning. Questions are very powerful tools for stimulating thought and checking pupils' comprehension. They can be used to encourage quiet pupils to participate in the lesson to promote interest in a topic and to spark discussion.
Pupils' responses tell the teacher much about the teaching plan in meeting the objectives. The teacher should have a repertoire of various kinds of questions which can elicit different kinds and levels of thinking.

Type of Questions

1. **Direct {or convergent}:** These are questions that ask for recall of facts and description from memory.
2. **Probing:** These are follow-up questions that seek clarification, expansion, justification, restatement or to redirect response.
3. **High Order:** They are questions that ask for analysis, evaluation, problem-solving, comparison, cause and effect or inference.
4. **Divergent:** They make students to express opinions, make judgments and offer interpretations. They are expanded questions.

9. The Brainstorming Method

Brainstorming is the terminology given to general discussion sessions during which people express ideas freely. It is a technique for generating ideas or a variety of solutions to a problem. It has a place in decision making as it helps to increase the range of factors taking into account in reaching a consensus. It is best used with groups of between 5 and 20 students. There are four distinctive stages in the brainstorming which must be followed. These stages are:

1. Defining the problem for which solution is required
2. The Brainstorming itself
3. Review

ALASCA-0540770189

4. Discussion

Stage 1:
Defining the problem for which solution is required
All members of the brainstorming group must be clear about the kind of ideas they are trying to produce.

Stage 2:
The Brainstorming itself
The teacher or the group leader (who may be a student) invites suggestions or ideas. He records these ideas on the chalkboard or on an overhead projector as quickly as possible. All ideas, no matter how silly or inappropriate they may seem, are recorded. The idea should be recorded even if they have been suggested previously. No discussions or clarification of any kind is permitted at this stage. This brainstorming continues until all their ideas are exhausted. The leader of the discussion(or the teacher) should have some ideas to suggest if the flow of ideas from members slow down. This is done to start the flow again.

Stage 3:
Review
Each of the questions is reviewed so that:

a. It is clear to everyone what the suggestion is. Sometimes only a word may be recorded to represent a complex data.
b. A decision is made to keep the suggestion on the list for future discussion, or to throw those which are not worthy of discussion away. This also enables related ideas to be put together for discussion.

Stage 4:
Discussion
The remaining ideas are discussed to decide which suggestions to accept and to develop further.

10. Games and Simulations

Games and Simulations have much in common with Role Play, in terms of increasing motivation, student participation and interaction.

A simulation is a learning activity that is designed to reflect a real situation or system.
Simplified simulations can be designed by teachers to help students understand other cultures, societies and historical periods.

Games are best suited for introducing a new unit to capture interest or as a final experience to put learning in perspective. Games should be structured to maximize participation and learning. If competition becomes too important, losers may lose interest and the learning goals may be lost or may not be achieved

ALASCA-0540770189

11. **Think-Pair-Share** (TPS)

(TPS) is a cooperative learning activity that can work in varied size classrooms and in any subject. Instructors pose a question, students first THINK to themselves prior to being instructed to discuss their response with a person sitting near them (PAIR). Finally, the groups SHARE out what they discussed with their partner to the entire class and discussion continues. Students get time to think critically, creating a learning environment that encourages high quality responses (Rowe, 1972). TPS provides an opportunity for students to work in groups toward a common goal, increasing their own and others' understanding in a safe environment to make mistakes (Johnson & Johnson, 1999).

Implementation In the Classroom

1. Describe TPS to your students, why you are doing it (how it helps learning) and acknowledge that it may be out of a student's comfort zone to participate.
2. Pose an open-ended question for students to answer (aligned with instructional goal) and ask them to think to themselves for about a minute and write down their thoughts. Alternative – have students turn in a copy of their thoughts prior to pairing.
3. Ask them to turn to the person next to them (groups of 2 or 3 only) and share their thought process/answer with each other. Alternative – have students take notes on their partner's process/answer.
4. Let students know how they should be spending the time throughout: Let them know it is time they should be switching who is talking if they haven't already, let them know when they should be finishing up their thoughts.
5. Prompt students to report out on "behalf" of their group. Summary could include differences in thought process and whether or not the group was in agreement.

Identify Factors To Consider In Selecting A Pedagogy/Method For Teaching Secondary (JHS & SHS) Level

The pedagogy/ instructional method that we choose to implement in the classroom will have an impact on the kind of relationship we establish with our students. Ultimately, it will also influence the level of engagement of the students with the material. Choosing an instructional method then requires the instructor to consider at least three main aspects:

1. The learning objectives, to make sure the method is appropriate,
2. The nature of the materials and
3. How we want students to interact with this information.
   It might be that one instructional method is not enough to meet our needs and we need to combine different formats to make sure students engage with the materials at different levels and practice skills that meet our learning objectives.

Teaching methods are an important consideration when selecting the best way to teach your students. When choosing a teaching method, it is important to consider not only the method's effectiveness, but also the needs of your students. Some factors to consider when choosing a teaching method include:

4. The student's level of understanding
5. The student's ability to retain information
6. The student's attention span
7. The student's motivation
8. The teacher's own learning style
9. How the teaching method will interfere with other parts of the curriculum.

When selecting a teaching method, it is important to first determine the level of understanding and retention required by the students in your class. Next, select a method that will be most effective for engaging and motivating your students. Finally, choose a teaching method that will not interfere with other parts of the curriculum.

ALASCA-0540770189

CHAPTER THREE

CURRICULUM/SYLLABUS– CONCEPT, NATURE AND EVALUATION

CURRICULUM

Definition of curriculum has been grouped into three

1. Narrow definitions
2. Broad definitions
3. Midway definitions

Common Features Of The Definitions Of Curriculum

Narrow Definitions

1. Limiting curriculum to academic work in the form of subjects or courses to be taught like program of studies.
2. Another weakness – narrow definition conceive curriculum as consisting of information recorded in guides and textbook and overlook some additional elements that make learning complete.
3. Furthermore such definition equate curriculum with written prescriptions of what is intended to happen in school.
4. Viewing curriculum from a limited perspective is a mistake of regarding other activities such as morning devotion, sport and club meeting as 'extra-curricular' activities.
5. The narrow definition do not cover the hidden curriculum (i.e. those of the school environment that influence the behaviour of learners but that are usually not accounted for in curriculum planning)
6. Narrow definition wrongly assume that what is studied is what is learned- which failed to account for the need to educate learner's to adapt to changing needs and circumstances (Marsh and Wills, 1995.)

To sum up- the curriculum in a narrow sense is seen as the syllabus in school comparing only the subjects taught in an educational institution.

Broad Definitions

1. Curriculum is what goes on in schools and training institutions (Mathew 1989).
2. All learning experiences that learners have in the course of living.

ALASCA-0540770189

Shortcomings

1. Failure to differentiate between educative and other kinds of experiences (non- educative and educative) that student is exposed to in school.
2. There is the tendency to bring unintended negative outcomes of schools under curriculum E.g. drug abuse, teenage pregnancy, the result of peer influence and negative aspect of school socialization
3. It negates or obscures the functions of curriculum as a devise for planning educational programmes and institution
4. Broad definition cover non educative aspects of school, nurse, watchman, accounting staff, cooks, administrative clerks, whose activities take place within the school set up but are not necessarily part of the curriculum since they do not directly contribute to learning.
5. Viewing curriculum as all life experiences of learners makes no distinction between what happens in life generally. Does not indicate that the school has any special responsibility for the curriculum.
6. Leaves unanswered questions, are planned experiences as valuable as unplanned ones? Or what are the relationship between academic experiences and life experiences?

Broad definitions are useless from planning point of view as they do not help curriculum workers to put their finger on anything concrete as far as the parameters of their work is concerned.

Midway Definition

1. All planned learning for which the school is responsible
2. All the experiences that learners have under the guidance of the school.
3. All the learning which is planned and guided by the school, whether it is carried on in groups or individually, inside and outside the school. (kerr 1968)
4. A series of planned events that are intended to have educational consequences for one or more students. (Eisner 1994)
5. (Doll, 1989) ‘ defines curriculum as the ‘ the formal and informal content and process by which learners gain knowledge and understanding, develop skills and alter attitudes, appreciations and values under the auspices of the school.
6. A program of selected contents and learning experiences offered by the school and capable of their modifying or changing learners’ behaviour.
7. The sum total of educationally valuable experiences the learners undergo , under the guidance of the school or other training institution (Adentwi 2005)

ALASCA-0540770189

Features of Midway Definition

1. Midway definitions shift the focus from course work to experiences of learners. Such experiences of learners which must have educational value can be through both mental and physical activities- academic, vocational, recreational as well as emotional.
2. Midway definition suggest that curriculum includes personal experiences and activities for which the school and training authorities will feel proud to accepts responsibilities or be associated with.
3. It therefore excludes non-educative and miseducative experiences and activities.
4. They appear or reflect the educational state of affairs accurately- the school is about the development of learners through the acquisition of desirable attitudes, feelings and sensitiveness as learners get exposed to the entire socialisation process in school.
5. Midway definition stress on the experience of learners which qualify for inclusion in a proper concept of curriculum usually planned and guided by the school authorities, i.e. School and training institutions deliberately plan certain activities or experiences to result in some learning or positive change in the behaviours of the learner.

