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A Guide to Planning and Implementing Instruction for Adults

Richard C. Lumb
The College at Brockport, rclumb@gmail.com

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Planning and Implementing Instruction for Adults1

Prepared by
Richard C. Lumb, Ph.D.

The Leadership Edge
  PSPP&R, LLC
    Managing Change & Development
P.O. Box 952
Wilton, Maine 04295
http://richardlumb.com

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A Guide to Planning and Implementing Instruction for Adults

Improving Knowledge and Skills

CONTENT

Introduction

Adults participate in continuing professional development for a number of reasons. Central to most adults is the need to maintain and/or improve current skills and abilities that are relevant to ones job. The reasons for participation are generally external to traditional academic expectations, such as fulfilling degree requirements. As such, developing instructional materials for adults requires a deeper level of understanding of the motivations, needs, and reasons behind their participation in a learning environment. The purpose of this guide is to provide curriculum developers and teachers of adults with information leading to a more balanced understanding of how and why adults learn, the rationale behind course development methods and techniques for this audience, and information on the learning process itself. Fundamental principles of critical thinking essential to lesson plan development and the learning process of adults, is included.

Programs aimed at teaching adults are a multibillion dollar enterprise that outspends combined expenditures of elementary, high, and post-secondary schools[2]. The sheer number and types of programs aimed at adult continuing education is staggering. The distinguishing characteristic of this array is squarely aimed at assisting the adult learner in a variety of ways. This document provides information relevant to the development of instruction for adults. Section One addresses developing curriculum for programs involving the adult learner, Section Two addresses the adult learner as an individual, Section Three the context of adult learning, Section Four the learning environment, and Section Five critical thinking. As this is *a guide to curriculum development,* the material is often presented in outline format with references provided on the full text of the topic under discussion.

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[2]. Merriam, S. B., & Caffarella, R. S., (1991). *Learning in Adulthood*. San Francisco: Jossey-Bass.

Understanding the difference between *training* and *education* is important when considering lesson plan development[3]. **Training** can be thought of as those activities designed to improve the employee's present job performance by introducing a new behavior or modifying existing behaviors which results in new or modified behavior. Glaser[4] equates training as leaning toward specific objectives, such as operating a machine or following certain regulations. **Education** is defined as those activities, which are designed to improve overall competence of the employee in a specified direction that is beyond their current skills, knowledge, and abilities (SKA's). Glaser also equates education as a process of acquiring broader objectives, such as learning to be an effective manager. Education results in a new set of skills that advance the individual's SKA's and leads them into new areas of knowledge and responsibility. The line between training and education occasionally becomes blurred when lesson plans are being developed. It does, however, assist the developer when considering the intent and purpose of the lesson material.

The material in this guide is prepared especially for the <u>Carolinas Regional Community Policing Institute</u>, a project co-sponsored by the Urban Institute at the University of North Carolina at Charlotte, the Charlotte-Mecklenburg Police Department, and Charlotte's Webb.

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[3]. Nadler, L. (1970). *Developing Human Resources*. Houston: Gulf Publishing.

[4]. Glaser, R. (1962). *Training Research and Education*. Pittsburg: University of Pittsburg Press.

Section One:
Developing Curriculum for Programs Involving the Adult Learner

Teaching adults requires a different conceptualization and preparation than teaching children. Adults, as described in Section 2, require different treatment and consideration when education and training programs are being developed. The focus of adult learning needs is centered on personal, employment, and community contexts. Additionally, adult learning needs dictate that instruction should focus on particular problems, issues, and concerns as they relate to the learners immediate needs[5]. Teaching themes also include the learner's input to the proposed education and training. Program themes include the context and content of the proposed lesson materials, desired competencies and skills needed by the students, and input from the instructor based on his or her knowledge of the material itself. As stated by Dirkx and Prenger (1997), *"in contextual learning, desired competencies or skills in academic subjects, work, or parenting are integrated with specific life contexts.*   This means that when developing education and training, it is important not lose sight that new skills and competencies must include applicability to the learners life needs which include family, work, and future plans. Included is an *emphasis on the acquisition of important skills such as problem solving, critical thinking, and learning-to-learn as well as basic competencies* related to the lesson at hand. Instructional development includes attention to process skills that learners use when engaging in the learning process. These include the skills shown in the following figure (Dirkx & Prenger, 1997:11-12):

