An Andragogic Approach to Teaching and Learning[1]
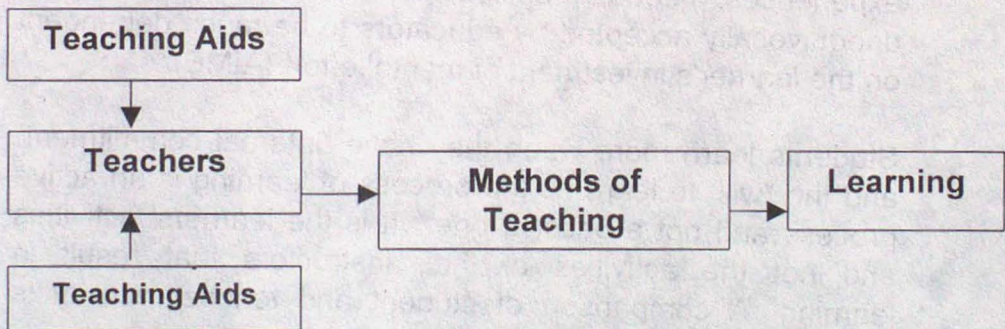
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Conceptualization

Traditionally, teaching-learning was referred to as **pedagogy**, the art and science of teaching children. In the present era, the strategies of teaching and learning are highly influenced by **andragogy,** the art and science of helping adults learn.

Of course, in any school (colleges, universities, schools, etc.), we often witness teaching activity being conducted in front of students. It is, however, hardly known whether or not learning has taken place. It is not also easy to observe it. It is also a common sense that there could be teaching without learning and learning without teaching. We are, however, interested in teaching that results in learning.

Figure 1: Pedagogic Model (Speaking-Listening process)

Contrary to the pre-1980s, where the model of pedagogy (see Figure 1) with its teacher-centered approaches dominated all educational establishments, the present era is characterised by what is called the student-center model of education (see Figure 2), an andragogic technique.

Box 1: Characteristics of Pedagogic Model

- Aimed at increasing knowledge of learners
- Poor at development of skills and attitudes
- High classroom teacher activity
- Predominance of one-way communication(lectures)
- Predominant student experience is listening
- Less challenging to learners
- Learners become poor information seekers
- Learning a poor method of learning
- Characterised by poor motivational role
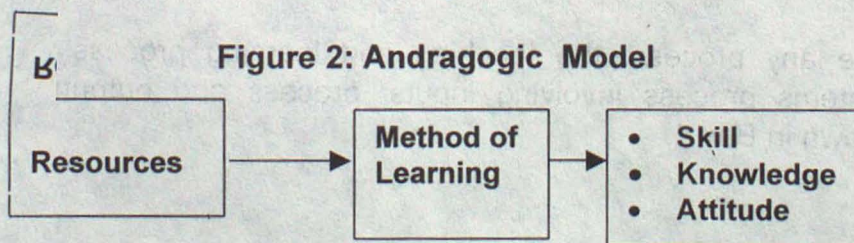- Some call it pedagogy of the oppressors

This implies learning to be mediated by student's previous experiences, needs, predisposition, etc. Learning now is unequivocally accepted by educators to be much dependent on the learner's investment of mental effort (AIME).

Students learn more when they have "internal commitment" and the "will" to learn as the process of learning is an active process and not a passive one. It is the learners' activities and not the activities of their instructors that result in learning. A comparison of student and teacher activity is shown in Box 2.

Box 2: Teacher and Student Activities

Teacher Activity	Student Activity
Listening	*Speaking*
Reading	*Assigning*
Watching	*Demonstrating*
Observing	*Assigning*
Experimenting	*Assigning*
Thinking	*Assigning*

In the context of andragogy (see Fig. 2 and Box 3), teachers have important roles in the teaching-learning act but in a drastically different way than the pedagogic approach of being information dispensers. Their appropriate role at present is accepted to be managerial rather than pedagogical. They are expected to facilitate student learning. They do so by encouraging student activities and student performance and by discouraging teacher performance in the classrooms. Classroom teacher performances have often resulted in encouraging student-passive-method-of-learning. Passive methods of learning have often resulted in being detrimental to learners, as this method of learning can be transferred to learning of materials require active learning and often resulting in failures to n these materials effectively.