Criticisms Of Midway Definition

1. Taba et al 1962, criticise it as far too broad to be functional in the planning stage, as the experiences that learners will actually have as they interact with the curriculum cannot be circumscribed. However, it can be argued that at the evaluation stage of the curriculum development process, it is difficult to refute the validity of the midway definition.
2. Mathew (1989) observed that ' A curriculum is more than just a short form of words, it is an activity in which people engage on a complex observable phenomenon with many dimensions and those dimension cannot be adequately described in a single sentence .
3. Because of it complex nature, a single sentence definition of the term often stands a very high risk of failure to include some of its essential features as a theoretical and practical phenomenon.
4. It is helpful to try to describe some recognizable features of curriculum in addition to attempting to define it.
5. The curriculum comprises of the educational experiences of schools in the widest sense. The teaching and learning activities characterize the concept of curriculum- the school and training institutions are organisations purposely set up with the aim of helping learners acquire and apply socially valued knowledge, skills and attitudes sensibly. School learning activities are categorised into three (3) types;
   a. Academic work
   b. Co-curricular
   c. Positive aspect of the hidden curriculum

ALASCA-0540770189

Some dictionary definitions refer to curriculum as:

1. The whole body of courses offered in an educational institution or by a department.
2. A course or a complete set of courses of a fixed series of prescribed at a school or college.
3. Curriculum is the outline of concepts to be taught to students to help them meet the content standards.
4. Curriculum is what is taught in a given course or subject.
5. Curriculum refers to an interactive system of instruction and learning with specific goals, contents, strategies, measurement, and resources.

Here Are Multiple Definitions Of Curriculum From Curriculum Scholars

Ralph Tyler (1949) "All the learning of students which is planned by and directed by the school to attain its educational goals"

Taba (1962) "a plan for learning"

D. K. Wheeler (1978) "the planned experiences offered to the learner under the guidance of the school"

Kerr (1968) "all the learning, which is planned and guided by school whether it is carried on in groups or individually"

E. Eisner (1985) "a course, or a classroom can be conceived of as a series of planned events that are intended to have educational consequences for one or more students."

G. Saylor (1981) "a plan for providing sets of learning opportunities for persons to be educated."

Oluoch (1982) "all that is planned to enable the students acquire and develop the desired knowledge, skills and attitudes"

M. Skilbeck (1984): the learning experiences of students, in so far as they are expressed or anticipated in goals and objectives, plans and designs for learning and the implementation of these plans and designs in school environments"

A. Glatthorn (1987) plans made for guiding learning in schools usually represented in retrievable documents of several levels of generality and the actualization of those plans in the classroom as experienced by the learners and as recorded by an observer; those experiences take place in a learning environment which also influence what is learned."

J. Wiles & J. Bondi (1989): a goal or set of values, which are activated through a development process culminating in classroom experiences for student.

M. Print (1993): all the planned learning opportunities offered to learners by the educational institution and the experiences learners encounter when the curriculum in implemented.

ALASCA-0540770189

Types And Characteristics Of Curriculum

Types Of Curriculum

1. **Overt, explicit, or written curriculum:** It is simply that which is written as part of formal instruction of schooling experiences. It may refer to a curriculum document, texts, films, and supportive teaching materials that are overtly chosen to support the intentional instructional agenda of a school. Thus, the overt curriculum is usually confined to those written understandings and directions formally designated and reviewed by administrators, curriculum directors and teachers, often collectively. It appears in state and local documents like state standards, district curriculum guides, course of study, scope and sequence charts and teachers' planning documents given to schools.

2. **Hidden, unwritten, unofficial or unintended Curriculum**: Hidden curriculum refers to the unwritten, unofficial, and often unintended lessons, values, and perspectives that students learn in school. While the "formal" curriculum consists of the courses, lessons, and learning activities students participate in, as well as the knowledge and skills educators intentionally teach to students, the hidden curriculum consists of the unspoken or implicit academic, social, and cultural messages that are communicated to students while they are in school.

   It is an unintended curriculum which is not planned but may modify behavior or influence learning outcomes that transpire in school. The hidden curriculum begins early in a child's education. Students learn to form opinions and ideas about their environment and their classmates. For example, children learn 'appropriate' ways to act at school, meaning what's going to make them popular with teachers and students.

   Positive And Negative Sides Of Hidden Curriculum

   Positive effects like students learning how to co-operate with others, how to persevere in the face of difficulties or initial setbacks, respect for established authority etc.

   Conversely, indulging in negative practices like smoking, drug abuse, pre-marital sex under pressure, dislike of some subjects etc. Because learners learn more than their teachers can imagine through the hidden curriculum, teachers should ensure that what the hidden curriculum imparts will be positive, though it is difficult to directly control what students learn through the hidden curriculum.

3. **Null Curriculum:** That which we do not teach, thus giving students the message that these elements are not important in their educational experiences or in our society. The null curriculum is simply that which is not taught in schools.

   Since it is physically impossible to teach everything in schools, many topics and subject areas must be intentionally excluded from the written curriculum. Null curriculum refers to what is not taught but actually should be taught in school according to the needs of society. For example, environmental

ALASCA-0540770189

education, gender or sex education, life education, career planning education, local culture and history education courses are still empty in some schools.

Causes of Null Curriculum:

Probably what the school teach were not selected on the basis of any careful analysis. Some things have been traditional items on the syllabus or course outlines without much thought about their deficiencies or changing circumstances. Null curriculum could be attributed to poor curriculum planning and poor quality teaching.

Solution

There is the need for curriculum designers to exercise imagination and thoroughness. Teachers should clarify what to teach, why it must be taught and how.

4. **The Official Curriculum**

   It is also referred to as the prescribed, recommended, explicit, intended, planned or adopted. It is the officially prescribed program of studies and other aspects of school life usually documented.

   Hawes (1979) said the official curriculum usually takes the form of national or public statement of goals (intents) of education, the legal and administrative framework of the school systems, official calendar and time allocations, the syllabus and related descriptions of prescribed content, official list of recommended books and style of final and or intermediate examinations.

5. **Formal Curriculum:** It also refers to all activities for which the school time table allocates specific periods and teaching time- programs of work to be covered during normal school hours.

6. **Informal curriculum or co-curriculum**: This refers to activities that are carried out, sometimes on voluntary basis, usually after normal school hours. Some examples include sports, associations/club/society meetings, cultural activities etc.

   These activities are term extra –curricular if they are perceived additions to normal academic course work. They are termed co- curricular when they are thought of as having important contributions to learners' total personality. There is the argument/viewpoint that the informal curriculum should be regarded as collateral learning (Tanner and Tanner, 1980) in the sense that the values, attitudes, appreciations and sensitivities acquired through the informal curriculum are much more internalized and applied by students for a long time after school e.g. leadership skills e.tc.

7. **The actual curriculum**: also called **operational or tactical curriculum**. This describes what usually takes place (in class) by way of teaching and learning. It is the result of the problems associated with the implementation of the official curriculum. The actual curriculum can also be explained as the unique set of events that transpire within a classroom i.e. what occurs between teachers and learners and between students and students considering the materials, content and activities which students are

ALASCA-0540770189

engaged in. The actual curriculum therefore describes the practical or real learning in the school which is produced out of the official curriculum mediated by the particular environment of a school or specific classroom.

Factors That Produce The Actual Curriculum

a. Learner's background experiences
b. Teachers level of training and expertise
c. Availability of teaching and learning resources
d. Quality leadership and supervision provided in the school
e. Variations in condition between and within individual schools critically affect learning experiences.
f. Also plans and purposes of schools and teachers may differ from those of ministries. e.g. The beginning of schools terms (private versus public schools); unexpected holiday and festivals, absence of teachers (sick leave, maternity leave etc)
g. Use of English versus local dialect as a medium of instructions
h. Emphasis on certain courses/subjects instead of an all round education
i. The examination system dictates what should be learned to the neglect of other activities considering academic progression and career and the job market.

Solution For Bridging The Gap Between Official And Actual Curriculum

1. Teachers should be asked to do manageable work according to their intellectual capabilities and be provided with adequate support materials.
2. Teachers should be supported to develop genuine interest and enthusiasm in the subjects they teach.

Benefits

Within the gap between the official and actual curriculum teachers can exercise innovativeness and initiatives to enrich the curriculum- instruction process. Thus teachers can alter the official curriculum in accordance with their own beliefs and philosophies.

8. **Experienced Curriculum:** The curriculum as experienced by the learners often turns out to be different from the curriculum as planned and enacted i.e individual learners tend to interpret and derive different meaning and significance from what they are taught. This comes about as a result of individual differences among learners as they interact with the curriculum- individual differences due to factors such as the intellectual orientation of students, their training and other background factors etc.

Learners may interpret new things they are introduced to against the background of similar content/subject matter or skill which they are familiar with. These lead to different performances based on particular interpretations and expressions of what is taught.

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9. **Core Curriculum**: Core is the minimum learning experiences that an individual needs for leading a satisfactory life in the society. It prepares him/her for living and not for making a living. It includes subject matter which may help him/her to find solutions to problems that may have to be faced by him/her as an adult. During the initial stages, the core learning experiences in the curriculum are emphasized and as the child reach higher stages, the importance of the core curriculum decreases. The core curriculum tries to meet needs of every school child and helps to move towards advanced studies if s/he wants to continue education beyond this stage.

Advantages Of Core Curriculum

a. It provides a means for society to initiate its young ones into the culture by equipping them with the basic knowledge, skills, values and attitudes for effective participation in the culture.
b. It makes room for the development of special attitudes and talents
c. It ensures that those students who are not very much endowed to pursue pure academic studies at higher levels of education do not end up as frustrated drop outs of the school system.
d. In cases where common core courses are organized around real life problems, it makes it possible to discuss real life issues in the classroom. This equips learners to handle everyday life problems with a high level of intelligence.