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[5]. Dirkx, J. M., and S. M. Prenger (1997). *Planning and Implementing Instruction for Adults*. San Francisco: Jossey-Bass Publishers.

Figure 1.

Process Skills

> **Creativity**
> **Teamwork**
> **Brainstorming**
> **Problem Solving**
> **Critical Thinking**
> **Learning to Learn Skills**
> **Interpersonal Communications**
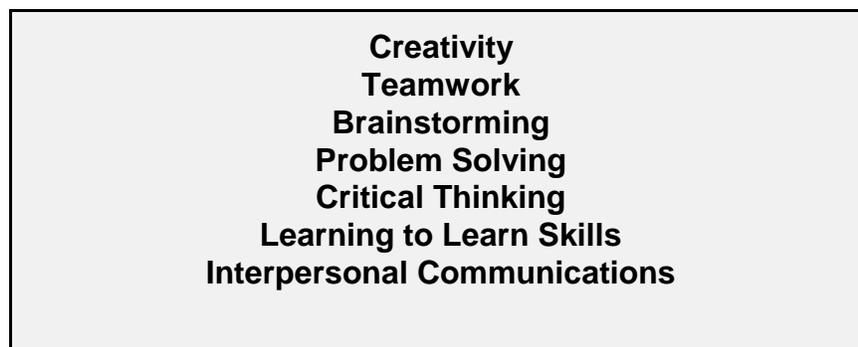
Developing education and training for adults is different than the pedagogical approach taken with children. While many researchers and authors prescribe one tactic or another, perhaps one of the most practical approaches in print is Jane Vella's (1994) book, Learning to Listen, Learning to Teach. The Power of Dialogue in Educating Adults. Dr. Vella provides twelve principles for creating effective adult learning environments that have application to any developing curriculum. The components of this model have utility in all adult learning environments and can be of particular benefit when beginning the course development process. The twelve steps are outlined and briefly described with the intent of directing curriculum developers to her book for more in-depth understanding.

1.   **Vella's[6] Twelve Principles for Creating an Effective Adult Learning Environment**

- Needs assessment: participation of the learners in planning what is to be learned.
- Safety in the environment and the process.
- A sound relationship between teacher and learner for learning and development.
- Careful attention to sequence of content and reinforcement.

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[6]. Vella, J. (1994). *Learning to Listen, Learning to Teach. The Power of Dialogue in Educating Adults*. San Francisco: Jossey-Bass Publishers.

- ☐ Praxis: action with reflection or learning by doing.
- ☐ Respect for learners as subjects of their own learning.
- ☐ Cognitive, affective, and psychomotor aspects: ideas, feelings, and actions.
- ☐ Immediacy of the learning.
- ☐ Clear roles and role development.
- ☐ Teamwork: using small groups.
- ☐ Engagement of the learners in what they are learning.
- ☐ Accountability: how do they know they know?

The twelve principles are used in this guide as they offer a comprehensive approach that is both simple in application and thorough in developmental aspects. Each principle is explained and suggestions are provided for their application to criminal justice training. Supplemental information is included where appropriate.

Principle #1: **Needs assessment: participation of the learners in planning what is to be learned**.

Defined: People attend education and training for a variety of reasons. Each individual brings with him or her unique experiences and expectations. Providing education and training is partly what the instructor feels they should know and partly the responsibility of participants to say what it is they need. Design and development of a program that combines both the instructor's topical expertise and learner needs from the program, strengthens it immeasurably. Listening to the learners and incorporating their themes into the lesson plan results in a much stronger and well-supported program.