Figure 2: Andragogic Model

Resources	→	Method of Learning	→	• Skill • Knowledge • Attitude

The inquiry approach demands learners to discover things
for themselves. However, by giving lectures after lectures,
the traditional teacher has discouraged the development of
student skills and critical minds. Analytical skills are
developed by encouraging learners to generate questions
and answers for themselves.

Box 3: Characteristics of Andragogic Model

- High student activity --- high AIME
- Low teacher Activity
- Two-way communication
- Good for development of skills and attitudes
- High motivational role
- Development of critical mentality
- Learning of different methods of learning
- Teachers are not major sources of learning
- Pedagogy of the oppressed

By requiring students to answer questions (the traditional
method), instructors have discouraged the development of the
art of questioning. It has also discouraged the development of
the **ethics of hard work** by spoon-feeding learners. In this
way, learners learn dependency on teachers. It is against this
"dependency" that educators have to wage a cultural war.
This "beast" (dependency) is rooted in the culture of the
Ethiopian teaching and learning system inhibiting
potentialities of national development.

Systemic Nature of the Teaching and Leaning Process

Like any process, the teaching and learning process
systems process involving inputs, process and outpu
shown in Box 4.

Curriculum

Curriculum is the most important input of the system. Curriculum in our context is mainly the objectives and contents of training. Curriculum needs to be developed by keeping in mind the needs of the learner and the society.

Box 4: Systemic Nature of Teaching and Learning

Inputs	Process	Output
Curriculum Teachers Students Technology	INTERACTION of Curriculum, teachers, Students and technology	knowledge skills attitude

Current developments in the discipline are also another source of curriculum. Important curriculum factors are relevance, organization and language. The trainer translates the curriculum into course plan and implements this plan. The major components of this plan are objectives and content.

Course Objectives

Course objectives are derived from curriculum objectives, which are, in turn, based on goals of the institution. They include the knowledge, skills and attitudes to be gained at the completion of a course. That is, course objectives express what the designer of the course intends the students to accomplish as a result of their exposure to it.

The functions of course objectives include: (a) to identify the expected outcomes of a learning experience, (b) to specify the behavior the learner is expected to exhibit, (c) to provide a

systematic means for devising ways to evaluate student performance, and, (d) to provide a basis for the selection of appropriate subject content, materials and experiences for effective learning.

Objectives are stated in behavioral terms - in terms of the learner and not in terms of what the instructor is going to do. Two key questions that need to be considered in the determination of course objectives are:

- What is the purpose of giving this particular course for this particular group of trainees at this particular stage?

- What do the trainees expect to get out of it in terms of gaining new knowledge, developing required attitudes and acquiring useful skills?

Content Selection and Sequencing

Content is simply defined as the body of knowledge or a set of student activities contained in a course. This can only be a representative sample of all the knowledge that can be included in it in order to facilitate the learning experiences. That is why the question of what knowledge to include in a course becomes very critical. Learning experiences refer to the interaction of the students with the environment created or suggested by their instructor(s). Reading, writing, dramatizing, experimenting, listening, researching, observing are all examples of experiences which can lead to learning. The learning experiences we select should be those, which will best hold the students' interests and help them to attain the course objective.

Sequence refers to the arrangement of course topics in a defined order. It is the criteria by which vertical progress from

one level to another is determined. Sequence is a means of ensuring continuity in learning. Ideas to be dealt with in a course can be arranged in a developmental manner. More complex and abstract knowledge should be preceded by simpler and concrete experiences.

Teachers

The new role of teachers in teaching and learning ought to be management, demonstration of intellectual excellence and evaluation and program development of the system. Using the strategies suggested in Box 2, teachers can facilitate student learning.

The **UNESCO Breda Guide for Teaching and Learning in Higher Education** has provided a list of teacher-characteristics (see Box 5), and has also compared the effective teacher with those that are called ineffective. Some of the general characteristics are:

- An understanding of how students learn
- A concern for students' development
- A commitment to scholarship
- A commitment to work with and learn from colleagues
- Continuing reflection on professional practice

In displaying these characteristics, the expectation is that the teacher should have the following responsibilities:

- design teaching program or scheme of work from a course outline, document or syllabus;

- use a wide and appropriate range of teaching and learning methods and materials effectively and

efficiently in order to work with large groups, small groups and one-to-one;

- provide support to students on academic issues in ways which are acceptable to a wide range of students;
- use a wide and appropriate range of assessment techniques to support student learning and to record achievement;

- evaluate their own work with a range of self, peer and student monitoring and evaluation techniques;

- perform effectively their teaching support and academic administrative tasks;

- develop · personal and professional strategies appropriate to the constraints and opportunities of their institutional setting.