Disadvantages Of Common Core Curriculum

a. In situations where there are too many core subjects, which are loaded heavily with topics, learners have very little time to devote more attention to their optional courses for a detailed study
b. Sometimes, students may neglect the study of the core subjects as much as they should because of the belief that core courses are less important relative to their elective courses
c. In cases where core subjects are built around real life problems, there is the tendency for the curriculum to be offered in an integrated way.

10. **Extra Curriculum**: The school project programs. An activity at a school or college pursued in addition to the normal course of study.

The Components Of A Curriculum

Curriculum is intimately related with all aspects of education. Curriculum is the plan for guiding the educational process. Four important components of this plan are:

1. the objectives
2. the content or learning materials
3. teaching learning strategies and activities (transaction)
4. Evaluation.

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Stages Of Curriculum Development

Marsh and wills (1995) define curriculum development as a'' collective and intentional process or activity directed at beneficial curriculum change''.

This is concerned with production and testing of new teaching and learning experiences or materials and, or the new generation of new modes of classroom organisation and teaching.

It involves the formulation of curriculum aims, goals and objectives, selecting appropriate learning experiences and content, organising and integrating the various elements/components for effective implementation.

It also involves monitoring and evaluating the entire curriculum process for successful teaching and learning.

The Curriculum Development Process

There are various approaches and various stages to the description of the curriculum development process. For the purpose of out discussion, we shall consider six stages in the curriculum development process. These stages include:

1. Situation analysis
2. Selections of aims, goals and objectives
3. Selections of learning experiences
4. Selections of content
5. Integration of learning experiences and content
6. Evaluation.

1. Situational Analysis

The first factor to consider in the curriculum development process is situational analysis. According to Salia-Bao (1987, p.88) "for any curriculum to be functional, it must be rooted in the culture and needs of the people concerned". This is because education does not occur in a vacuum, but among people with different backgrounds.

"Curriculum design", in the opinion of Bishop (1985), "should begin, not with an abstract list of objectives, but with a realistic appraisal and analysis of the situation as it exists" (p.132). Situational analysis or needs assessment (as it is called in other books) has been defined as "a critical study or examination of the society for which an educational proposal is being designed in order to identify the problems, needs and aspirations, resources available, and feasible solutions" (Adentwi, 2005, p.133). It is the process by which educational needs are defined and priorities set for further curriculum work.

McNeil (1996) has defined need in curriculum as "a condition in which a discrepancy exists between an acceptable state of a learner achievement or attitude and an observed learner state" (p.122). By

ALASCA-0540770189

identifying those needs not being met by the curriculum, the curriculum worker is provided with the "basis for revising the curriculum in such a way as to fulfil as many unmet needs as possible". Situation analysis is not a single one-time operation but a continuing and periodic activity (Oliva, 1992). This stems from the fact that curriculum planning is a process and situational analysis serves as a form of diagnostic evaluative procedure for improving educational practice.

2. Determination and Formulation of Aims, Goals and Objectives

Curricular purposes or ends of education may be specified at different levels depending on the level of curriculum planning. Aims are the very broad or general statements of intent which are supposed to give direction to education in an entire country. Goals may refer to institutional level or general intents of a particular level of education, while objectives may be used to describe the ends of an instructional unit. The difference among the three terms is dependent on the level of specificity of educational purposes. Wheeler classified them into ultimate, mediate and proximate goals.

3. Selection of Learning Experience

According to Tyler, the learning experience is the interaction between the learner and the external conditions in the environment to which he/she can react. The external conditions here refer to anything that has the capacity to result in learning on the part of the learner. It include the teacher, classmates, textbook, teaching-learning materials, a physical environment, the psychological environment, and the social milieu. The learning experience is usually an activity that the learner undertakes, mostly, overtly. It also mostly undertaken by the learner, though it is may be carried out together with the learner. It is also important to note that learning experiences are goal directed (i.e. it is take in order to realize certain objectives)

4. Selection of Content

Content refers to the subject matter that learners should learn. Selecting content involves deciding what knowledge; concepts, principles, generalization, theories, techniques and procedures in a particular subject shall be used. In countries where there are well-established systems of external examinations, the selection of content by examination bodies outside the school determines what the learner does in school. The process of selection is guided almost invariably by importance, difficulty, and relevance with the organization or the field of study.

5. Organization Of Content And Learning Experiences

Organization of content and learning experiences plays a critical role in the curriculum development process. The purpose of organizing learning experiences and content is to maximize their cumulative effect in helping the student attain the curriculum objectives. If each lesson or unit of instruction has little relation to those that went before or those that follow, what is learned is relatively superficial. Furthermore, the student needs to perceive the relation of what he or she is learning in one subject to his or her leaning in other subjects and to the situation outside the classroom, so that he or she can draw

ALASCA-0540770189

upon learning in the various subjects wherever they are appropriate rather than being restricted to narrow compartmentalization of his or her knowledge, skills and dispositions.

6. Evaluation

Educational authorities and the public become keenly interested in finding out the extent to which school programs, processes and products are yielding the desired result- whether new instructional materials, process and methods are yielding positive results. Previously, informal methods were used by; local school authorities, publishers, universities, examining bodies to judge the effectiveness of the success of implementation of curriculum innovation. 'The process of evaluation is essentially the process of determining to what extent educational objectives are actually being realised by programs of curriculum and instruction'

Levels Of Curriculum Development

Marsh and Willis (1995) identified 5 levels of curriculum development in the USA. Oliva (1992) added. International(Oliva)

1. National
2. State
3. School district
4. School
5. Classroom

International Level

- Curriculum development is indirect
- Curriculum and instructional purposes across nations are diverse
- UNESCO affords opportunities for curriculum study and research
- UNESCO provides funds for study of particular educational problems- to enhance quality education globally.
- Commonwealth assists member states though scholarships for further studies abroad.
- World council for curriculum and instruction (WCCI), American curriculum workers involvement in international projects.

National Level

Curriculum development undertaken by legally constituted agency of central government. Plan guidelines and frameworks also produce curriculum packages. Examples; prescribed textbooks, time table etc

- CRDD- Co-opts representatives of subject Associations, GNAT, and other agencies.
- Committees of eminent scholars appointed from time to time to investigate specific matters

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State Level

Canada, Nigeria and USA are perfect examples. Ghana is a unitary state. There is very little curriculum development activity at state level in Ghana.

- Regional branches of subject Associations review concerns on syllabus and make suggestions at district/ regional levels.
- Collated and forwarded to national subject Associations for onward transmission to CRDD.

School District Level

England and Wales- Authority to make educational decisions legally vested in local educational Authorities (LEAs). Equivalent in Ghana is District Education office

- Delegated authority to school heads to exercise actual curriculum decision.
- Every school encouraged to developments its own philosophy of education.
- This ensures that the school curriculum reflects local concerns and makes for community involvement.
- In Ghana District curriculum development activity is in the form of in-service education training (INSET) programs organized to brief teachers about changes in curriculum and how best to handle such changes in the classroom.
- District branches of subject Associations discuss content, methodology and teaching materials and share ideas on teaching of specific topics.

School Level

Example; USA

- School boards
- Local boards- insist on teaching about earthquake and risk management
- Parents have a say in what is taught
- Teachers contribute significantly

In Ghana, school head ensures that lesson plans written by teachers are vetted and teachers properly supervised. (Oliva 1992) points out that in the USA the individual school is the focus for curriculum change. In Ghana, however individual schools rely heavily on centrally produced materials for instructional purposes.

ALASCA-0540770189

CHAPTER FOUR

SCHEME OF WORK/LEARNING SCHEME

A scheme of work is the plan of what is taught during every lesson throughout the academic year. It is the breakdown of the various topics into weeks for teaching purpose. The scheme of work allows the teacher to take one topic or theme within a week. It is usually meant to cover a term. It helps the teacher to know what to teach in a particular week for the whole term. It also allows the teacher to have a systematic presentation of his lesson and also makes room for the logical arrangement of topics or themes in a class.

A good scheme of work enables the teacher to arrange topics from the less difficult topics to the more difficult ones. In other words, it allows the teacher to teach from the simple to complex. The scheme of work also allows the teacher to plan exactly what to teach within a week. It is a vital and useful document which a teacher will need to produce. That is, without a scheme of work to guide the teacher, the likelihood that the instruction will be haphazard is very high.

Components Of A Scheme Of Work

The scheme of work generally includes:

1. Aims
2. Topic/ Title session
3. Objectives/learning outcomes of the session (What you want the students to have learned by the end of each session)
4. Subject content
5. Teaching strategies (how you will deliver the learning outcomes)
6. Student activities (how you will involve the students in actively learning)
7. Assessment methods (how will you check to see if the intended learning outcomes have been met)
8. Evaluation (the kind of data you decide upon and how you intend to gather this to check that learning opportunities have been successful)
9. Resource requirements (test books online resources, teaching materials and ICT)
10. Learning support requirements (how you plan to meet any diverse learning needs)

Factors To Consider When Designing The Learning Scheme

1. Check if your place of work has a pro forma. They may have a special way they like the schemes of work to be laid out, and/or have a template available. This will make your life and your work easier.
2. Check other people's schemes of work. Ideally, look at a scheme of work left by your predecessor, but if one is not available, look at a colleague's scheme of work.

