Avotek Information Services Presents:

Instructor Best Practices
and
Practical Tips for the Classroom

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Who in heck is David Jones

- Graduated from Western Michigan University

- Pilot Certificate ASMEL

- Flight Instructor

- A&P Mechanic

- DME

- Part 147 Instructor at Community Colleges and Proprietary Schools

- Writer/Editor of textbooks, POH and Maintenance Manuals for Avionics, Video and Online course developer

- Startup specialist for Part 147 and industrial maintenance programs

Finding and Hiring Instructors

- Finding contacts for A&Ps who might be interested/qualified

- Identifying most likely candidate populations

- Interview tips

Training the Trainers

Unlike Flight Instructors, the FAA does not certificate Mechanic Instructors

There is no universal standard requirements or training outline for technical instructors

It is necessary for the school to provided some training for instructors who come with no experience in teaching adults

Instructor and Learner Relationship

- The learning experience today is not the same as it likely was when you were in school

- Everyone has an individual style of learning – welcome to the iGen

- Personality type influences how one learns; it also influences how one teaches

- Working with that style, rather than against it, benefits both instructor and learner
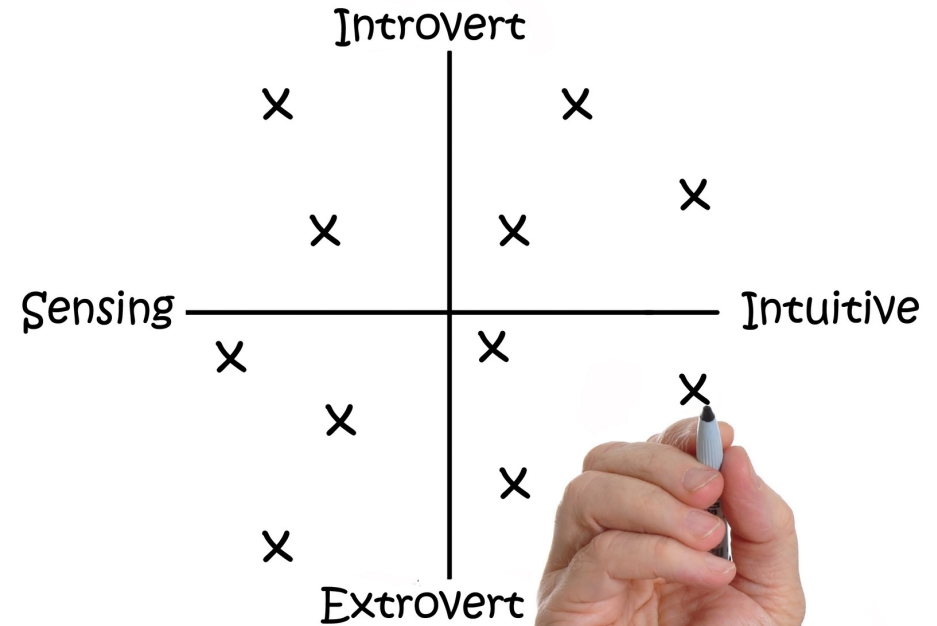
late 90s to 2010s
Gen Z, iGen, or Centennials

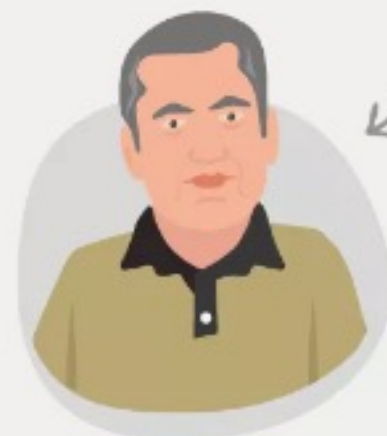**1980 to late 90s**
Millennials or Generation Y

1965 to 1979
Thirteeners or Generation X

1900 to 1924
G.I. Generation

1925 to 1945
Traditionalists or
Silent Generation

1946 to 1964
Baby Boomers

Myers-Briggs Type Indicator

- The four-letter personality trait designations associated with the Myers-Briggs test are sometimes used to help find the best path to learning success

- Personality type influences how one learns; it also influences how one teaches

Personality Types Key

E **Extroverts** are energized by people, enjoy a variety of tasks, a quick pace, and are good at multitasking.

I **Introverts** often like working alone or in small groups, prefer a more deliberate pace, and like to focus on one task at a time.

S **Sensors** are realistic people who like to focus on the facts and details, and apply common sense and past experience to come up with practical solutions to problems.