- Exhibit a personality model of professional commitment, hard · work, love for others, honesty, loyalty and virtuous personality, etc.

A list of the major goals of training of trainers would include such objectives as changing student's factual knowledge and competence in the course material, strengthening various cognitive capacities (e.g., study skills, reasoning, writing, and speaking skills), and fostering intellectual appreciation of the subject matter. Traditionally, imparting knowledge and skills to students has been the major objective of training of trainers.

eaching offers opportunities for the realization of many important, intrinsic values in life.   It indeed requires the teacher to engage in a never-ending pursuit of knowledge. The world of the teacher is a world of learning.   The opportunity for self-education and for satisfying intellectual curiosity is unmatched in any other professions.   The teacher's role in educating others is becoming increasingly profound.   We have traditionally thought of the teacher as *dispenser* of information.   Today he or she must be conceived as something far more than that.   The knowledge explosion has forced upon us, fortunately, a new concept of the teacher.   It is no longer possible to dispense during the school years all the knowledge that students will need in their lifetime. So we have come to stress *learning how to learn* as the essence of modern education.   Thus the new role of the teacher is to stimulate the learner's curiosity, to sharpen powers of independent intellectual discovery, and to strengthen the ability to organize and use knowledge, in short, to help the learner acquire lifelong powers of self-education.

The teacher has often been spoken of as an exemplar of fine scholarship, a model scholar whom students may emulate, the very embodiment of his or her discipline. This new role of the teacher as exemplar, far more profound than a role as mere dispenser of information, extends the impact of the teacher on the modes of thought and methods of study of the student throughout life. Thus the teacher is sustained by the challenge of exhibiting this important intellectual vestige to others. To help in guiding another generation's chance to grow is perhaps the noble form of human expression.

Box 5: Effective and Ineffective Behaviours of teachers

Effective behaviours	Ineffective behaviours
• Is alert, appears enthusiastic • Appears interested in students and classroom activities • Is cheerful, optimistic • Is self controlled, not easily upset • Likes fun, has a sense of humour • Recognizes and admits own mistakes • Is fair, impartial, and objective in treatment of students • Shows understanding and sympathy in working with students • Is friendly and courteous in relations with students • Helps students with personal as well as educational problems • Commends effort and gives praise for work well done • Accepts students efforts as sincere • Anticipates reactions of others in social situations • Encourages students to try to do their best	• Is apathetic, dull; appears bored • Appears uninterested in student and classroom activities • Is depressed, pessimistic., appears unhappy • Loses temper easily, is easily upset • Is overly serious, too occupied for humour • Is unaware of, or fails to admit, own mistakes • Is unfair or partial in dealing with students • Is short with students, uses sarcastic remarks, or shows lack of sympathy with students • Is aloof and removed in relations with students and problems • Seems unaware of students' personal needs and problems • Does not commend students; is disapproving, hyper-critical • Is suspicious of pupil motives • Does not anticipate reactions of others in social situation

• Plans and organises classroom procedure • Makes classroom procedure flexible within overall plan • Anticipates individual needs • Stimulates students through interesting and original materials and techniques • Gives clear, practical demonstrations and explanations • Is clear and thorough in giving directions • Encourages students to work through their own problems and evaluate their accomplishments • Disciplines in quiet, dignified, and positive manner • Gives help willingly • Foresees and attempts to resolve potential difficulties	• Makes no effort to encourage students to try to do the best • Procedure is without plan, disorganized • Shows extreme rigidity of procedure; inability to depart from plan • Fails to provide for individual differences and student needs • Uses uninteresting materials and teaching techniques • Uses unclear and poorly conducted demonstrations and explanations • Uses incomplete and vague directions • Fails to give students opportunity to work out their own problems or evaluate their own work • Reprimands at length, ridicules, resorts to cruel meaningless forms of correction • Fails to give help or gives it grudgingly • Is unable to foresee and resolve potential difficulties