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3. If creating a scheme of work from scratch, then create a Word document and put a table in it, or create an Excel document. Give yourself 5 columns: Date, Lesson content, Key Skills (if it's embedded), Resources, and Assessment.
4. Begin by breaking down the year into chunks. How many modules do you need to teach? Three modules break down nicely into one module per term. Allow yourself a couple of weeks at the end for revision and assessment – or games. Allow a week at the start for introductory stuff.
5. Decide how long you'll need for each of these chunks. If the above module is lasting one term, then you'd have about 2-3 weeks per chunk.
6. Now within each chunk, decide what lessons you could do. Try to offer a variety of practical, theoretical, group work, single work, and teacher-led work.
7. Do this for every chunk, and for every module, and fill in the bare bones into the 'Lesson development' column on your document.
8. Now think about what resources you will need. Resource persons? Textbooks? Large paper and felt tips? Computers? Write these in the Resources column.
9. Do not forget that you are trying to promote equality and diversity through your teaching, and include how you will do that across the session on your course (e.g. cross-cultural case studies; balanced examples from various cultures, including disabled people and a balance of genders).
10. The assessment column can be filled with how you will know, after each lesson that the information has sunk in. This may be through question and answer, written tests, by reading their posters, or by listening into their conversations.

ALASCA-0540770189

CHAPTER FIVE

LESSON PLAN

A lesson plan is a teacher's guide for facilitating a lesson. It typically includes the goal (what students need to learn), how the goal will be achieved (the method of delivery and procedure) and a way to measure how well the goal was reached (usually via homework assignments or testing). This plan is a teacher's objectives for what students should accomplish and how they will learn the material. Here, a teacher must plan what they want to teach students, why a topic is being covered and decide how to deliver a lecture. Learning objectives, learning activities and assessments are all included in a lesson plan. No two lesson plans are the same.

Importance Of Designing A Lesson Plan

1. It serves as a point of reference for the teacher and other educational authorities.
2. It serves as an evident of a teacher preparation to teach.
3. It enables other teacher other than the subject teacher to use it to teach in the event of the absence or sicknesss of the regular subject teacher.
4. It enables the teacher to have a systematic presentation of a lesson. That is, it indicates the previous knowledge and the average age of the student and enables the teacher to plan accordingly to reflect the mental abilities of the student.
5. It gives a change to heads of schools to see what teachers under them intend to teach and offer the necessary advice.
6. It ensures the inclusion of important facts or points as well as interesting details or illustration materials the teacher would use.

Major Components Of A Lesson Plan

The following guide covers most of the different sections you may want to include on your lesson plans.

a. Basic Information

At the top of any lesson plan should be an overview of the lesson as well as any basic logistical information or requirements related to it. This section should include the following:

1. Unit Name: The name of the unit the lesson is a part of.
2. Lesson Title: The title of this specific lesson.
3. Grade Level or Class: The grade level for which the lesson is designed.
4. Subject Area: The subject matter the lesson covers.
5. Lesson Description: The lesson description should be a brief overview of what the lesson is about including the topic focus, activities and purpose. However, you can also use this section to provide thoughts, experiences and suggestions for other teachers or future use.
6. Required Resources/ Teaching Learning Resources: Listing what materials you or your students will need for the lesson will help you when preparing the lesson. Ask yourself, "What materials,

ALASCA-0540770189

resources and technology do I need for the lesson?" This includes textbooks, handouts, calculators, computers, printers, Internet connection, etc.

7. Time Estimates/Time Allotted: How many class meetings or hours do you think will be needed to complete this lesson?

b. Prerequisites Skills, Previous Knowledge/Entry Behaviours

The prerequisite skills or "present level of performance" section is where you list the skills the students must have in order to succeed with the lesson. This should include any technological skills they will need. You should also list what concepts the students should have mastered before beginning this lesson. For example, a student should learn the definition of motivation before learning Maslow's hierarchy of needs.

c. Objectives, Goals and Standards

Objectives, or goals, are arguably the most important part of any lesson plan. *The objectives* will help determine the aim and rationale for what your students are doing in class that day. Typically, these will be guided by the nation's curriculum standards. Your objectives should be broken down into two major types: long-range objective will give the overall goal of the lesson plan. Here are some guidelines for writing good objectives:

1. Objectives should contain the type of activity or skills, the criteria or standards by which competence will be assessed, conditions required to meet the objective and the competence level students will reach.
2. Objectives should be measurable, specific and observable.
3. Ask yourself of following questions when writing your objectives:

- What is the overall purpose of the unit plan or curriculum goal?
- What should the students be able to do by the end of the unit?
- What should the students be able to do by the end of the lesson?
- To what degree should the students be able to do the task successfully?
- How will you know or be able to prove that the students have achieved the objective?

d. Lesson Procedure

The major part of the lesson can be broken down into three major parts:

1. introduction or anticipatory set,
2. instruction or presentation and
3. conclusion or closure.

Introduction Or Anticipatory Set

The introduction, or anticipatory set, can make or break your lesson. It is the moment where you capture the students' attention and motivate them. However, you don't need to be a comedian with a great script to provide your students with terrific anticipatory sets. Instead, simply do the following:

- Use an attention-getting story or action to help focus the students' attention.
- Review what has already been learned to provide scope and structure while connecting previous lessons together.
- Inform students of the objective or objectives of the lesson.

ALASCA-0540770189

- Explain what is expected of the students.
- Give students any back ground information they might need to know about a topic.

Instruction Or Presentation
Your instructional procedure and methods should be a detailed, step-by-step description of everything that you will do during the lesson. Much of how you write this section will depend on the type of instruction that you plan on using.

Types of Instruction
When most people think of instruction, they think "lecture". In a good lesson plan, this will not always be the case. Here are a few of the different instructional methods you can use:

1. **Direct Instruction**: Direct instruction is a term used for the majority of teacher- centered instructional approaches. It is good for teaching basic facts and skills. Almost all methods of direct instruction include four steps: introduction and review, presentation of new information, guided practice and independent practice. Examples of direct instruction include:
- **Lecture:** Although it is frequently criticized, lecture is still the most common method of teaching.
- **Demonstration:** Demonstrations are used most commonly to teach science, computer skills a similar procedures.
- **Lecture-Discussions:** Lecture-discussions start with a lecture followed by discussion about the topic by the teacher and the students.

2. **Case Studies:** Case studies are not appropriate for elementary students, but it is great way to help older students develop analytic and problem-solving skills. It involves having students work together in groups to analyze or solve a case presented to them.

3. **Cooperative Learning:** Cooperative learning not only helps students learn an academic skills, but promotes social skills. The trick is to make sure that each students in the group actively participates as a member of his or her group.

4. **Discussion:** Discussions are excellent for use after a lecture or video, but can be difficult to manage with larger groups.

5. **Discovery Learning:** Discovery learning requires students to use prior knowledge and experiences to discover new information. It requires the students to have some prior knowledge and needs to be well structured.

6. **Inquiry Learning:** Inquiry learning requires the students to solve a problem that the teacher has given them. One of the most commonly used examples of inquiry learning is WebQuests. Inquiry learning requires a high amount of participation by the students.

7. **Jigsaw:** Jigsaw is a cooperative learning strategy in which each student is a member of two groups: a home group and a learning group. Students meet with their learning group to master a skill or idea. They then report back to their home group where they teach the other members of their group about what they learned.

ALASCA-0540770189

8. **K-W-L: K-W-L:** stands for a three column chart labeled know, Want to Know and Learned. The students fill out the first column before the lesson begins. Then, they fill in the middle column with things that they would like to learn during the lesson. Once the lesson is over, they fill out the final column with what they learned. This chart can be done individually or by the class as a whole.

9. **Learning Centres:** Learning centres involve self-contained areas where students work alone or in groups to complete a task.

10. **Scaffolding:** Scaffolding is when a teacher begins the lesson by modeling the skill and then slowly withdraw his or her assistance allowing the students to take responsibility for their own learning.

e. Conclusion or Closure

The closure, or conclusion, is the summary of the lesson. It is when you should review key points and summarize the main ideas. This is also a time when you can preview future lessons and allow students to show off their work.

f. Assessment and Evaluation

Students love to ask, and teachers hate to hear, the question. "Will there be a test on this?" Testing is not the only method of evaluating if a student has mastered a skill. Sometimes assessment comes by evaluating the independent work that they did. Whatever method for assessment you use, make sure that it aligns with your objectives and instructional method. You will also need to state what is needed for you to determine if the student has mastered the lesson's objectives.

Main Parts Of The Lesson Plan

School
Class/form
Subject
Time
Duration
Average age
Topic
Sub Topic
Reference:
Introduction
Lesson development
Closure
Evaluation
Assignments (if any)
Pre-lesson Preparation
Remarks

ALASCA-0540770189

CHAPTER SIX
CORE AND TRANSFERABLE SKILLS (21ST CENTURY SKILLS)

The 21st-century skills classroom recognizes that tomorrow's jobs don't exist yet — and that the way to prepare students for the "real world" is changing.

Today's world requires a multi-dimensional approach to the learning experience. A 21st-century skills-based curriculum pivots away from content acquisition and rote memorization to focus on the skills and abilities that will best serve our generation of young minds. Student engagement and hands-on, interdisciplinary learning are championed over conferring information.

Here are the top 10 skills students will master in a 21st-century classroom to pave the way toward academic excellence, a sense of wonder, and a joyful, successful future.

1. **Collaborative Problem Solving**

Students learn through solving problems. A great way to learn is by effectively working as a team to solve problems as a cohesive, collaborative unit. Working together toward a common goal is a hallmark of human society. One Stanford study found that participants primed to work collaboratively kept working on a task 64% longer than those working alone. A 21st-century curriculum emphasizes team-based projects in which groups draw on each individual's strengths to solve problems. This model exposes students to new ideas and opposing viewpoints, while demonstrating the power of the collective mind.

