

Introducing the Dynamics of Individual Learning



Description

The Knowledge Harvesting process is a cost-effective way to articulate knowledge. However, once this knowledge is "set" in a medium and then delivered for performance-support, there are many variables that influence its use. In this module, you will find information about these variables.

Every learning experience has its own set of unique variables. In the same way, your individuality is expressed in terms of your personal interpretation and the manner in which you act:

- What should you consider?
- What does past experience urge you to do?
- How will you accomplish the task that you face?



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Purpose

The content in this module is important to understand because no two individuals have identical challenges, opportunities, and needs. Individualization means:

- You should never expect any two individuals to derive identical solutions.
- Everyone has a particular perspective on a situation.
- Someone may weight certain observations as more important than others may.
- Everyone acts in a unique manner.

Everyone has learning preferences. Your preferences, if accommodated, can result in an improved attitude toward learning and an increase in productivity, academic achievement, and creativity. Understanding the way that you learn is the key to personal development.



Definitions

Individualized learning—Self-initiated, self-controlled learning. You (the learner) control and design the learning procedure. You select the content. You monitor your progress. This is very different from most formal learning situations, where the order, pace and presentation of content is primarily dictated by others (usually the instructor).

A Model for Individual Learning



Images

Image #1

The six statements surrounding the figure below represent common feelings or expressed needs that we often hear in the “self-talk” inside our heads when we are confronted with the need to do something unfamiliar or different. Think of these statements as self-diagnoses that can be individually or collectively detected, and then used to guide selection of the specific guidance and support information needed to maximize learning.

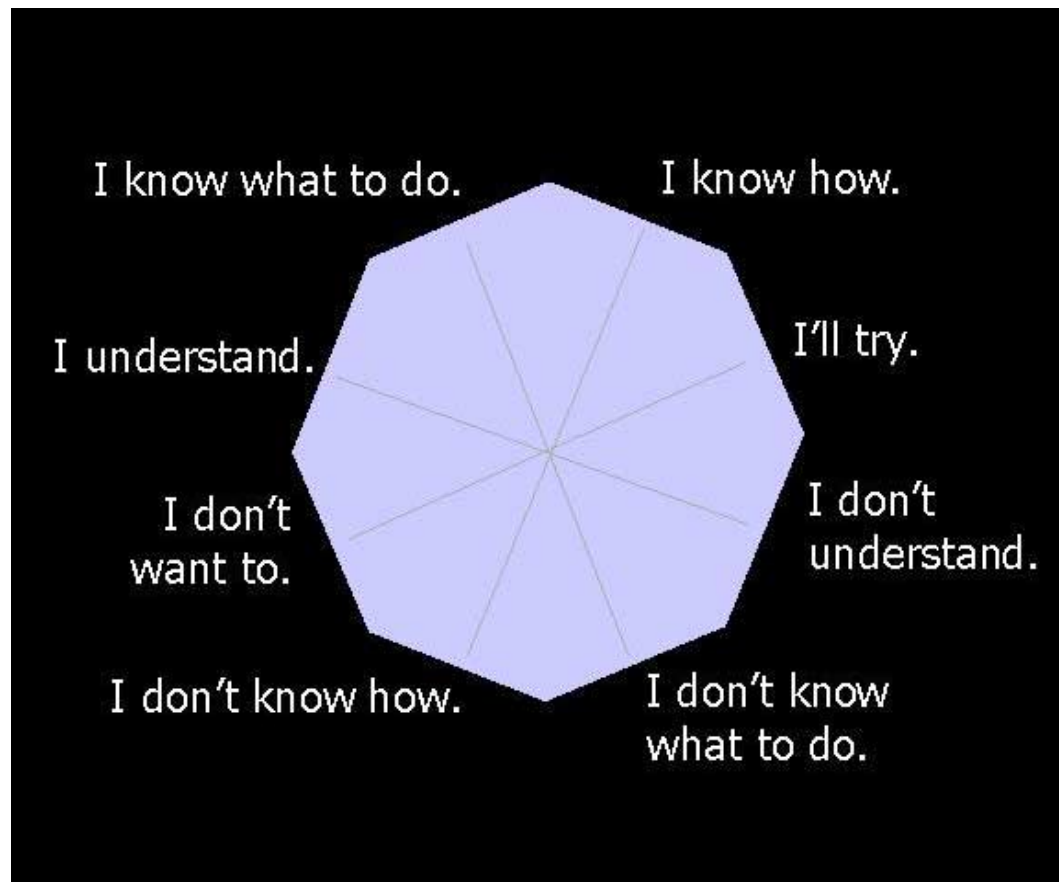


Image #2

This image depicts what we call The Performance Equation. This is a visual representation of the factors that interact to produce the wide variation in human performance.

