

Learning Process

Learning is defined as a change in the student's behaviour as a result of experience. Several factors control this process. Amount of learning is controlled by a student's desire. Behaviour changes can be overt or physical, or intellectual or attitudinal, which is not easily detected. A student's goals in life affect the learning process and those things which apply directly to these goals.

Learning involves experience. Instructors must be able to provide experiences the student can identify as steps toward attaining his/her personal goals. The learning process involves several types of learning: verbal, conceptual, perceptual, motor, problem solving, and emotional. Learning is complex. While working to learn on thing something else may be learned. This additional learning is called incidental learning.

Learning is based on one's perceptions. These come from the brain from the five senses: sight, hearing, touch, smell, and taste. Perception results is a person giving meaning to the sensations being experienced.

Ability to perceive is affected by:

1. Physical organism- the vehicle in which we become aware of, and operate in, and the world which we are a part.
2. Basic Needs- need to enhance our own organized self.
3. Goals and Values- these colour every experience we have
4. Self-concept- the way we picture ourselves, and is a powerful determinate in learning. Positive self-concept enhances perception; negative self-concept inhibits perceptual processes, which in turn introduce psychological barriers which prevent our perceiving.
5. Time and opportunity- needed in order to provide experiences necessary to perceive.
6. Element of threat- the recognition that fear adversely affects our perception by narrowing our perceptual field.

Insights involve grouping perceptions into meaningful wholes. Instructors must be able to point out to the student the way details work together to form complete ideas and concepts. When a student is able to tie experiences together and develop insights when there is not threat, this develops a favourable self-concept, or self-image. Negative self-concept prevents a student from being receptive to new experiences and causes him/her to reject additional training.

Motivation is probably the most important force that governs a student's progress and their ability to learn. Motivations can be tangible or intangible, or they may be obvious or subtle, and difficult to identify. The desire for personal gain, either the acquisition of objects or position, is the basic positive motivation for all human endeavour's and helps a student learn. Negative motivation that promotes fear and is perceived by the student as a threat hinders learning. The use of negative motivation rarely promotes effective learning, therefore is discouraged.

Laws that Explain Learning

Law of readiness – states individuals learn best only when they are ready to learn. Unless they see a reason for learning, they are not likely to learn.

Law of exercise – explains things most often repeated are best remembered. This is the reason for practice and drill.

Law of primacy – shows that instructors must teach all facts correctly the first time.

Law of effect – is based on the emotional reaction of the learner and explains that a student learns best when the experience is pleasant and satisfying. Learning is weakened if the experience is not pleasant.

Law of intensity – states that a student will learn more from the real thing than a substitute.

Law of recency – states things most recently learned will be best remembered. Post flight critiques and lesson summaries reinforce this law.

Levels of Learning

Rote – lowest level and provides the ability to repeat back something that has been taught, without the understanding or application of what has been learned.

Understanding – basis of effective learning. Students with understanding know the reason for the development of skills needed to apply what has been learned. The student with understanding is able to know the reason for the development of skills needed to apply what is being taught.

Application – development of skills necessary to apply what is being taught.

Correlation – the highest level of learning. Correlation allows a student to associate an element that has been learned with other segments or "blocks" of learning or accomplishment.

A learning experience may be aided or hindered by things previously learned. Learning that aids the learning of something else, enables a positive transfer to occur. Learning that hinders the learning of something else enables a negative transfer to occur. One example of positive transfer is the proficiency of flying rectangular patterns aids in learning to fly traffic patterns correctly.

Use of the building block method of instruction is the most acceptable way of forming correct habits. The formation of correct habits is essential for learning and for correct performance after the completion of training. Each task is performed acceptably and correctly before the next learning task is introduced.

Reasons people forget.

Disuse – forgetting those things which are not used.

Interference – forgetting a thing because another experience has overshadowed it or because learning of similar things has intervened.

Repression – things that are unpleasant or produce anxiety may be relegated to the unconscious mind and therefore forgotten.