2. **Creativity**

A 21st-century education affords students opportunities to flex their creative muscles beyond the traditionally creative classes. Whether they work to find a new solution to an old problem or find a different way to explain an everyday occurrence, students are constantly finding their own approaches to problems and projects.
Whatever the next chapter in life brings, creativity is an essential tool to get young minds thinking across disciplines and beyond what's been done before. In fact, one study found that 78% of college-educated professionals say creativity is very important to their career.

3. **Hands-On Learning**

Students in a 21st-century skills classroom are not afraid to get their hands dirty. They thrive on translating textbook material into real-life scenarios in which teachers encourage creativity, experimentation, and trial-and-error. A 21st-century curriculum takes hands-on learning beyond the art studio and science lab.
In the middle school English class, students create sock puppets and put on a performance of the short story, Tobermory. A European History class decorates T-shirts to illustrate the narrative of the French

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Revolution. Hands-on learning brings coursework into the here and now through active, project-based activities.

4. **Cultural Competency**

In our diverse, ever-changing world, it's essential that the 21st-century classroom emphasize cultural competency skills, beyond an appreciation for other cultures. The U.S. Census projects that by 2044, the minority population will increase to more than 50%, and the U.S. population will become majority-minority. In a 21st-century skills classroom, all individuals have the opportunity to interact with students from other backgrounds and participate in culturally immersive experiences. These skills will be critical as students fuel future growth on a global scale.

5. **Effective Written and Oral Communication**

Students learn to listen actively, organize and articulate a discussion, present information, and argue points respectfully. Communication skills are not seen as a "given." Effective communication, when speaking and writing, is encouraged and cultivated through activities that challenge students to think beyond their knee-jerk reactions or preconceptions about a topic or problem. Expressing ideas clearly and effectively is essential for success, as one study that shows over 73% of employers look for candidates with strong communication skills.

6. **Ethical Decision Making**

A 21st-century curriculum teaches students how to navigate their own decision-making process by considering ethical factors, such as respect, fairness, equality, and kindness. Students explore how seemingly small decisions they make each day have far-reaching effects on others. Character building is a cornerstone of the 21st-century skills classroom.

7. **Information and Media Literacy**

Our world is saturated with information. In a 21st-century classroom, students learn how to interpret facts and figures and question the credibility of information published online. A Stanford Graduate School of Education study found that the majority of students in middle school, high school, and college struggle to think critically about online media, including what constitutes fake news. Media and information literacy skills are interdisciplinary in nature and essential for students to learn across all subjects.

8. **Leadership**

Today's world needs strong leaders. A 21st-century skills classroom focuses on developing leadership skills related to listening, building consensus, organizing, and motivating a group to action. Students learn what it means to have a responsibility for something beyond themselves. Considering that 47% of managers stepped into their positions without any training, developing leadership skills will pay off significantly as students enter college and the wider world.

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9. **Critical Thinking**

The 21st-century skills classroom focuses on asking questions to encourage critical thinking, inquiry, and reasoning. In all courses, students evaluate, synthesize, and translate ideas to solve problems and complete projects. Teachers also encourage students to hone their reasoning and inquiry skills. Well-developed thoughts and approaching problems from multiple angles is expected. Students question and analyze information — an increasingly crucial skill — rather than simply memorizing facts and figures.

10. **Personal Responsibility and Initiative**

Students in a 21st-century classroom are challenged to take ownership of their learning and dive headfirst into projects on their own. Staying flexible in the face of ever-changing circumstances is a critical skill for success. When an assignment or activity does not go as planned, students are encouraged to demonstrate humility and react to obstacles in a positive, productive way. In our fast-paced society, the ability to adapt to change will always be in high demand.

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CHAPTER SEVEN

CLASSROOM MANAGEMENT

Techniques And Strategies For Classroom Management

1. Model ideal behavior

Make a habit of demonstrating behavior you want to see, as many studies show that modelling effectively teaches students how to act in different situations.

A straightforward way to model certain behaviors is holding a mock conversation with an administrator, other teacher or student helper in front of the class. Talking about a test or other relatable topic, be sure to:

- Use polite language
- Maintain eye contact
- Keep phones in your pockets
- Let one another speak uninterrupted
- Raise concerns about one another's statements in a respectful manner
- After, start a class discussion to list and expand upon the ideal behaviors you exemplified.

2. Let students help establish guidelines

Encourage all students to help you build classroom expectations and rules, as you'll generate more than just telling them what they're not allowed to do. This is especially essential for new teachers. Near the start of the school year or during the first day of a semester, start a discussion by asking students what they believe should and shouldn't fly in terms of appropriate behavior.

3. Document rules

Similar to handing out a syllabus, print and distribute the list of rules that the class discussion generated. Then, go through the list with your students. Doing this emphasizes the fact that you respect their ideas and intend to adhere to them. And when a student breaks a rule, it'll be easy for you to point to this document.

4. Avoid punishing the class

Address isolated discipline problems individually instead of punishing an entire class, as the latter can hurt your relationships with students who are on-task and thereby jeopardize other classroom management efforts. Instead, call out specific students in a friendly manner. For example:

"Do you have a question?", not "Stop talking and disrupting other students"

"Do you need help focusing?", not "Pay attention and stop fooling around while I'm talking"

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This basic approach will allow you to keep a friendly disposition, while immediately acknowledging inappropriate behavior.

5. **Encourage initiative**

Promote growth mindset, and inject variety into your lessons, by allowing students to work ahead and deliver short presentations to share take-away points. Almost inevitably, you'll have some eager learners in your classroom. You can simply ask them if they'd like to get ahead from time-to-time.

For example, if you're reading a specific chapter in a textbook, propose that they read the following one too. When they deliver their subsequent presentations to preview the next chapter on your behalf, you may find that other students want a bit more work as well.

6. **Offer praise**

Praise students for jobs well done, as doing so improves academic and behavioral performance, according to a recent research review and study.

When it is sincere and references specific examples of effort or accomplishment, praise can:

- Inspire the class
- Improve a student's self-esteem
- Reinforce rules and values you want to see

Perhaps more importantly, it encourages students to repeat positive behavior. Let's say a student exemplifies advanced problem-solving skills when tackling a math word problem. Praising his or her use of specific tactics should go a long way in ensuring he or she continues to use these tactics. Not to mention, you'll motivate other students to do the same.

7. **Use non-verbal communication**

Complement words with actions and visual aids to improve content delivery, helping students focus and process lessons. Many differentiated instruction strategies and techniques are rooted in these communication methods.

8. **Hold parties**

Throw an occasional classroom party to acknowledge students' hard work, motivating them to keep it up. Even if it's just for 20 or 30 minutes, they should be happy with snacks and a selection of group games to play. Clarify that you're holding the party to reward them and they can earn future parties by demonstrating ideal behavior, collectively scoring high on assessments and more.

9. **Give tangible rewards**

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Reward specific students at the end of each lesson, in front of the class, as another motivational and behavior reinforcement technique.

Let's say a few students are actively listening throughout the entire lesson, answering questions and asking their own. Before the class ends, walk over to their desks to give them raffle tickets. So others can learn, state aloud what each student did to earn the tickets. On Friday, they can submit their tickets for a shot at a prize that changes each week -- from candy to being able to choose a game for the next class party.

10. Build excitement for content and lesson plans

This one works well no matter the grade level: elementary school, middle school or high school. Start lessons by previewing particularly-exciting parts, hooking student interest from the get-go. As the bell rings and students settle, go through an agenda of the day's highlights for the whole class. These could include group tasks, engaging bits of content and anything else to pique curiosity.

11. Address inappropriate or off-task behavior quickly

Avoid hesitation when you must address inappropriate or off-task behavior, especially when a student breaks a documented rule.

Acting sooner than later will help ensure that negative feelings- whether between students or you and a student - won't fester. Failure to act can result in more poor behavior, leading to needlessly difficult conversations.

But keep in mind: It's usually best to talk to the student in private. Research shows that punishing students in front of peers has "limited value."

Ways Of Arranging The Classroom For Effective Lesson Delivery

Class arrangement refers to a layout of the physical setup of chairs, tables, materials in a school classroom. Deciding upon a classroom arrangement is typically done at the beginning of a school year as a part of classroom management. The decision to change the classroom environment is thought to affect the student engagement, focus and participation.

Classroom arrangements can follow different patterns such as:

1. Traditional (students facing the instructor)
2. Stadium Seating (or Angled Rows with Desks Touching)
3. Modified U (or Horseshoe)
4. Groups (or Pods, Teams)
5. Combination (desks in various positions)
6. Roundtable (students and instructors facing the center)

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CHAPTER EIGHT

QUESTIONING

Purposes

Questions serve these purposes:

1. To stimulate thinking
2. To involve students
3. To check understanding
4. To review and to drill

Types Of Questions Used In Teaching

Questions can be categorized by:

1. INSTRUCTIONAL PURPOSE

   a. ***Motivate, focus, and refocus:*** questions which are designed to focus student attention on the task at hand. They appear most frequently at the start of the lesson, at transition points, and whenever the students need to be brought back on task.
   b. ***Retrieve information***: questions which require students to recall necessary information from memory or find it in the text.
   c. ***Clarify***: questions which ask a student to make his own or class mate's ideas more clear, perhaps by providing an example to illustrate.
   d. ***Extend***: questions which ask the students to think beyond the initial response or to consider previously unthought-of aspects of a situation.
   e. ***Generalize***: questions which ask students to make acceptable generalization from specific experience or examples, and to find a common principle or theme.
   f. ***Summarize***: questions which ask students to draw ideas or lesson content together into a neat package, getting the key points rather than reiterating everything that has preceded.
   g. ***Diagnostic***: questions used by the teacher to help find out what the students know or have learned or where a learning block has occurred.
   h. ***Management***: Questions which are disguised orders or directions, designed to get students to do something. Example: "Has everyone finished the exercise yet?" (i.e., hurry up!)
   i. ***Rhetorical***: questions that are statements cloaked in question form and do not require an answer. They appear most frequently in lectures and sermons.