Applications:

Conducting Surveys. Before finalizing a course lesson plan the designated instructor or his/her agency should devise a survey instrument that asks specific questions about the content needs of the potential participants. With the general outline in mind and with thorough background knowledge of the topic, the instructor can seek input from participants as to their specific needs. Participants

will be concerned with receiving information that is immediately applicable and useful to their individual responsibilities. Not all participants have the same needs of a program, none will take what they have acquired back to identical agencies, and all will have unique ideas in mind as to its utility and applicability. If the training does not address some of their individual needs, it will be seen as ineffective, thereby reducing further attendance of future programs. This same principle applies to agencies. Soliciting input to a program from agencies gives them the opportunity to have a say in what their employees learn and how that learning can be applied to the agency's needs.

Focus Groups. In addition to mailing a survey instrument, it is also recommended to bring together potential participants and conduct a needs assessment using focus group techniques. Getting a representative sample of potential clients together and asking the right questions can be very illuminating when seeking information for course development.

Principle #2:   **Safety in the environment and the process.**

Defined: The sense being in a safe environment where one can speak openly and freely supports the learning process. Learners must be aware that they are valued and that they will be treated as adults. Participants must trust the instructor and have faith in the design of the lesson. The course learning objectives will reflect student input with flexibility and adjustment allowed, if needed. Learners will also benefit from knowing the learning environment is nonjudgmental, which should open up participation. Another concept of safety is building from simple to more complex concepts and tasks that allow the students to apply new material in layers, building one skill or informational piece on the other. A classroom that allows controlled interaction will be a dynamic learning environment.

Students feel safe when they have had the opportunity to express themselves freely among their peers. Teachers should affirm and reinforce student involvement, for encouragement is in itself a positive tool to increase learning.

Applications:

A class is being taught on the basic concepts of the therapeutic model of corrections. The instructor explains what the concept is and that it is a philosophy, not a set of standards or rules, and those different facilities will have their own unique situations. Putting them in small groups to discuss their own uniqueness, with a specified sharing of this uniqueness with the larger group, brings home the point the instructor was trying to make. Not only does reinforcement take place, the participants feel that they are participating and that they have something worthwhile to say.

Principle #3: **A sound relationship between teacher and learner for learning and development.**

Defined: Teachers often take a position in the front of the class and begin to deliver information. There may a connection between the teacher and one or more students from previous classes that results in some give and take in the learning process. But generally, most instructors tend to lecture, providing little room for open discussion. The end result is a one-way system of course material delivery. In time, this approach instills a feeling of distance from the instructor, which may negatively affect learning outcomes. It makes more sense to establish an environment of mutual respect, trust, sharing, open communications and listening. It begins with the needs assessment and continues the first day in class by establishing an open and nurturing environment.

Applications:

When teaching public safety personnel, there is often a natural mistrust of someone they do not know. Being a public safety officer reduces this barrier considerably; never having been one creates a distance that is never quite closed. This distancing must be closed to the extent possible allowing students and the instructor to get on with the business of learning. There are many techniques to help this process. Being genuine, assuring them that you are interested in their learning, showing confidence, demonstrating you are knowledgeable of the topic, allowing them to participate, etc., are all helpful.

Principle #4:   Careful attention to sequence of content and reinforcement.

Defined: Delivery of material must be sequenced from simple to complex. Avoiding confusion by having clear and easily understood goals and objectives that take the student along a path where the material is logically presented and explored, is an important concept to adult learning. As students experience achievement they are cognitively ready to assume greater challenges in the learning process. Students are accountable to the instructor to remain focused, to participate, and to contribute when called upon and to illustrate a particular point of interest. Vella (1994, when discussing how adults learn, supported the notion that students need an accountable learning design and a teacher that is able to provide the necessary sequence and reinforcement of learning tasks.

