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Analytical Method of Training (AMT) Concepts

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Understanding Education, Ability, and Skills The Key to Developing Skill Based Training

Are You Training Or Educating?

All technical training developers need to understand the difference between education and training. Without this understanding it is easy for developers to fall into the trap of developing a program that does not deliver “training”.

Education Defined

Let's first look up the formal definition of these terms. Wikipedia defines education as follows: “Education encompasses teaching and learning specific skills, and also something less tangible but more profound: the imparting of knowledge, positive judgment and well-developed wisdom.”. This definition sounds good but is too broad and uses terms like, “learning specific skills” that needs definition themselves. I believe the best definition is “Education is the transfer of knowledge”.

Education Is The Transfer Of Knowledge

I make the following argument for my definition. If education is defined as Wikipedia states, why does the public education system in the

United States turn out far too many functional illiterates and student behavior is a key problem today in the classroom? It is because public education does not provide proper skill development, fails too often to transfer “positive judgment and well developed wisdom”. There are forces at work in the education process that affect the learner's ability to learn and the instructor's ability to train. These forces are outside the formal classroom and are significant. Examples are peer behavior, family or work environment, learner's knowledge level, and learner's previous life experiences.

After completing eighteen years in the primary, secondary, and higher education processes, and observing two children go through the process, I believe the process is basically knowledge transfer.

Knowledge transfer is one of the easiest to verify. The approach is to tell the learner what they are going to be told, tell them, and then ask the learner to repeat what was just said. Applying rote memory is very common in knowledge transfer. You give a learner an assignment to “learn” and then quiz them to see if knowledge was transferred. How many people at-

tend school, learn math, and basic money principles, but cannot balance a checkbook? Which is skill and which is education? Don't get me wrong here. Education is very important. But, without a process to convert knowledge into skill, the learner will not master a skill.

Training Defined

How does Wikipedia define training? “Training refers to the acquisition of knowledge, skills, and competencies as a result of the teaching of vocational or practical skills and knowledge that relates to specific useful skills.” There is more to this definition and you may want to read the complete definition. This definition reads a lot like education. I believe there is a distinct difference and can be applied outside the traditional vocational system. Getting to the point, I believe the best definition is “training is the transfer of ability”. Education is knowing, ability is doing.

Training Is The Transfer Of Ability

(Continued on page 2)

ID	NAME	ERA
1	John Lackey	3.01
2	Fausto C. Carmona	3.06
3	Dan Haren	3.07
4	Erik Bedard	3.16
5	C.C. Sabathia	3.21
6	Josh Beckett	3.27
7	Johan Santana	3.33
8	Kelvim Escobar	3.40
9	Scott E. Kazmir	3.48
10	Mark Buehrle	3.63

Table 1—Earned Run Average (ERA) For Selected Pitchers

(Continued from page 1)

What is ability? This may seem like a simple term to define. But, there are volumes written on ability and where ability comes from. My definition is that ability is the demonstration of specific actions. Here the distinction between education and training becomes clear. Training transfers ability, education transfer knowledge.

Aptitude is commonly defined as “the ability to learn”. Aptitude tests are commonly used to screen job applicants to determine those that have the best chance to learn the job. Without an effective training program, aptitude has little value. In the absence of training, people will “learn”, largely, by trial and error (experience).

Let’s use a sports analogy for an example because it is well understood and most people relate to these activities.

The Table 1 shows ten pitchers from 2006 and the corresponding Earned Run Average (ERA). John Lackey has the lowest ERA for this year. Is he skilled? Most people

would agree that he is a skilled major league pitcher.

Now, you and I may be able to throw a ball sixty feet and six inches consistently in the “strike zone”. Would we be classified as skilled? I don’t think so. Speed and ball movement of the pitch are additional measures of pitching skill.

Would we have the “aptitude” to develop into a major league pitcher? I doubt it. Age and physical attributes would be major factors. This is a tough job we shouldn’t apply for. Baseball scouts spend a lot of time and money observing minor league pitchers to determine who has the “aptitude” and “skills” to make it in the major leagues.

Now, what has this to do with training programs? We have found the first activity prior to developing training material or courses is to identify the job skills and how those skills are measured or observed. Jobs are more complex than they appear to the casual observer and deserve rigorous analysis.

Developers will recognize three major categories of skill:

- * Mental
- * Psychomotor
- * Sensory

Examples of mental skills include troubleshooting and diagnostics, reading blueprints, and filling out forms. Psychomotor skills include hand-eye coordination, and other physical skills. Sensory include sight, smell, and other senses.

Using this example we have shown that skills have associated measures of ability. In this case we have used

ERA as one measure of “pitching skill”. There are many other measures that attempt to quantify “pitching skill”. I would classify pitching as predominately a psychomotor skill. Job skill analysis includes how the skill is measured. If measures are ignored, how does the trainer know when the trainee is skilled? More importantly, how does the trainee know when he/she has mastered the job?

Job skill measures may include errors, time to completion, quality, and timing. The Analytical Method of Training (AMT) is based on a thorough job skill analysis.

It is easier to identify physical abilities, like pitching, than mental skills. Mental skills in jobs are becoming more important and are difficult to identify. Beside mental skills, jobs now have a behavioral skills component. Employers want employees that are “caring” and comply with a myriad of anti-discriminatory laws and regulations.

In this discussion, we defined aptitude, education, training, ability and skill. These concepts are important to training developers. Without the ability to identify the skill in a job, the training course will miss the mark in developing “skilled trainees”.

In the upcoming newsletter we will demonstrate how to perform a job task and skills analysis from sources such as:

- * Work Instructions;
- * Job Safety Analysis;
- * Observations;
- * Job Descriptions.