2. MENTAL PROCESS USED

a. ***Recall***- comprehension: questions which require recall of information or simple understanding of terms, data, concepts, procedures, etc. some examples:
   i. What is the lain motto on all U.S coins and what does it mean?
   ii. What is the formula for converting Fahrenheit temperature to Celsius?

b. ***Critical thinking***: questions which ask students to think about information so as to arrive at a predictable answer. Examples:

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i. How would you measure the height of a building with the aid of a barometer?
ii. What age group and what emotions are being appealed to in the following advertisements?

c. ***Creative thinking***: questions which ask students to do some original thinking, use imagination, suggests unusual uses of the common place, develop hypothesis and find new patterns of organization, write a poem, and so forth. Examples:
   i. What options does the U.S have dependency on Arabian oil?
   ii. How might the sentences (in an assigned paragraph) be recognized so as to give a totally different meaning?

d. ***Affective***: questions which ask the students to identify or express an emotional reaction or personal feeling. Examples:
   i. What reaction did you have to the movie?
   ii. How might you have felt if you have been in the policeman's place?

Note: sometimes such questions elicit a "thinking "not" feeling" response. For example: "how did you feel when you first heard of John Lennon's death? " Answer "I wondered why anyone would want to shoot him. "This answer expresses a thought, not a feeling. If / when this happens, help students learn the distinction between "thinking" and "feeling"

3. IMPERSONAL TO PERSONAL

a. ***Factual***: most impersonal: something separate from the respondent that is simply remembered or known. Example: where is Vietnam? When was the Vietnam War fought?

b. ***Conceptual***: Generally, impersonal. Requires the respondent to think about an idea or concept in a non-personal way. Example: "Why did the many young men and women refuse military service to join the Armed Forces during the Vietnam War era?"

c. ***Contextual***: somewhat personal. Requires the respondent to put him/herself into the picture. Examples: "under what circumstances would you have refused induction or "gone underground" to avoid the draft?"

d. ***Affective***: Most personal: "what feelings did the Vietnam War Memorial elicit in you?"

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Questioning Skills Used In Teaching

1. Think it through. Give yourself time to think about the question you want to ask. Phrase it to yourself inside your head. The class will wait while you think.
   A. As part of your lesson preparation, write out a few key questions designed student understanding or to provide discussion.
   B. Use thinking questions as well as recall questions. "How" and "why" questions usually require some degree of thought; "who," "what," where," questions usually elicit remembered information.
   C. Prepare a few questions with specific students in mind.

2. Direct the question to the entire group. Use your eyes to indicate that the question is for general consumption.
   A. Avoid "harpooning"- identifying the student who is to answer before asking the question.
   B. Avoid "Can anyone tell me…" or "Does anyone know…" type phrases. Such "shot gun" type questions are heard as rhetorical questions. Students seldom respond to them.

3. Keep it simple. A question which goes on and on will confuse and lose the students. Follow the "K-I-S-S" rule: Keep it Simple and Structured.
   A. Avoid irrelevant or confusing information. Limit the question to one main thought or idea.
   B. Avoid questions which require the student to require the student to agree to an unstated assumption before answering; e.g. "Why is the Reagan the best president since World War II?
   C. Avoid thought-blocking phrases such as "what about the fact that…" or "As regards the …"or "Given the fact that [thus and such] occurred, what would you think about…" In this latter case, the student will be so busy trying to figure out the preamble that he/she may never get to the question!
   D. Use language at the level of the class, and use correct grammar.

4. Pause. Three to five seconds "wait time" to give students time to think. Five seconds, which may seem like eternity, is really not much thinking time.

5. Call on a student by name. Spread your questions around the class. Don't limit your questions to just a few students.

6. Listen to the student's response. Listen to what the student is saying rather than mentally rehearsing your next question.

7. Acknowledge the response. Provide a simple verbal or non-verbal acknowledgement that you listened, heard, and understood.

8. Savor the response. Often, a response will be superbly interesting, creative and even witty. Savor and enjoy it. Mentally evaluate the answer and the nuance of language and tone. Give yourself to think about what you want to say in response to the student.

9. Respond in some way. Study the "Responding" options, next page

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A. If the response seems weird, do a perception check to find out if you heard correctly or if the students heard the question correctly.
B. Try not to let the answer go "plop"
C. Avoid personal documents or other irrelevant asides.

Common Pitfalls

A. "Yes/No" questions. When you ask: "Do you understand how thus-and-such works?", the student may answer "Yes" or "No". Not very exciting. Better is to phrase it to elicit a more extended response; e.g., "Please explain how thus-and-such works."

B. "Leading" Questions. When you ask: "Don't you think that Caesar intended to establish a dictatorship?", the student will agree, just as the question suggests. Better is to ask: "What do you think Caesar's plans were when he returned to Rome?", which is more open-ended, thought- provoking question.

C. "Can you tell me…" Following by the real question. This speech mannerism focuses unnecessary attention on the teacher and creates the sense that the students are performing for the teacher.

D. "Would you like to …" type questions invite the student to second – guess the teacher's preferences. They are often commands in disguise.

E. Questions that go on and on, with lots of dependent clauses and hidden lecture- information. Learn to listen to your own syntax; be willing to stop and re-phrase a lengthy or awkwardly phrased question.

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CHAPTER NINE

INSTRUCTIONAL RESOURCES INCLUDING ICT

Instructional Resources (IR)/Teaching Learning Materials (TLMs) are tools which are used by teachers to help learners to learn concept with ease and efficiency. The role of TLMs in the classroom are to make learning real, practical and fun for children. Teachers use TLMs to illustrate or reinforce a skill, fact or idea. TLMs also help in bringing novelty and freshness in classroom teaching as it relieves learners from anxiety, fear and boredom.

Classification Of Instructional Resources

Instructional Resources are of various types and thus are classified and categorized in several ways. Edgar Dale's cone of experience is one of the simplest ways of categorizing Instructional Resources. He experimented with different TLMs and categorized them on the basis of type of experiences the learner acquires – from concrete to abstract.

Another widely accepted and popular way of categorizing TLMs/IRs is based on the senses they stimulate in learners, which, in turn affect the effectiveness of teaching learning process. TLMs can broadly be classified into three categories.

1. Audio Instructional Resources
2. Visual Instructional Resources
3. Audio Visual Instructional Resources

1. **Audio TLMs:** These TLMs primarily stimulate the hearing sense of learner. It includes – human voice, telephonic conversation, audio discs/tapes, gramophone records, Radio broadcast. ii)

2. **Visual TLMs:** These types of TLMs involve the sense of vision. They stimulate the visual impulses. These can be of various types as given below:

a. Visual (Verbal) Print. (the text is the main instructional or teaching learning aid)
b. Textbook
c. Supplementary book.
d. Reference books, encyclopedia, etc.
e. Magazine
f. Newspaper
g. Documents and Clippings

3. **Audio Visual:** TLMs are the projected aids, which use both auditory and visual senses to enhance learning. The greatest advantage of these is they are the closest representation of reality. These include – Motion Picture Film, Television, Video discs/cassettes, slide – tape presentations, Multimedia Computer.

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Factors Essential In The Selection And Use Of Instructional Resources

Instructional materials provide the basis for what learners will experience and learn. They hold the power to either engage or demotivate learners. Therefore, instructional materials must be carefully planned, selected, organized, refined, and used.

Below are key factors to consider when selecting instructional materials:

1. **Take into consideration individual needs and learning styles:**

Choose materials that present information in a variety of ways. Using mixed media (text, video, images, real world examples, graphs, etc.) make information more interesting and address learners' different learning styles.

2. **Make sure the materials support learning objectives:**

Provide a wide range of materials that will enrich and support the curriculum and course objectives. The instructional materials should reinforce and supplement, not substitute for, the teacher's teaching efforts.

3. **Make the materials clear and accessible:**

Make sure learners have sufficient background knowledge to comprehend the learning materials.

ICT Tools Used To Enhance Teaching And Learning In The Classroom

ICT tools for teaching and learning cover everything from digital infrastructures such as printers, computers, laptops, tablets, etc., to software tools such as Google Meet, Google Spreadsheets, etc.

Technology is a powerful tool for teachers to help facilitate student learning. By utilizing technology such as interactive whiteboards, collaborative software, and other digital resources, teachers can create engaging and stimulating learning experiences for students. Additionally, these technologies can help make more complex topics easier to understand by providing visuals and audio feedback. Technology can be used in both the classroom and remotely to enhance student collaboration, comprehension, and communication.

Evaluating The Effectiveness Of An Instructional Resource In Lesson Delivery

Evaluation Criteria

As you evaluate instructional materials, the first things you normally consider are

1. is it accurate?
2. is it relevant? (Does it provide information that students need to complete your assignment?)
3. is it understandable? (Is it at a level appropriate to your student's current understanding of the topic or concept?)

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When evaluating instructional materials, consider the extent to which each is **interesting, approachable, and engaging**. This isn't about materials being "entertaining." It's about whether it can spark curiosity and promote deeper thinking about the content. The more engaged students are with the materials you provide for learning, the more they'll learn. To encourage engagement it is helpful to include a variety of types of materials in addition to text such as images, charts, diagrams, audio, video, or interactive activities.

Things To Look For In Both Text And Video Instructional Resource That Can Increase The Potential For Engagement

There are some specific things to look for in both text and video materials that can increase the potential for engagement.