Applications:

Instructing individuals on the basic concepts of Geographic Information Systems (GIS) requires considerable attention to sequence and complexity. This course is best taught with the instructor introducing concepts, explaining them, demonstrating them, and allowing the students to practice them. By assisting and guiding students during practice, their accomplishments are reinforced and they are able to experience steady and progressive acquisition of skills. Trust, mutual assistance, willingness to participate, and learning reinforcement all take place with each component contributing to the learning environment in a positive way.

Principle #5:   **Praxis: action with reflection or learning by doing.**

Defined: Praxis is the process of using both inductive and deductive reasoning (based on prior education and experience) to determine the appropriate action needed to engage in a new task. Praxis thus allows the teaching of new skills, knowledge, and attitudes (SKA's). A learner's understanding of new knowledge is enhanced when they apply it, practice their newly acquired skills and attitudes, and then reflect on what they have just done. This reinforcement process aids in tagging new SKA's and readying them for future use.

Applications:

Case studies are an excellent learning tool. The learner sees the big picture (description), has the opportunity to consider what has been provided (analysis), applies this conceptual framework to similar conditions or circumstances that are familiar (application), and then applies the results of this mental processing to new situations (learning). Praxis occurs when we ask learners to practice a skill and then analyze how well they did reflecting on the quality of application. People need time to practice new concepts, ideas, techniques, etc., and then to reflect on that action to self judge on the success and applicability to their needs.

Principle #6: **Respect for learners as subjects of their own learning**.

Defined: Adults recognize they are decision makers in how they will live their lives. As such, they are generally capable of determining what they need to know to enhance a skill or ability leading to accomplishment of their goals. Therefore, they want to predetermine what they will be subjected to and how they will participate in the learning process.

Applications:

It is conducive to teaching adults to inquire from them what their learning needs and desires are and how they are most comfortable in learning new SKA's. Distinguishing the difference between providing what they need to learn and seeking input from learners is an important point. The teacher can still provide from his or her lesson material but it should be with the understanding that adults will make choices in what is accepted and what is not. Allowing learners to participate in the learning process is a good principle to adhere to wherever possible. Asking questions and seeking input from the participants themselves can accomplish respecting their right to enter into the learning process through choice and involvement.

Principle #7: **Cognitive, affective, and psychomotor aspects: ideas, feelings, actions.**

Defined: There are three aspects of learning: They involve ideas, feelings, and actions. Empirically they are called cognitive, affective, and psychomotor aspects of learning. Most individuals in a learning situation will activate all three aspects of learning at multiple points throughout the session. For example, learning a new software program is a combination of all three aspects. We take in new information and consider its application to our needs and desires

from the learning *(cognitive)*, we respond to what we are seeing and hearing as we process the information and the demands upon ourselves *(affective)*, and we practice the new skills by trying them out on the keyboard of the computer itself *(psychomotor)*.

Applications:

When teaching problem solving skills, the instructor reviews the concepts and practices behind problem solving. He may provide an acceptable model (e.g., S.A.R.A), which the students will be asked to apply in their learning. If students were then asked to apply the model in a role-play or simulation exercises, or actual application to a real life situation, they would be better able to internalize the model. Students should be given the opportunity to evaluate the utility of the model to their job responsibilities, thereby reinforcing what has been learned.

Principle #8:   Immediacy of the learning.

Defined: Most adults want to understand the utility of what they are learning as it relates to immediacy of application. Learning something that will not be used within the near future tends to diminish the learning impact. How does this principle translate into practice and how I can use this new skill most effectively are questions often asked of training participants.

Applications:

In the ideal situation, the instructor's lesson plan might be a perfect fit with learner needs. However, this not being the case in every instance, the instructor can inquire of participants how they can use what has been presented by asking for illustrations where past situations could have benefited from the new knowledge. If it is not immediately usable, getting learners to think about potential future applications or by fitting the concept(s) to past situations enhances the learning process.