Materials that have been thoroughly learned are highly resistant to forgetting. Rote learning is superficial, not easily retained. Meaningful learning goes deep, because it involves principles and concepts anchored in the students own experiences.

Principles that affect Recall.

Praise – a response that produces a pleasurable feeling and stimulates remembering. Negativism makes recall less likely.

Recall - promoted by association – information or action which is associated with something to be learned tends to facilitate its later recall.

Favourable attitudes – aid retention, people learn and remember only things they wish to know.

Learning – use of all the senses is most effective. When several senses respond together, fuller understanding and greater chance of recall is achieved.

Meaningful repetition – aids recall. Every repetition gives the student an opportunity to gain a clearer, more accurate perception of the subject being learned.

Skills, both mental and motor are taught best by providing the students with a clear step-by-step example. This provides the student a correct idea of what to do and helps them understand each step in the sequence. Learning skills do not progress along a straight upward path. Performance increases rapidly at first, then levels off before increasing again. This is called a learning plateau. Students need to be aware of this so that they will not become discouraged at the seeming cessation of progress. Primary in developing a skill in the length of time devoted to practice. When a student tires, errors increase and motivation declines. It is at this point that additional practice is not only unproductive, but is actually harmful.

Human Behaviour - Maslow's Hierarchy of Human Needs

Human needs are based on the pyramid of human needs as described by Professor Maslow. There are five levels of needs. The lower levels on the pyramid must be satisfied before the level above can be achieved. The needs start at the most basic.

Physical

The factors included in physical are the need for food, rest, exercise, and protection from the elements.

Safety

This includes protection against danger, threat, and deprivation. These may also be called security needs.

Egoist

Needs related to one's self-esteem and reputation, including the need for self-confidence, independence, achievement, competence, knowledge, status, recognition, appreciation and the deserved respect of one's fellows.

Self-fulfilment

Highest level which can be met only after all lower levels have been satisfied. This is the need for realizing one's own potential, for continued development and for being creative in the broadest sense of that term.

There are certain behaviour patterns that students use to soften the feeling of failure, to alleviate feelings of guilt, and to protect their feelings of personal worth and adequacy. These patterns are called defence mechanisms. While they can serve a useful purpose, they can also be a hindrance because they involve some self-deception and distortion of reality. The following are all defence mechanisms.

Rationalism

The mechanism that allows students who cannot accept the real reasons for their behaviour to substitute excuses for reason.

Flight

The mechanism that allows students to avoid frustrating situations by escaping, physically or mentally. The most common form of flight is mental flight, such as daydreaming.

Aggression

The normal, universal, human reaction that causes students to ask irrelevant question, refuse to participate in class activities, or disrupt activities within their own group.

Resignation

Students become so frustrated they lose interest and give up. They feel it is no longer profitable to work further and accept defeat.

Relationships between an instructor and his/her students have a profound impact on how much the students learn. Students expect the instructor to exercise certain controls, and they recognize and submit to authority as a valid means of control. A good instructor directs and controls the behaviour of the students, while guiding them and helping them accomplish their goals.

Students wanting to learn are more beneficial than students being forced to learn. A basic function of an instructor is to help the student want to learn. **There are seven way of encouraging a student to learn.**

Motivated students – if students see the benefits or purpose of a lesson, their enjoyment and efforts will increase.

Informed Students – Students feel insecure and lose enthusiasm if they do not know what is expected from them. Students need to know their own progress before then will want to accept further instruction.

Students as individuals – if instructors limit their thinking to the whole group without considering the individuals that make up the group, their effort is directed at an average personality, and ends up fitting no one.

Credit when Due – Student frustration is high if no praise or recognition is given for a job well done. Praise needs to be given carefully, if it is given too freely, it will become meaningless.

Constructive criticism – When students make errors, they should be made aware of what has been done wrong and how to prevent a repetition of the error. Pointing out errors without explanation or how to correct them cause's frustration.

Consistency – Students want to please their instructors. Instructors must let students know what is expected by being consistent in their actions and philosophy.