Text-based Materials

As you look at text-based materials, there are a few things to consider.

1. Are instructional materials with a teaching purpose (so not journal articles, primary sources, etc.) written in a friendly and conversational tone?
2. Are materials written at an appropriate reading level for your students? Realize that this will be lower than your reading level so what sounds fine to you may leave your students struggling.
3. Are documents clear and easy to read? If it's a scanned document, is the quality of the scan good enough that it can be easily read?

Video Materials

Part of evaluating video materials is determining how much and what sort of video would be useful for your students. Here we are talking primarily about video that others have made.

If you want your students to be able to do something that someone can demonstrate, then video would be a very good option. If your content involves specific places or cultures, video can help to make them real to your students in ways that pictures and words on a page cannot. If parts of your content are especially challenging to your students, walking through these rough points with diagrams or a virtual whiteboard can provide clarification. If your students have difficulty engaging with the content, videos can offer a more approachable way in.

Here are some considerations to evaluate video as an instructional resource:

1. **How well does the video align with your class?** Is it something that will directly help students reach a learning outcome or is interesting but not directly applicable?
2. **Is it at the right level for your students?** Do they have the prerequisite background knowledge to get out what you want them to get out of it? Students will tune out if they don't understand

what the speaker is talking about—especially if the video uses jargon, acronyms, and other technical terms the student doesn't know.

3. **How long is the video?** Research shows that people's attention begins to wander after a few minutes. Do your students really need to watch all of the video or only part of it? Identify that part and crop the video or give them the beginning and ending times.
4. **Does the video keep your attention?** If you dozed or multitasked while the video was playing, the odds are good your students will do the same.

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CHAPTER TEN

ASSESSMENT

Assessment: The process of obtaining information that is used for making decisions about students, curricula and programs, and educational policy. It includes the full range of procedures used to gain information about student learning. These procedures may be formal (pencil and paper tests) or informal (observations). Certain concepts and terms are associated with assessment. These are tests, measurement and evaluation.

Rationale For Classroom Assessment

Classroom Assessment is a formative rather than a summative approach to assessment. Its purpose is to improve the quality of student learning, not to provide evidence for evaluating or grading students. It provides teacher with feedback about their effectiveness as teachers, and it gives students a measure of their progress as learners. The aim of classroom assessments is to provide teacher with information on what, how much, and how well students are learning. Such assessments are created, administered, and analysed by teachers themselves.

Forms Of Classroom Assessment

In your classroom, assessments generally have one of three purposes:

1. Assessment of learning
2. Assessment for learning
3. Assessment as learning

Assessment of Learning

You can use assessments to help identify if students are meeting grade-level standards. Assessments of learning are usually grade-based, and can include:

1. Exams
2. Portfolios
3. Final projects
4. Standardized tests

They often have a concrete grade attached to them that communicates student achievement to teachers, parents, students, school-level administrators and district leaders.

Common types of assessment of learning include:

1. Summative assessments
2. Norm-referenced assessments
3. Criterion-referenced assessments

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Assessments For Learning

Assessments for learning provide you with a clear snapshot of student learning and understanding as you teach allowing you to adjust everything from your classroom management strategies to your lesson plans as you go. Assessments for learning should always be ongoing and actionable. When you are creating assessments, keep these key questions in mind:

1. What do students still need to know?
2. What did students take away from the lesson?
3. Did students find this lesson too easy? Too difficult?
4. Did my teaching strategies reach students effectively?
5. What are students most commonly misunderstanding?
6. What did I most want students to learn from this lesson? Did I succeed?

Remember these assessments aren't only for students- they're to provide you (the teacher) with actionable feedback to improve your instruction.

Common types of assessment for learning include formative assessments and diagnostic assessments.

Assessment As Learning

Assessment as learning actively involves students in the learning process. It teaches critical thinking skills, problem-solving and encourages students to set achievable goals for themselves and objectively measure their progress.

Types Of Assessment To Use In Your Classroom

1. **Diagnostic assessment:** Let's say you're starting a lesson on inequalities. To make sure the unit goes smoothly, you want to know if your students have mastered equations and grouping like terms before you move on to more complicated questions. When you structure diagnostic assessments around your lesson, you'll get the information you need to understand student knowledge and engage your whole classroom.

2. **Formative assessment:** Just because students made it to the end-of-unit test, doesn't mean they've mastered the topics in the unit. Formative assessments help teachers understand student learning while they teach, and provide them with information to adjust their teaching strategies accordingly.

Some examples of formative assessments include:

a. Portfolios
b. Group projects
c. Progress reports
d. Class discussions

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e. Entry and exit tickets
f. Short, regular quizzes

3. **Norm-referenced assessments:** Norm-referenced assessments are tests designed to compare an individual to a group of their peers, usually based on national standards and occasionally adjusted for age, ethnicity or other demographics.

   Unlike ipsative assessments, where the student is only competing against themselves, norm-referenced assessments draw from a wide range of data points to make conclusions about student achievement.
   Types of norm-referenced assessments include: IQ tests, Physical assessments, Standardized college admissions tests

4. **Criterion-referenced assessments:** Criterion-referenced assessments compare the score of an individual student to a learning standard and performance level, independent of other students around them.
   In the classroom, this means measuring student performance against grade-level standards and can include end-of-unit or final tests to assess student understanding. Outside of the classroom, criterion-referenced assessments appear in professional licensing exams, high school exit exams and citizenship tests, where the student must answer a certain percentage of questions correctly to pass.

Criterion-referenced assessments are most often compared with norm-referenced assessments. While they're both considered types of assessments of learning, criterion-referenced assessments don't measure students against their peers. Instead, each student is graded to provide insight into their strengths and areas for improvement.

Effective/Appropriate Test Items

There are two major types of classroom achievement tests. These are the essay-type tests and objective-type tests.

Objective-Type Tests

1. **An objective test** requires a respondent to provide a briefly response which is usually not more than a sentence long. The tests normally consist of a large number of items and the responses are scored objectively, to the extent that competent observers can agree on how responses should be scored.
   There are two major types of objective tests. These are the selection type and the supply type. The selection type consists of the multiple-choice type, true and false type and matching type. The supply type has variations as completion, fill-in-the- blanks and short-answer.

Strengths and advantages

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1. Scoring is easy and objective.
2. They allow an extensive coverage of subject content.
3. They do not provide opportunities for bluffing.
4. They are best suited for measuring lower-level behaviours like knowledge and comprehension.
5. They provide economy of time in scoring.
6. Student writing is minimized. Premium is not placed on writing.
7. They are amenable to item and statistical analysis.
8. Scores are not affected by extraneous factors such as the likes and dislikes of the scorer.

Weaknesses and disadvantages

1. They are relatively difficult to construct.
2. Item writing is time consuming.
3. They are susceptible to guessing.
4. Higher-order mental processes like analysis, synthesis and evaluation are difficult to measure.
5. Places premium on student's reading ability.

Multiple-Choice Tests

A multiple-choice test is a type of objective test in which the respondent is given a stem and then is to select from among three or more alternatives (options or responses) the one that best completes the stem. The incorrect options are called foils or distracters. There are two types of multiple-choice tests. These are the single 'correct' or 'best response' type and the 'multiple response type'. The single 'correct' or 'best response' type consists of a stem followed by three or more responses and the respondent is to select only one option to complete the stem.

Guidelines For Constructing Multiple-Choice Tests

1. The central issue of the item should be in the stem. It should be concise, easy to read and understand.

The following are examples of poor and good items

Poor	Good
Ghana	The largest man-made lake in Africa is in
A. became independent in 1960	A. Chad
B. has West Africa's largest population	B. Ghana
C has the largest man-made lake in Africa	C. Kenya
D. is the world's leading cocoa producer	D. Tanzania
E. is a landlocked country	E. Uganda

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2. The options should be plausible. Distracters must be plausibly attracted to the uninformed.

Poor	Good
The longest river in Africa is	The longest river in Africa is
A. Benue	A. Congo
B. Congo	B. Niger
C. Gambia	C. Nile
D. Nile	D. Volta
E. Thames	E. Zambesi

In the poor example, rivers Benue, and Gambia are not significantly long to attract respondents and Thames is not in Africa.

3. All options for a given item should be homogeneous in content.
4. All options for a given item should be homogeneous in grammatical structure.

Example

In constructing multiple-choice test items, options to an item should be

A. arranged in horizontally.
B. copied directly from class notes or textbooks.
C. must have a discernible pattern of responses.
D. homogeneous in content.

5. All options must follow syntax and punctuation rules.
6. Repetition of words in the options should be avoided.

Poor
'Which is the best definition of a contour-line?
A. A line on a map joining places of equal barometric pressure.
B. A line on a map joining places of equal earthquake intensity.
C. A line on a map joining places of equal height.
D. A line on a map joining-places of equal mean temperature.

Good
A line on a map joining places of equal pressure is called an
A. isobar

ALASCA-0540770189

B. isobront
C. isochasm
D. isogeotherm

True And False Tests

A true and false test consists of a statement to marked true or false. A respondent is expected to demonstrate his command of the material by indicating whether the given statement is true or false.

There are 4 variations/types.