Principle #9:   **Clear roles and role development.**

    Defined: The role of the teacher and students should be one of inquiry, questioning, exchange, and an atmosphere where trust and respect are the foundation on which the learning experience is based. Adults need reinforcement of the respect and interaction between teacher and student in the learning environment. Developing dialogue between the teacher and the student is an important aspect of the learning environment that brings about a unique comfort level with all persons involved.

    Applications:

It is a good idea to get to know one another at the beginning of the class. While students generally know more about the instructor there is often little knowledge by the instructor of the students. More than just name and where one works are needed. It is important to ask questions of a persons background, why they are taking the class, what they might have to offer, etc. Humility and a sincere interest in the students become obvious very quickly. Sharing information, leading inquiry, providing new knowledge and getting feedback from students is helpful in the transfer and application of the lesson material. A classroom where students and faculty are comfortable within another is conducive to learning.

Principle #10:   **Teamwork: using small groups.**

    Defined: Teamwork builds confidence in the process. Teamwork is a way in which several people combine their individual SKA's to a group process. Teams encourage a collective effort in accomplishing learning objectives and thereby enhancing the overall learning process.   The goal of all team efforts is to make the group work effectively. Peers feel more comfortable in challenging one another

rather than confronting a teacher. Peers create safety among one another and when encountering complex and difficult aspects of learning, they have the effect of working collectively in solving problems and being successful in academic outcomes.

Applications:

You are teaching a course to police officers entitled "developing citizen support for community policing initiatives." The course content includes providing information on how to build partnerships with citizens, how to organize citizen groups, the role of the police in these situations, etc. Instructor delivery of the material is quite easy given the opportunity to lecture, demonstrate, ask questions, and in general obtain feedback from students on what they are learning. Putting individuals into teams where they share professionally related successes and failures illustrate from experiences similar problems and issues, and where they devise new strategies and plans, all leading to the desired outcome, is more difficult. When a team has been given the responsibility of carrying out some desired action or for completing specific tasks, learning is enhanced. Those individuals comprising a team must determine a course of action, work out assignments, find solutions to problems, learn to mediate, determine alternative actions, as well as other tasks.

Principle #11:   Engagement of the learners in what they are learning.

Defined: Learning in isolation will not suffice. Adult learners should be engaged in the learning process for many reasons that have been alluded to earlier in this document. Instructors must invite learners to actively participate in the learning process. This can be accomplished using small groups, team exercises, presentation, discussion groups, and numerous other techniques. A person engaged in this process generally is actively involved cognitively,

affectively, and occasionally through action.

Applications:

All lesson plans should contain several activities where the learner will be involved in some manner. It is perfectly permissible to deliver information as an instructor but there should also be methods and techniques for learner involvement throughout the process.   Providing information and demonstrating, followed by practice that is evaluated and then repeated, leads toward perfection.

Principle #12:   Accountability: how do they know they know?

Defined: The design of learning events must be accountable to needs of the learners (Vella, 1994:21). Instructors must be responsible for conveying information tied to the needs of the students. Helping students gain new or enhanced skills and knowledge, with applicability to their immediate life needs, is important to the adult learner.

Applications:

Training announcements providing title and course description occasionally do not address the original course intent. Learners generally sign up for a course of studies with specific learning needs in mind. When the course does not provide what the learner expected, conflict arises and problems ensue. Great care must be taken to follow up on original indications for course content and substance. For example, a course advertising that it will provide managers with skills needed to conduct personnel evaluations that will address performance deficits and instruct ways to make that process a positive experience for the employee, must do just that.

Additional Guides to Developing Adult Learning

The following is offered as supplemental information. For further information on the models shown refer to the footnote for the full citation.

Figure 2

Houle's[7] Decision Points and Framework for Developing Adult Education Programs

- A possible educational activity is identified.
- A decision is made to proceed.
- Objectives are identified and refined.
- A suitable format is designed.
  - Resources
  - Leaders
  - Methods
  - Sequence
  - Schedule
  - Social reinforcement
  - Individualization
  - Roles and relationships
  - Criteria or evaluation
  - Clarity of design

- The format is fitted into larger pattern of life.
  - Guidance
  - Lifestyle
  - Finance
  - Interpretation

- The plan is put into effect.