$$P = f(SI + G) + S + F + I + E$$

Dependent Variable		Independent Variable	Independent Variable	Independent Variable	Independent Variable	Independent Variable
		L Variable	NL Variable	NL Variable	L Variable	NL Variable
		The Work	The Person	The Person	The Person	The Environment
P	=	Individual human Performance —Thinking, Feeling, and Moving.				
SI	=	Unique sets of Support Information .				
G	=	Unique sets of Guidance .				
S	=	Sensing —Using the senses to take in information from the environment inside and outside the individual. An individual's sensory capabilities have a major influence on performance.				
F	=	Feeling —How an individual feels about the learning process in general, as well as the particular learning process that they now face, is a major influence on the individual's willingness to engage in and persist in the learning process. This is known as motivation.				
I	=	Interpretation —Deriving meaning in a learning situation through the cognitive processes of Assimilation and Accommodation that occur inside the mind of the individual. These two processes working together enable the individual to Adapt to new situations (i.e., learn). The sum total of each individual's life experiences is brought to bear in each new learning situation, so that the resulting interpretation is absolutely unique. An individual's cognitive capabilities have a major influence on performance. Each individual's unique interpretation of a learning situation is the source of new ideas.				
E	=	Work Environment —All the factors external to the individual that have an effect on performance. Examples include workplace lighting, availability of human and material resources, frequency of interruptions in the work day, and many others.				
L Variable	=	A Language variable.				
NL Variable	=	A Non-language variable.				

The Sub-second Decision (to Explicitly Learn)



Purpose

The purpose of this section is to explain the probable sequence of events that happens when you encounter a potential opportunity to learn.



Description

What happens when you experience a new situation? (How do you "decide to learn?")

New situations in life require responses. That's why learning is so crucial. Take for instance, a situation where you have no previous experience. In order to understand what to do, you must learn how to respond. A new situation is like a stimulus/trigger. A new situation is like a stimulus. The stimulus may arise internally, from a conceived need or want. Or, it may arise from the environment. The event presents itself and some response from you is warranted.

The comments below are written in such a way to depict what someone might say out loud if required to verbalize thoughts. The stimulus may arise internally, from a perceived need or want. Or, it may arise from the environment. It is an event that presents itself, and some response from you is warranted

Experience a New Situation

The following narrative represents one possible depiction of mental dialogue related to "new" situations, and the possible conscious decision "to learn."

1. After experiencing a stimulus or conception, your attention—brief, limited capability but captures a small set of features of the external stimulus—may or may not be used. So, unconsciously or consciously, you say to yourself: *Have I experienced this before? Do I know what is happening?*
 - 1.1. You also tend to have some awareness of your goal. You "say" to yourself: *This is what I want. I know what I am after. This is what I intend to do.. And, based on this situation, I don't have what I want. There is something else that I need.. Or, there is something that I want to remove/eliminate.*
2. **Yes**, *I've done this before... I've done something like this before. "Yes" means that I have some pre-existing knowledge of a situation like this. I'm familiar with some aspect of this idea. I've done this before. I know what this is. I know how. I believe I know the answer. I understand. I know what to do.*

- 2.1. *Can I handle this situation (based on the way that I have acted before or what I understand)? What should I do about it? Do I know how?*
- 2.1.1. *Should I do it the same way?*
- 2.1.1.1. *Yes.*
- 2.1.1.2. *No.*
3. **No**, there is no pre-existing knowledge. *I don't understand. I do not know what this is. I do not know what to do. What should I do now?*
- 3.1. *Should I try just something and see what happens? I think I'll try this (even though I don't know if it's the best action to take).* In this path, learning before action does not occur.
- 3.2. *Should I learn more about this? I will learn how.* In this path, learning before and during action occurs.
- 3.2.1. *How/what/where/how much do I need to learn?*
- 3.2.1.1. *What is the best way to apply what I have learned?*
- 3.2.1.2. *Do I remember everything I learned?*
4. *Did it work? Is the result OK? Is the situation resolved?*
- 4.1. *Yes or No.*
- 4.1.1. *What happened?*
- 4.1.2. *I should find and refer to the instance that was created when I did this before. It will have the essential information that will help me understand what to do or what not to do in this situation. Even if it doesn't have all the information that I need, at least I'll have something to get started.*
- 4.1.3. *Do I even care about the result? Am I still committed to resolving this issue?*