1. Simple True or False
2. Complex True – False
3. Compound True – False
4. Multiple True – False

Guidelines For Constructing True And False Tests

1. For Simple, Compound and Multiple types, statements must be definitely true or definitely false.
   Poor: The value of 2/3 as a decimal fraction is 0.7. True or False
   Good: The value of 2/3 expressed as a decimal fraction correct to two decimal places is 0.66. True or False
2. Avoid words that tend to be clues to the correct answer. Words like some, most, often, many, may are usually associated with true statements. All, always, never, none are associated with false statements. These words must therefore be avoided.
3. For simple true-false type, approximately, half (50%) of the total number of items should be false because it is easier to construct statements that are true and the tendency is to have more true statements.
4. Statements must be original. They must not be copied directly from textbooks, past test items or any other written material.
5. Statements should be worded such that superficial logic suggests a wrong answer.
   Poor: A patient took one tablet of a prescribed medicine and was healed in 24 hours.8 tablets would therefore heal him in 3 hours. True or False
   The true case is that 8 tablets would constitute an overdose.
6. Statements should possess only one central theme.
   Poor: Akropong Teacher Training College, built in 1900, is the first teacher training institution in Ghana
   Two main themes are in the statement.
7. State each item positively. Negative item could however be used with the negative word, 'not', emphasized by underlining or writing in capital letters. Double negatives should be avoided.
8. Statements should be short, simple and clear. Ambiguous as well as tricky statements should be avoided
   Examples:

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(1) Abedi Pele is the best Ghanaian footballer. True or False
(2) Margaret Thacher was the British Prime Minister in 1989.
True or False
Item 1 is ambiguous because best is relative while the trick in item 2 is the spelling of Thatcher.

Matching-Type Tests

The matching type of objective test consists of two columns. The respondent is expected to associate an item in Column A with a choice in Column B on the basis of a well-defined relationship. Column A contains the premises and Column B the responses or options.

Guidelines For Constructing Matching-Type Tests

1. Do not use perfect matching. Have more responses than premises. There should be at least three more responses than premises.
2. Arrange premises and responses alphabetically or sequentially. This reduces the amount of unnecessary searching on the part of the person who knows the answer.
3. Column A (premises) should contain the list of longer phrases. The shorter items should constitute the responses.
4. Limit the number of items in each set. For each set, the number of premises should not be more than six per set with the responses not more than ten.
5. Use homogeneous options and items.
6. Provide complete directions. Instructions should clearly show what the rules are and also how to respond to the items.
7. State clearly what each column represents.
8. Avoid clues (specific determiners) which indirectly reveal the correct option.
9. All options-must be placed (and typed) on the same page.
10. Avoid using multiple correct choices for one premise.

Constructed-Response Type
Short-Answer Type Tests

This type of objective test is also known as the Supply, Completion, and fill-in-the blanks. It consists of a statement or question and the respondent is required to complete it with a short answer usually not more than one line.

Examples:

1. Modern nursing was introduced into Ghana in the year _____.
2. What is the name of the first Ghanaian Prime Minister? _____
3. The environment has three component parts: Name them.

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Guidelines For Constructing Short-Answer Tests

1. Keep the number of missing words or blank spaces low. Preferably use one blank per item. There should not be more than two blanks in one item.
   Poor: The_____of _____ took place in _____.
   Good: The battle of Dodowa took place in the year_____.
2. Use original statements that are carefully constructed. Statements should not be lifted from textbooks or past items or any written material.
3. Avoid specific determines which provide clues to the correct option.
4. Blanks must be placed at the end or near the end of the statement and not at the beginning.
   Poor: _____ is an instrument used for measuring temperature.
   Good: An instrument used for measuring temperature is called _____.
5. Items should be so clearly written that the type of response required is clearly recognized.
   Poor. The battle of Nsamankow was fought in _____.
   Good: The battle of Nsamankow was fought in the year _____.
6. Avoid lengthy and tortuous statements
7. Think of the intended answer first before constructing the item.
8. Missing words must be important ones. Avoid omitting trivial words to trick the student. Only test for important facts and knowledge.
   Poor: The ___ of the June 4, 1979 revolution in Ghana was Flt. Lt. J. J. Rawlings.
9. Specify the degree of precision and the units of expression required in computational problems.
   Poor: The value of 2.6 x 0.07 is _____.
   Good: The value of 2.6 x 0.07 correct to 3 decimal places is _____.

ESSAY-TYPE TESTS & COMPUTATION ITEMS

Essay-type Tests:

An essay type test is a test that gives freedom to the respondent to compose his own response using his own words. The tests consist of relatively few items but each item demands an extended response.

There are two types of essay-tests. These are the **restricted response type and the extended response type.** The restricted response type limits the respondent to a specified length and scope of the response. For example, 'In not more than 200 words explain the causes of the Yaa Asantewa War of 1900.

The extended response type does not limit the student in the form and scope of the answer. For example, Discuss the factors that led to the overthrow of the Dr. Kwame Nkrumah's government in Ghana in 1966.

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Guidelines In Constructing Good Classroom Essay Tests

1. Plan the test. Give adequate time and thought to the preparation of the test items. The test items must be constructed from a test specification table and well in advance (at least two weeks) of the testing date. This allows editing to be done.
2. The items should be based on novel situations and problems. Be original. Do not copy directly from textbooks or colleagues/others' past test items.
3. Test items should require the students to show adequate command of essential knowledge. The items should not measure rote memorization of facts, definitions and theorems but must be restricted to the measuring of higher mental processes such as application, analysis, synthesis and evaluation.

Examples of items include:

a. application:

You are in charge of a youth camp of 100 campers. Prepare a menu chart which shows a balanced diet taking into consideration cost and nutritional value.

Here the student uses knowledge learnt in school to deal with a concrete situation.

b. analysis:

A Form 1 student girl was severely and unfairly punished. Describe the feelings such treatment aroused in her.

c. **synthesis**:

You are the financial secretary of a society aimed at raising money to build a fish pond in your community. Plan and describe a promotional campaign for raising the money.

d. evaluation:

Evaluate the function of the United Nations Organization as a promoter of

4. Optional items should not be provided when content is relevant. They may be necessary only for large external examinations and when the purpose of the test is to measure writing effectiveness. If students answer different questions, an analysis of the performances on the test items is difficult.
5. All items should be of equal difficulty if students are to select from a given number of items.
6. Prepare a scoring key (marking scheme) at the time the item is prepared. Decide in advance what factors will be considered in evaluating an essay response. Determine the points to he included and the weights to be assigned for each point. The preparation of a model answer will help disclose ambiguities in an item.

ALASCA-0540770189

Scoring A Test

Essay tests can be scored by using the **analytic scoring** rubrics (also known as the point-score method) or **holistic scoring** rubrics (also called global-quality scaling or rating method).

In analytic scoring, the main elements of the ideal answer are identified and points awarded to each element. This works best on restricted response essays.

In holistic scoring, major points are written. Five (sometimes 4) levels of quality are described and marks awarded.

Appraising Achievement Tests (Item Analysis)

Item analysis is the process of collecting, summarizing, and using information from students' responses to make decisions about each test item. It is designed to answer the following questions:

1. Did the item function as intended?
2. Were the test items of appropriate difficulty?
3. Were the test items free of irrelevant clues and other defects?
4. Was each of the distracters effective (in multiple-choice items)?

Steps In Doing Item Analysis Of Objective Tests

1. Arrange the marked test papers from the highest score to the lowest score.
2. Create three groups – upper, middle and lower groups using the top 27% and the bottom 27% if the total number of students is more than 40. Where the number of students is between 20 and 40, select the top 10 students and the bottom 10 students. For fewer than 20 students, create only two groups.
3. For each item summarize the number of students in each of the upper and lower groups who selected each option.
4. Calculate the difficulty index , i.e the percentage of the total number of students who got the item correct. The difficult index by convention is written as a decimal.
5. Compute the discrimination index, i.e. the difference between the percentage of students in the upper and lower groups who got the item correct. The discrimination index is often written as a decimal fraction.
6. Evaluate the effectiveness of options for multiple-choice tests (distracter analysis).

    - Every distracter should have at least one lower group student choosing it, and more lower group students than upper group students should choose it.
    - Every correct option should be selected by more students in the upper group.
    - Options are ambiguous if upper group students are unable to distinguish between the correct response and one or more of the distractors.

ALASCA-0540770189

- If a large number of upper group students select a particular wrong response, check to be sure the answer key is correct.

Examples:

1. Ideal

Options	Upper Group	Lower Group
A	0	2
B	2	4
C*	15	5
D	3	9

2. Ambiguous alternative

Options	Upper Group	Lower Group
A	1	4
B*	10	5
C	9	5
D	0	6

Options B and C seem equally attracted to the high achiever. Option C should be checked as well as the test item for ambiguities.

3. Miskeyed Item

Options	Upper Group	Lower Group
A	13	7
B	6	6
C	0	3
D*	1	4

Majority of the upper group selected A. Option A might be the correct response and not D.

4. Poor distractor

Options	Upper Group	Lower Group
A	2	6
B*	12	6
C	0	0

ALASCA-0540770189

D	6	8

Option C attracted no student. It is a poor distracter and has to be replaced.

Using Difficulty And Discrimination Indices

Points to note

- A low index of discriminating power does not necessarily indicate a defective item. They could be examined, however, for the possible presence of ambiguity, clues, and other technical effects especially if they are selection type items.
- Negatively discriminating items should be avoided and not used in test construction.
- Discrimination indexes of 0.30 and above are more desirable in test construction. However, items with high, positive discrimination indices are used mostly by test developers on standardized tests.
- It is sometimes necessary to retain items with low discriminating power in order to measure a representative sample of learning outcomes and course content.
- Items with a 50% level of difficulty make maximum discrimination possible.
- In norm-referenced testing, difficulty indices of between 0.16 and 0.84 are used to select items where the test represents a single ability. If performance on the test represents several different abilities, difficulty indices between 0.40 and 0.60 are used.

ALASCA-0540770189