Admit Errors – Everyone makes mistakes. If instructors try to cover up or bluff, the students will be quick to sense this. This leads to the destruction of the student's confidence in their instructor.

Communications

Effective communication is measured by the similarity between the idea transmitted and the idea received.

Effective communication requires three elements:

The source – the instructor

The symbols – words or signs used to convey the message

The receiver – the student

For communication to be effective it must contain symbols that are meaningful to the student. An instructor speaking or writing from a broad background of accurate, up-to-date stimulating material will be able to convey a thought effectively. Effective communication takes place only when the students reach with understanding and change their behaviour accordingly. The most effective communication uses a variety of symbols that use the channels of hearing and seeing and when appropriate, feeling.

Barriers to effective communication

1. Lack of common Core of Experience – the one greatest single barrier to successful communication. For communication to be effective the extent of the experiences – physical, mental or emotional, the people involved must have similar experiences. Words rarely carry precisely the same meaning from the mind of the communicator to the mind of the receiver. Experiences of the receiver add meaning to the words that are heard.
2. Confusion between the symbol and the thing symbolized – communicators must use care to differentiate between the symbols and the things they represent.
3. Overuse of abstractions – abstract words stand for ideas that cannot be directly experienced, and that do not put specific mental images in the mind of the receivers. Concrete words refer to objects that can be experienced directly. With the use of abstractions the communicator does not necessarily portray to the receiver's mind the specific items of experience they may have intended. The use of more concrete terms by the instructor can help control the image produced in the mind of the listener or reader.

The Teaching Process

Steps for logically teaching new material:

1. Preparation – making a written lesson plan which defines material to be covered, outlines lesson objective, clearly states the goals to be attained, and makes certain that all necessary supplies and equipment. The equipment must be operating properly.
2. Presentation – Instructors must determine which method of presentation is best suited for the information to be conveyed. These methods may be: lecture method, or the demonstration/performance method.
3. Application – this method gives the student an opportunity to apply what is being taught. Allowing the student to apply the newly gained knowledge early in the learning process helps prevent the development of faulty habits.
4. Review and Evaluation – Students need to be evaluated on their performance and on the attainment of the objectives and goals at the end of each step in the learning process.

Deficiencies and faults should be noted carefully and steps taken to remedy them.

Teaching Methods

Three main teaching methods are lecture, guided discussion and demonstration/performance method.

Lecture Method

This method is used primarily to introduce students to a new subject. It is also a valuable method for summarizing ideas, showing relationships between theory and practice, and re-emphasizing main points. Lectures are an effective way of presenting a large number of ideas in a short time. They may be given to small or large groups and may be used to introduce a complete training program or a unit of instruction. They can be used with other teaching methods to give added meaning and direction. In organizing a lecture the first step is to establish the objective and identify the desired outcome. The entire lecture should be directed at the achievement of these goals.

Types of Lectures

Illustrated talk – instructors rely heavily on the use of visual aids.

Briefing – presentation of a concise array of facts without elaboration or supporting material.

Formal speech – the purpose is to inform, persuade, or entertain.

Teaching Lecture – is an oral presentation designed to help the student reach a desired learning outcome.

The most widely used method of teaching is the teaching lecture, and it requires a high degree of organization and skill in presentation. With this method there is very little direct student feedback, so the instructor must watch very carefully to make sure the students are assimilating the information delivered. The instructor should be confident, relaxed and in complete control when presenting a teaching lecture. This type of lecture is best delivered in an extemporaneous manner, using a mental or written outline. Materials should not be read directly nor recited from memory, but delivered in a relaxed way to put the students at ease.

Substandard English and vulgarisms should never be used. They detract from the instructor's dignity and reflect upon the intelligence of the students. Lectures do not need to be formal. Well-formulated and directed questions during informal lecture encourages active student participation and gives the instructor an immediate feedback. By questioning the instructor is able to determine the experience and the background of the students. This helps to add variety and stimulate interest and also check student understanding.