Image

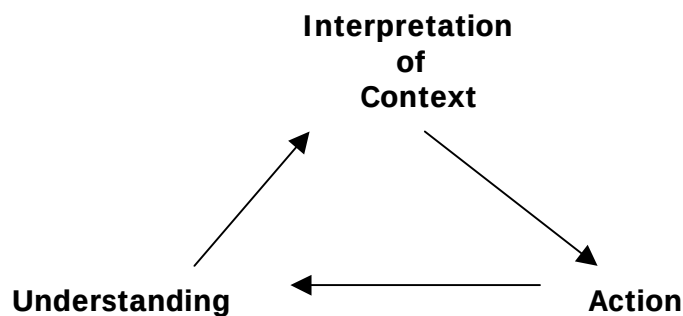
This table presents a summary of the preceding “sub-second dialogue.”

Do I understand?	Can I do this?	Subsequent Action
Yes	Yes	In most situations, the individual's response is automatic.
Yes	No	Sometimes there is a conscious decision to learn.
No	Yes, I think I can.	It is unlikely that there is a conscious decision to learn
No	No	Sometimes there is a conscious decision to learn.

With adult learners, one of the greatest opportunities for performance improvement is the opportunity to help individuals self-talk the sub-second decision. When you can recognize these situations, then you can deliberately react by paying attention, reflecting, and then deciding.

What is the time/space between understanding and action? After the learner has gained access to information and before the learner can act, there must be some deliberate thought related to context. Context is a function of an elaborate response to the question of "why?" and "what is this situation?" Answering this question serves to adjust the special way that knowledge is delivered/interpreted and action is carried out.

It is difficult to model this process serially. In other words, it is not readily apparent whether the interpretation of context precedes a search for information for understanding, or information for action. Perhaps the model is best interpreted as a dynamic, concurrent dance between the three variables.



The challenge arises when we deliberately design a knowledge asset (a learning medium) that must enhance or establish the same dynamics through language. Language absolutely implies serial delivery. Language, as it's read or heard, must be serially delivered. Therefore, the model assumes the "dance" (co-mingling) of these three variables.

The Non-language Variables



Purpose

The important idea to consider is this: When understanding performance, it is very difficult to separate the “knowledge component” from the other influences (variables). We call these other variables the “non-language” variables.



Description

There are three main types of preferences: cognitive, emotional, and physical. The cognitive dimension includes perceiving, thinking, remembering, and problem solving. Analyze your characteristics and control the learning environment so that it is compatible with your preferences.

What variables influence individual learning?

Following is a list of variables that influence the goal of individualization (and learning). These variables can be grouped into environmental, emotional, sociological, physical, and psychological preferences.

Environmental preferences are related to bright versus dim light; absence or presence of sound; warm versus cool temperature; formal versus informal design.

Emotional preferences are related to high versus low structure; low versus high level of persistence, motivation; and responsibility versus nonconformity.

Physical preferences include:

- Need for mobility—the need for changes in posture and location.
- Health—individual response variations arising from good health or from malnutrition, hunger, disease, or injury.

Psychological preferences are

- Actualization—differences in personal striving for fulfillment.
- Anxiety—levels of apprehension and tension under stress conditions.
- Aspiration—variations in perception of past successes and failures in relation to the subsequent performance.
- Attention—differences in the way that focus attention - narrow or broad.
- Breadth of categorizing—preference for broad or narrow range in establishing conceptual categories.

- Complexity and simplicity—differences in the number of dimensions used to construe the world.
- Conceptualizing—different approaches for concept formation.
- Control—extent to which a person thinks of him/herself as responsible for own behavior including successes and failures.
- Curiosity—differences in attraction to the novel or adventuresome aspects of the environment.
- Frustrations—tolerance differences in thwarting behavior in the face of conflict or disappointment.
- Imitation—the tendency to repeat actions that appear desirable in a given situation. A good source of imitation is expertise.
- Interests—patterns of choice among alternatives that do not seem to result from external pressures.
- Motivation—differences in the patterns of planning and striving for some internalized standard of excellence.
- Perception—preferences for visual, auditory, or kinesthetic.
- Persistence—variations in willingness to labor beyond the required time, to withstand discomfort, and to face the prospect of failure.
- Reinforcement—differences in response to reward and punishment.
- Risk-taking—differences in a person's willingness to take chances to achieve some goal.
- Tempo—differences in speed and adequacy of forming hypotheses and processing information.
- Time-of-day—differences in learning response depending on the time of day.

Sociological preferences are related to preference for learning alone; in pairs; with adults, peers, teams, or varied.

- Competition—tendency of individuals to be motivated by rivalry or by sharing experience.
- Social motivation—differences in value-based behavior based on variations in social and racial/ethnic worldview.