N **Intuitives** prefer to focus on possibilities and the big picture, easily see patterns, value innovation, and seek creative solutions to problems.

T **Thinkers** tend to make decisions using logical analysis, objectively weigh pros and cons, and value honesty, consistency, and fairness.

F **Feelers** tend to be sensitive and cooperative, and decide based on their own personal values and how others will be affected by their actions.

J **Judgers** tend to be organized and prepared, like to make and stick to plans, and are comfortable following most rules.
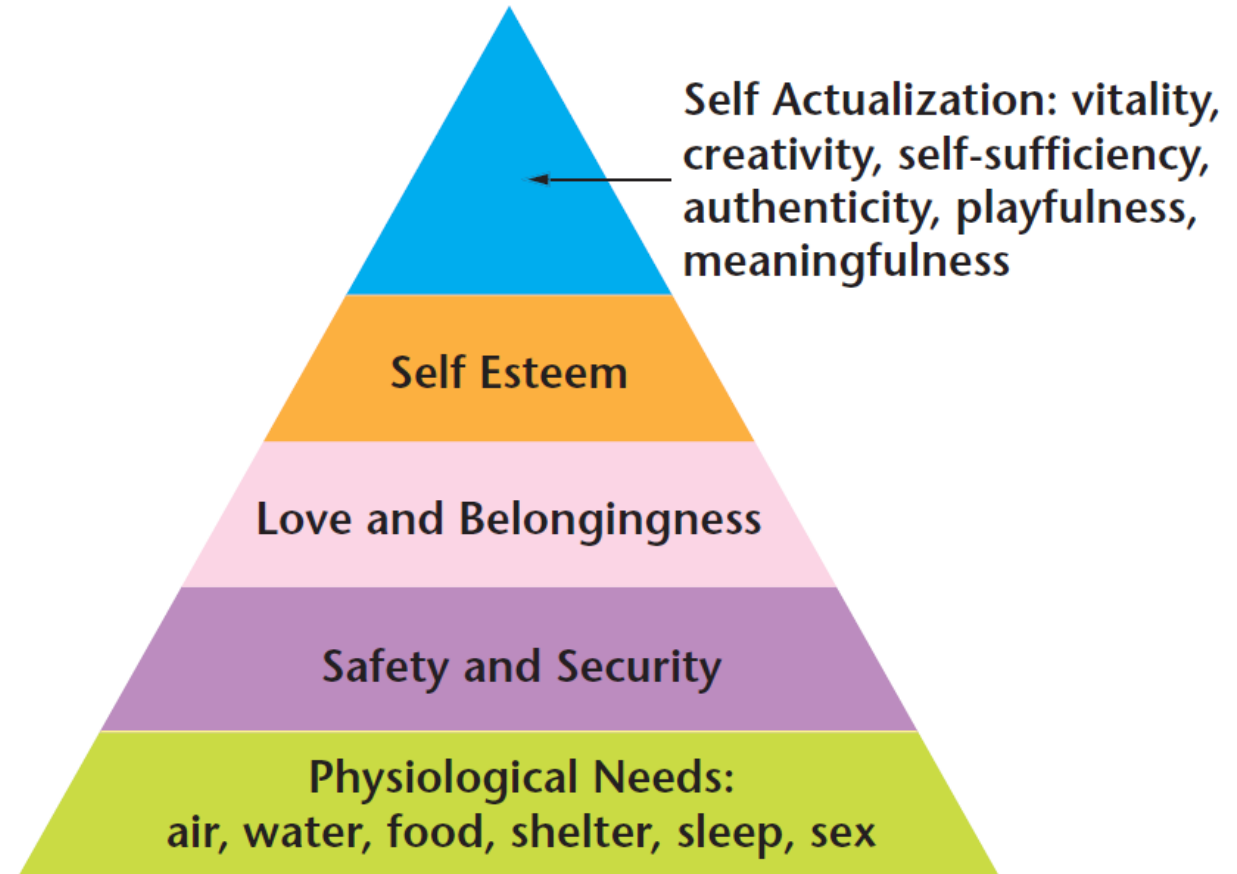
P **Perceivers** prefer to keep their options open, like to be able to act spontaneously, and like to be flexible with making plans.