The oldest and most effective teaching method is the guided discussion. Guided by the skilful use of questioning the instructor directs the class and keeps everyone working toward the goals and objective of the lesson, to develop understanding of the subject. With more intense discussion and a greater degree of participation, the more effective the learning will be. Guided discussion requires a high degree of skill on the part of the instructors. Instructors must encourage questions, exercise patience and tact, and comment on all responses. Ridicule and sarcasm must never be used. The following are topics that must be carefully planned and used in discussion:

* Select the topic that students can profitably discuss. For learning to take place all of the students must have some knowledge to exchange with each other

* Establish a specific lesson objective and desired learning outcome. Guided discussions are most useful when the objective is stated at least at the understanding level of learning. Guided discussions are of little use when teaching at the rote level.

* Conduct adequate research to become familiar with the topic. When an instructor has a complete knowledge of the subject he can use a wrong answer to use that to develop further meaningful discussion.

* Organize the main and subordinate points of the lesson plan in logical sequences.

Main Points of Guided Discussion

1. Introduction: Gains the attention of students, motivates, and presents an overview of the lesson.

2. Discussion: Instructor driven discussion that includes a discussion of all the main points of the lesson and produces a logical progression to the objective.

3. Conclusion: This consists of a summary, remotivation, and closure.

Plan at least one lead-off question for each desired learning outcome. The purpose is to get the discussion started, not to seek a specific answer. Lead-off questions should start with "how" or "why" to encourage a discussion and not have a short answer.

Questions that may be used in a guided discussion are classified as:

* Overhead – This type of question is directed at the entire group to stimulate thought and response from each member. Overhead question are normally used as lead-off questions.

* Rhetorical – Used to stimulate thought but is normally answered by the instructor.

* Direct – Used to get specific information from an individual member of the class.

* Reverse – May be used as an answer to a student's question. The instructor leads the student to provide the answer to his question.

* Relay – similar to a reverse question except that it is redirected to the group rather than the student who asked the question.

At the end of a discussion when the instructors feels that students have discussed the ideas that support the particular part of the lesson, the instructor will summarize what they have accomplished. The interim summary is one of the most effective tools available to the instructor as part of a discussion lesson.

Demonstration/performance method is best utilized in teaching such skills as cross-country flight planning.

Demonstration/performance instruction has five essential phases.

1. Explanation – The precise actions to be performed are explained by the instructor. The explanations need to be clear, detailed, and pertinent to the objectives of the lesson.

2. Demonstration – Instructors show the students the correct ways to perform the task.

3. Student performance – Student performs the task.
4. Instructor supervision – Student performance is concurrent with the instructor supervision.
5. Evaluation – The instructor judges the performance. This gives the instructor the ability to correct any misunderstandings the student might have.

Regardless of the teaching methods used, organization of the material should be done in a way that will produce the most learning. One effective organization is:

Introduction – This sets the stage for learning. Common ground between instructors and students is established to capture and hold the attention of the group. Introduction sets the stage for what will be covered during the presentation and relates this to the entire course. A receptive attitude toward the subject that leads into lesson development is established.

Introduction should contain these features:

1. Attention – allows the instructor to gain the attention of the class and focus it on a subject.
2. Motivation – This appeals to each student personally and accentuates desires to learn.
3. Overview – Clear, concise presentation of the objectives of the lesson and key ideas give students a clear view of the route to be followed.
4. Development – Materials are organized in a manner that shows the relationship between the main points. These points are as follows:
 1. Past to the present
 2. Simple to the complex
 3. Known to the unknown
 4. Most frequently used to infrequently use

Conclusion: Retraces the important pieces of the lesson and relates them to the objectives. Pertinent points are reviewed in order to reinforce them in the student's mind.

Instructors as Critics

The instructor is charged with the unique responsibility of criticizing the actions of a student in order to help the student evaluate their own performance. A critique is a part of the learning process, not part of the evaluating process, and is not necessarily negative. Critique considers both the positive and the negative aspects of performance.