Box 6: Types of Teaching-Learning Methods

Laboratories	"Hands- on" activities in which students investigate a question using materials and equipment in laboratory or natural area.
Field experiences	Field studies may be simple or complex, short or long, but they should involve the students in an authentic investigation of some phenomena.
Individual research	Investigations in which students study something new to them.
Projects	Students plan and complete a project in which they ask a question based on observation of some phenomena, gather evidence and propose an explanation. Students outline a detailed proposal of the project before they begin their investigation, which alerts student and instructors to potential problems.
Issue-centered Problems	Opportunities for students to apply their knowledge of relief situations and problems. Students study an issue and develop an understanding of the scientific and societal aspects of the problem.
Discussion	Instructor facilitates discussion of concepts and ideas.
Debates	Students choose a local issue related to their study area and which point of view to argue
Co-operative Learning	Students with specific role work together in a team to interdependence, face-face interaction, individual accountability, small group and interpersonal skills, and group processing.

Student writing	Writing is incorporated into many activities, including essays on exams, short explanations of lecture materials, and library or independent research projects.
Student Reading	Students read primary scientific literature or articles based on it, making reasonable judgements on the appropriateness of research methods and arguing points of view supported by information in the article.
Student speaking	Students present oral reports of independent or group research or library work.
Student explanations of Concepts	Students explain and relate concepts to each other or the instructor includes a variety of activities such as concept mapping.
Analysis of data	Students examine date collected by other investigators. Students explain how data were collected and analyzed and determine if they agree with the interpretation of results.
Lectures	Verbal explanations of concepts lecture can be a dynamic and efficient way of presenting information to students, but they never should be the only way.
Demonstrations	Illustrations of natural phenomena and scientific investigations.
Dramas	Role-plays by learners, reconstrution of a reality.

Source: UNESCO-Guide, **IER Flambeau** Vol. 7 No. 2 p.109

Students

Learners must have an intrinsic need for learning. They need to be motivated learners and no one can force learning on them if they do not have the internal will.

- Learners differ in their ability to learn: there are above-average, average and below-average students. To be successful, instructors have to give provision for these differences;

- A motivated learner acquires what he learns more readily than one who is not motivated. The relevant motives include both general and specific ones, for example; desire to learn, need for achievement (general), desire for a certain reward or to avoid a threatened punishment (specific);

- Learning under the control of reward is usually preferable to learning under the control of punishment;

- Learning under intrinsic motivation is preferable to learning under extrinsic motivation;

- Tolerance for failure is best taught through providing a backlog of success that compensates for experienced failure.

- The personality of the learner, for example, his/her reaction to authority, may hamper or enhance his/her ability to learn from a given instructor;

- Active participation by a learner is preferable to passive reception when learning, for example. rrom a lecture or a motion picture;

- Meaningful materials and meaningful tasks are learned more readily than materials and tasks which give little sense or which are not understood by learners;

- Information about the nature of a good performance, knowledge of the learners' mistakes, and knowledge of successful results aid learning.

Technology

Technology is another input to learning. The teaching-learning methods demonstrated in Box 6 can be taken as technology in education. Each method involves a technology and that some technologies are more participatory (student participation) and some are not. It has been clear that the pedagogic model has been biased toward limited use of participatory technologies. One also needs not confuse, technology to mean modern electronic gadgetry, such as, the use of computers, films, etc. It is possible to use available resources such as specimens, models, charts, sticks, pieces of rock which are locally available but still technological. Care should also be made not to mystify the role of technology as has been advocated in the West, most likely with business motives.

Outputs

Educational outputs are the profiles of graduates in terms of the three domains of educational objectives. These are a) Skills - the set of procedural competencies and abilities of

the graduate, b) Knowledge — the degree to which the graduate is informed of the subject and the methods of investigating the subject. The more the graduate is informed of the subject the higher is the intellectual development helpful for analysis, problem solving and making rational decisions. c) Attitude — the most neglected but the most important profile of graduates is the *affective* aspect which predisposes graduates to act or not to act in a certain way. Aesthesizing truth, seeing beauty in love of others, helping the weak, generosity, responsibility for promoting public interest, indebtedness, hard-work, courage, public good, etc; are important graduate profiles that are necessary preconditions for applying one's skills and intellectual abilities. This profile has been fully neglected in our educational system. In its place, Western values of smartness, competitiveness, selfishness, commodity fetishism, etc. have been allowed to be very pervasive in transfer.