Teaching the Adult Learner

- Learning is a means to an end, not an end in itself
- Adults are autonomous and self-directed; they need to be independent and exercise control
- Adults have accumulated a foundation of life experiences and knowledge and draw on this reservoir of experience for learning
- Adults want to solve problems and apply new knowledge immediately
- Adults are practical, focusing on the aspects of a lesson most useful to them in their work
- Adults are goal oriented – This works well with competency-based education
- Competency-based education (CBE) is a way of learning that **focuses on what you can do**, not how long you study

Maslow's Hierarchy of Needs

- Human needs are things all humans require for normal growth and development

- Human needs are satisfied in order of importance

- Human needs affect the ability to focus on the task at hand

- Learners tend to show little to no motivation or attention if most of their needs are not met

Self Actualization: vitality, creativity, self-sufficiency, authenticity, playfulness, meaningfulness

Self Esteem

Love and Belongingness

Safety and Security

Physiological Needs:
air, water, food, shelter, sleep, sex

The Learning Process

Gaining knowledge, skills, and developing a behavior (risk management), through study, instruction, and experience.

Cognitive Theory – Bloom's Taxonomy

- Cognitive theory focuses on what is going on inside the mind. It is more concerned with cognition than with stimulus and response

- Learning is not just a change in behavior; it is a change in the way a learner thinks, understands, or feels

- This taxonomy is a classification system according to presumed relationships. It establishes six levels of intellectual behavior and progresses from the simplest to the most complex

Create

Evaluate

Analyze

Apply

Understand

Remember
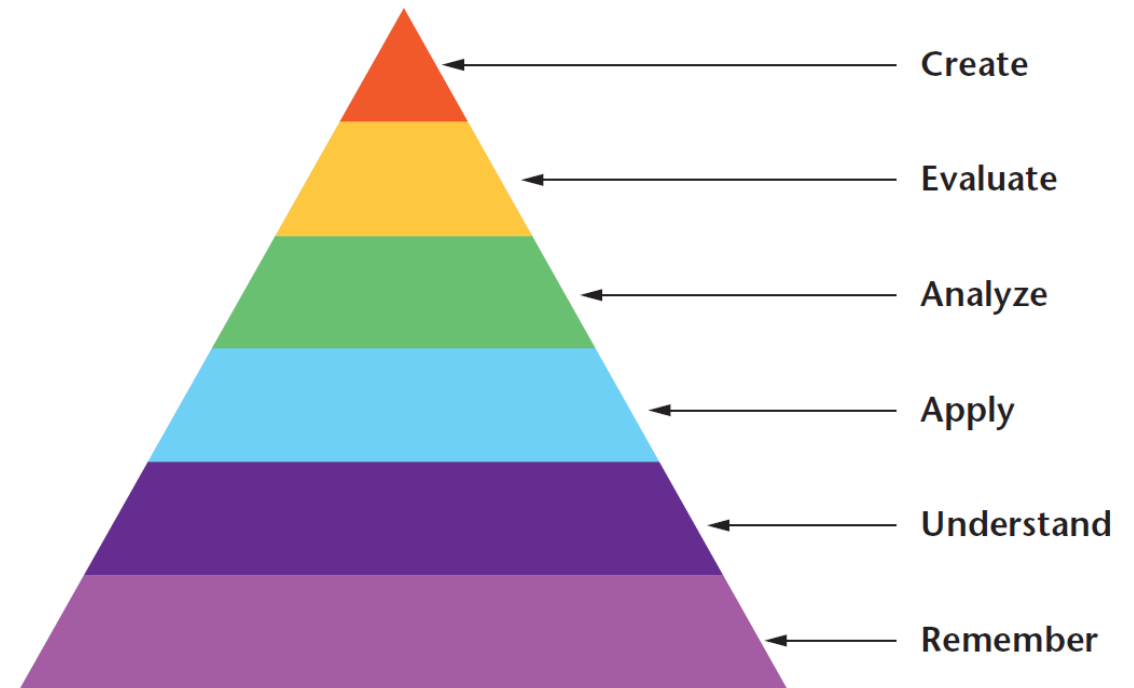
Higher Order Thinking Skills (HOTS)

HOTS lie in the last three levels on Bloom's Taxonomy of Learning: analysis, create, and evaluation skills

HOTS are taught like other cognitive skills, from simple to complex and from concrete to abstract

Critical thinking skills should be taught in the context of subject matter

Scenario Based Training (SBT)

- SBT is a system that uses a structured script of "real-world" scenarios to address training objectives in an operational environment

- These scenarios help learners better understand the decisions they must make

- SBT helps focus the learner on the decisions and consequences involved

Readiness to Learn

Instructors can take two steps to keep their learners in a state of readiness to learn:

First, instructors should communicate a clear set of objectives to the learner and relate each new topic to those objectives

Second, instructors should introduce topics in a logical order and leave learners with a need to learn the next topic