A critique may be either oral or written, or both. It should come immediately after the student's individual or group performance. By doing it at this time the details of the performance are easily recalled. Critiques are used to improve the student's performance and provide constructive ideas from which to build. It should always provide direction and guidance for elevate levels of performance.

An effective critique should be:

- * Objective
- * Flexible
- * Acceptable
- * Comprehensive
- * Constructive
- * Well Organized
- * Thoughtful
- * Specific

Evaluation

Direct or indirect oral questioning of the student is one of the most practical means of evaluation of the student. Oral questions can be divided into two categories – fact and thought. Memory or recall is the basis for fact questions. Thought questions require the students to combine knowledge of facts with the ability to analyze situations, solve problems and arrive at conclusions.

Desirable results of proper quizzing are as follows:

- * It can reveal the effectiveness of the instructor's training procedure.
- * Check the student's retention of the subject.
- * Reviews material already covered by the student.
- * Can be used to retain the student's interest and stimulate thinking.
- * Proper oral questioning emphasizes the important points of the training.
- * Identifies points which need more emphasis
- * It checks the student's comprehension of what has been learned.
- * Promotes active student participation.

Effective oral quizzing questions have some general characteristics. There may be only one correct answer to each question, but the answer may be expressed in a variety of ways. Answers need to be easily evaluated by the instructor. To be effective the questions must apply to the subject being taught, and be brief, concise, clear, and definite. Effective questions must be adapted to the ability, experience, and stage of training of the different students. They must centre on only one idea and include one question. Questions must challenge students. They should be difficult for the student at that particular stage of training. Effective questions demand the use of good English.

Before answering a student's question, the instructor must clearly understand the question. After the question is answered, the instructor must determine whether the student met the criteria for the answer.

Skills of the test writer determine the validity of the test as an evaluator of the students' knowledge. Characteristics of a good written test are:

Reliability – Written tests should yield consistent results each time it is used.

Validity – Test should actually measure what it is supposed to measure, and nothing else.

Usability – Written tests should be easy to give and easy to grade.

Comprehensiveness – The written test should sample liberally the subject being measured

Discrimination – Written tests should be able to detect small differences. The range of scores should be wide. All levels of difficulty should be included, and each item should distinguish between students who are low and those who have a high achievement level of the course objectives.

Basic types of written tests

Supply-type

- * Requires students to organize their knowledge.
- * Demands an ability to express ideas in written form
- * Valuable for measuring the students' generalized understanding of a subject
- * Main disadvantage is the difficulty and lack of uniformity in grading
- * This test can be graded by different instructors and likely be scored differently

Selection-type

- * Highly objective
- * Can be scored the same regardless of the person taking of the person grading it
- * Includes multiple choice questions
- * Includes true/false questions
- * Makes is possible to directly compare the accomplishment of students within the same or different classes

True/false tests

- * Well adapted to testing knowledge of facts and details
- * Especially useful where there are only two possible answers
- * Chief disadvantage is the probably of students' guessing the answers

Multiple-choice Tests

- * Used to determine student achievement
- * Measurement of achievement evaluated based on acquisition of facts
- * Measurement of achievement based on reasoning
- * Measurement of achievement based on the ability to apply what has been learned

Multiple Tests are appropriate when they contain:

- * Test items with a built-in or unique solution
- * Test items clearly limited by the wording so that the student must choose the best answer
- * Test items with several options that are plausible or even scientifically accurate, but only one clearly correct. This measures achievement at a high level of learning.
- * Test items have several pertinent solutions, with the student identifying the most appropriate.

Problems with constructing multiple-choice test items are:

- * Item stem of the question must be expressed clearly and with ambiguity.
- * Answer must be state in such a way that it cannot be refuted.
- * Lures, or distracters, must be attractive to students who do no possess the knowledge or understanding necessary to recognize the correct answers.

Instructional Aids

Instructional aids are used to obtain and hold the attention of the students. Properly used they enhance learning. It is extremely easy to misuse them. Instructional aids should be simple and compatible with the learning outcomes to be achieved by the students. Instructors should never use them as a crutch.

Guidelines to Prevent Misuse of Instructional Aids:

1. Clearly establish lesson objectives before deciding on the use of instructional aids.
2. Gather the necessary data by researching the available support material.
3. Organize the material into an outline or lesson plan including all key points to be presented.
4. Instructional aids should be chosen after all the previous steps are complete. Aids should concentrate on the key points.

Characteristics and Responsibilities of Flight Instructors

Requirements for a flight instructor include professionalism, relating to the instructor's public image. Characteristics of professionalism of an instructor include:

1. Sincerity. Pretentiousness whether it be real or mistaken assumed by a student will cause the student to lose confidence in the instructor, and very little learning will be accomplished.
2. Acceptance of the student. Professional relationship between instructors and students should be based on mutual acknowledgments that both the student and instructor are important to teach other. Also, that they are working toward the accomplishment of the same objectives. An instructor should under NO circumstances do anything that implies degradation of the student.
3. Personal appearance and habits. Flight instructors who are rude, thoughtless, and inattentive cannot hold the respect of the students regardless of their piloting ability.
4. Demeanour. Instructors should avoid erratic movements, distracting speech habits, and capricious changes in mood.
5. Safety practices and accident prevention. Flight instructors must meticulously observe all regulations and recognized safety practices during all flight operations.
6. Proper Language. Use of profanity and obscene language leads to distrust, or at best, to a complete lack of confidence.
7. Self-improvement. Professional flight instructor must never become complacent or satisfied with their own ability or qualifications. They always must strive for improvements.

Instructors as the motivator

- * Maintain a high level by making each lesson a pleasurable experience.
- * Realize that people are not always attracted to something because it is easy.
- * Recognize that people will devote the required effort to things that bring rewards as self-enhancement and personal satisfaction.
- * Instructor should make learning to fly interesting by keeping students apprised of objectives, of the course and the specific lesson

- * Not knowing the objectives contributes to student confusion, disinterest, and uneasiness.
- * Instructors should guide students in exploration and experimentation to assist them to develop their own capabilities and self-confidence.

Instruction to Produce Desired Results

- * Instructors must carefully and correctly analyse personality, thinking and ability of each student
- * Students incorrectly analysed as slow thinkers may actually be quick thinkers, but act slowly or at the wrong time because of a lack of confidence.
- * Slower students can often be helped by assigning sub goals that are more easily attainable.
- * This allows students to practice part of the task until confidence and ability is gained.

The Apt Student

- * May create problems because they make less mistakes and assume that correction of errors is unimportant.
- * Overconfidence can result in faulty performance
- * A good instructor must constantly raise the standard of performance demanded to demand greater effort on the part of the student.

Stumbling Blocks for Flight Instructors

Instructors that fail to provide competent instruction when they allow their students to get by with substandard performances, or without thoroughly learning knowledge pertinent to safe piloting.

Positive Approaches to Flight Instruction

Flight instruction that points out to the student the pleasurable features of aviation before the unpleasant parts are discussed. This is an example of a positive approach. Include in the first instructional flight, a normal round-trip to a nearby airport.

Factors that affect Flight Instruction

Anxiety, or fear, are probably the most significant psychological factor affecting flight instruction. Responses to anxiety vary greatly. These responses range from hesitancy to act,, to the impulse "of doing something even if it's wrong." Students may freeze in place and do nothing, while others may do unusual things without so much as a rational thought or reason. Normal reactions to anxiety can be offset by reinforcing the student's enjoyment of flying. Help teach them to treat fear as a normal reaction rather than ignoring it. Normal individuals react to stress by responding rapidly and exactly, while within the limits of their experience and training.

Abnormal Reactions to Stress

- * Autonomic responses, such as sweating, rapid heart rate, paleness, etc.
- * Inappropriate reactions, such as extreme over cooperation, painstaking self-control; inappropriate laughter or singing, rapid changes in emotions, and motion sickness under stress

* Marked changes in mood on different lessons, such as excellent morale followed by deep depression

* Severe anger at the flight instructor, service personnel, or others.