Law of Effect

The Law of Effect states that behaviors that lead to satisfying outcomes are likely to be repeated, whereas behaviors that lead to undesired outcomes are less likely to recur

The learner needs to have success to have more positive outcomes in the future

Positive training experiences are more apt to lead to success and motivate the learner

Negative training experiences can stimulate forgetfulness or avoidance

Learning Styles

- Learning styles are simply different approaches or ways of learning based on the fact that people absorb and process information in different ways

- Just as people learn differently, instructors also have different teaching methods - some rely on lectures, others demonstrate, and others might prefer computer-based training

- Everyone, learner and instructor alike, has a mixture of strengths and preferences

- You should not focus on a single style or preference to the complete exclusion of any other, and training program development and delivery should be sensitive to this

Right Brain/Left Brain

Left Brain
- Responds well to verbal instruction
- Likes to learn in step-by-step format
- Prefers writing
- Is planned and structured
- Does well on multiple choice tests
- Analytic
- Recalls people's name

Right Brain
- Responds well to demonstrated instruction
- Likes to learn general concepts and then specifics
- Prefers open ended questions
- Responds to tone of voice
- Impulsive
- Recalls people's faces
- Holistic or global

Visual, Auditory, and Kinesthetic Learners

Learning style	Traits	Teaching tips
Visual	Seeing, reading	Use graphs, charts, videos
Auditory	Hearing, speaking	Have learner verbalize questions
Kinesthetic	Touching, doing	Use demonstrations of skills

Evaluation Versus Critique

- In the initial stages of skill acquisition, practical suggestions are more valuable to the learner than a grade

- An instructor ensures a skill is practiced correctly by monitoring the practice and providing feedback about the skill development

- Providing compliments on aspects of the skill that were performed correctly helps keep the evaluation positive

- Allowing the learner to critique his or her performance enhances learner-centered training

Effective Communication

Mechanic instructors might have much technical knowledge, but they also need to learn to communicate effectively so they can share this knowledge with learners.

Developing Communication Skills

Instructors need to develop communication skills - they do not occur automatically

The ability to effectively communicate stems from experience

Instruction has taken place when the instructor explains a procedure and then determines that the learner exhibits the desired response

The Teaching Process

Good teachers:
- select and organize worthwhile course material,
- lead learners to encode and integrate this material in memorable form,
- ensure competence in the procedures and methods of a discipline,
- sustain intellectual curiosity,
- and promote how to learn independently

What is Teaching?

The teaching process consists of four steps:

- Preparation
- Presentation
- Application
- Assessment

Training Delivery Methods

Instructors can choose from many ways to present material:

- Lecture
- Discussion
- Guided discussion
- Scenario based
- Group learning
- Demonstration-performance
- E-learning

Assessment

Instructors must continuously evaluate a learner's performance to provide guidance, make suggestions for improvement, and provide positive reinforcement.

Assessing Risk Management Skills

Risk Management Terms:

Explain - The learner can verbally identify, describe, and understand the risks inherent in the scenario but needs to be prompted to identify risks and make decisions

Practice - The learner can identify, understand, and apply risk management principles to the actual shop situation. Coaching, instruction, or assistance quickly correct minor deviations and errors identified by the instructor. The learner is an active decision maker

Manage-Decide - The learner can correctly gather the most important data available, identify possible courses of action, evaluate the risk inherent in each course of action, and make the appropriate decision. Instructor intervention is not required for the safe completion of the operation

Instructor Responsibility and Professionalism

Learners often look to their instructors as role models, so it is important that instructors know how to teach and that they project a knowledgeable and professional image.

Instructor's Code of Ethics

An aviation instructor needs to remember that he or she is teaching a technician who should:

- Make safety the number one priority

- Develop and exercise good judgment in making decisions

- Recognize and manage risk effectively

- Be accountable for his or her actions

- Act with responsibility and courtesy

- Adhere to prudent operating practices and personal operating parameters

- Adhere to applicable laws and regulations

Systems and Strategies

Instructors give learners tools to help organize and manage their work (ADM, Risk Management, Situational Awareness)

By introducing these systems as an integral part of the aviation learning experience, we have seen an increase in the understanding of "why" things are done a certain way or in a certain order

It is not a pedagogical method, but it is an important part of aviation instruction

Teaching in an Online World

Distance learning means learning that is accomplished by any training method that does not include an instructor and a gathering of trainees collocated in a traditional classroom.

This is also known by other terms such as E-learning, home study, self-guided training, virtual classroom, distributed training, computer-based training, web-based training, and others.