Techniques of Flight Instruction

Flight Instruction is normally done by the demonstration/performance method. Listed below are the steps of this method.

1. Instructor tells – instructor does
2. Student tells – instructor does
3. Student tells – student does
4. Student does – instructor evaluates

Integrated Flight Instruction

Students are taught to perform flight manoeuvres, from the first time each manoeuvre is introduced, both by outside visual references and reference to the flight instruments. First instructions, on function of the controls, include the expected instrument indications as well as the outside references used in attitude control. The objective of integrated flight instruction is to help the student form firm habits of observing and relying on flight instruments from their very first piloting experience. The development by students, from the start of training, the habit of looking for other air traffic at all times when they are not operating under simulated instrument conditions.

Obstacles to learning during flight instruction

* Feeling of unfair treatment – student motivation decreases when a student believes the instructor is making unreasonable demands for performance and progress.

* Impatience to proceed to more interesting operations – student impatience is a greater deterrent to learning piloting skills than is generally recognized. The instructor may correct this by presenting the necessary preliminary training one step at a time, with clearly stated goals for each step.

* Worry or lack of interest – students who are worried or emotionally upset do not learn well, and they derive little benefit from any practice

* Physical discomfort, illness, or fatigue – these factors slow the rate of learning during both classroom instruction and flight training. The primary consideration in determining the length and frequency of flight instruction is fatigue.

* Apathy, fostered by poor instruction – students will quickly become apathetic when they recognize that the instructor is inadequately prepared for the lesson being given, or when the instructor appears to be insincere, contradictory, or deficient.

* Anxiety – may place additional burdens on the instructor. It limits the students' perceptive ability and retards development of insights. Students must be comfortable, confident in the instructor and the airplane, and at ease for effective learning to occur.

Planning Instructional Activity

Standards and objectives must be made before any instruction can begin. Training for piloting an aircraft requires the development, into their proper relationship, segments or "blocks of learning." A student can master these segments of the overall pilot performance requirements individually, and then can progressively combine them with other related segments until the sum meets the final objective.

After overall training objectives been established, the next step is to identify the blocks of learning which constitutes the necessary parts for the total objective. Extraneous blocks of instruction are unnecessary frills, which detract rather than assist in the completion of the final objectives.

Syllabus form may vary, but it is always an abstract or digest of the course of training. The syllabus consists of the blocks of learning to be completed in the most efficient order. A practical training syllabus must be flexible, and should be used as a guide primarily.

If an instructor must depart from the order in the syllabus, they must consider the relationships of the blocks of learning affected. If a scheduled lesson must be postponed, it is often preferable to skip to a completely different part of the syllabus, rather than proceeding to the next block, in which performance may depend on skills needed to be developed during the lesson that had to be postponed. Each lesson in a training syllabus includes an objective, content, and completion standards.

Organization of a Lesson Plan

Lesson plans are organized in an outline or "blueprint" for a single instructional period and should be prepared in written form for each ground school and flight period, regardless of the instructor's experience. By using lesson plans instructors can keep a constant check on their own activity as well as that of their students.

Adequate Lesson Plans

1. Assure a wise selection of material and eliminate unimportant details.
2. Consideration needs to be given to each part of the lesson.
3. Aid the instructor in presentation of the material in a suitable sequence for efficient learning.
4. Provide an outline for the teaching procedure to be used.
5. Serve as a means of relating the lesson to the objectives of the course.
6. Give confidence to an inexperienced instructor.
7. Promote uniformity of instruction regardless of the instructor, or the date the lesson is given.

With a well-planned lesson, each lesson is a unified segment of instruction. Each lesson contains new material that is related to the previous lesson presented. Each lesson should be reasonable in scope. It should be planned practically in terms of the conditions under which the training is to be conducted. Lessons should be planned and taught so that its' relationship to the course objectives are clear to every student. Finally, every lesson, when adequately developed, falls logically into the four steps of the teaching process: presentation, application, review, and evaluation.