- The results are measured and appraised.

Malcolm Knowles[8], one of the foremost experts on teaching adults, provides guidance to creating a learning environment by stipulating aspects of the conditions of learning and the ideal role of the teacher in making it happen.

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[7]. Houle, C. O. (1972:47). *The Design of Education*. San Francisco: Jossey-Bass.

[8]. Knowles, M. (1978:77-79). *The Adult Learner: A Neglected Species*. (2nd ed.). Houston: Gulf Publishing.

Figure 3.

Conditions of Learning and Roles of the Teacher

The Conditions of Learning	The Role of the Teacher
A. **The learners feel a need to learn**. When you have motivated learners present the role of the teacher becomes crucial to success. Learning usually does not happen by itself and is somewhat dependent on the teacher's direct involvement. One important role of the teacher is to assist the students in determining where they currently are with respect to learning and where they want to be when the course or program is completed.	1. Exposes students to new possibilities of self-fulfillment. 2. Helps each student clarify his or her own aspirations for improved behavior. 3. Helps each student diagnose the gap between his aspiration and his present level of performance. 4. Helps the student identify the life problems they experience because of the gaps in their personal skills, knowledge and abilities.

B. The learning environment.
 	
Characterized by:
 	
   ▪ Physical comfort
   ▪ Mutual trust and respect
   ▪ Mutual helpfulness
   ▪ Freedom of expression
   ▪ Acceptance of differences
	1. Provides physical conditions that are comfortable (seating, temperature, ventilation, lighting, etc.) and conducive to interaction among participants.
	
	2. Accepts each student as a person of worth and respects his feelings and ideas.
	
	3. Seeks to build relationships of mutual trust and helpfulness among the students by encouraging cooperative activities and refraining from inducing competitiveness and judgmental ness.
	
	4. Teacher exposes his/her own feelings and contributes his or her resources as a co-learner in the spirit of mutual inquiry.

C. The learners perceive the goals of a learning experience to be their goals. As such, the teacher must be clear in outlining the goals and expectations	1. Students are involved in a mutual process of formulating learning objectives in which the needs of the students, of the instructor, the institution, the subject matter, and of

of the course.	the society are taken into account.
D. Learners accept a share of the responsibility for planning and operating a learning experience. Unlike the teaching of children where material and lessons are provided and they are expected to respond according to the direction of the teacher, adults want to participate and have a say in what will happen and what will be provided in the way of learning opportunities.	1. The teacher shares his/her thinking about options available in the designing of learning experiences and the selection of materials and methods and involves the students in deciding among these options jointly. 2. Dialogue is an important aspect of this process. Student input can be solicited and discussed so that agreement is present when the process is completed.
E. Learners participate actively in the learning process.	1. The teacher helps the students to organize themselves to share responsibility in the process of mutual inquiry. This involves project groups, learning-teaching teams, independent study and other methodologies.
F. The learning process is related to and makes use of the experience of the learners.	1. The teacher helps the students exploit their own experiences as resources for learning through the use of such techniques as discussion, role-playing, case method, etc. 2. The teacher gears the presentation of his own resources to the levels of experience of his particular students. 3. The teacher helps the students to apply new learning to their experience, and thus to make the learning more meaningful and integrated.
G. Learners have a sense of progress toward their goals.	1. The teacher involves the students in developing mutually acceptable criteria and methods for measuring progress toward the learning objectives. 2. The teacher helps the students develop and apply procedures for self-evaluation according to these criteria.

Section Two
Understanding the Adult Learner

Characteristics of Adults as Learners

      A basic principle to teaching adults is that each learner has extensive life experience to draw upon which allows open dialogue with the instructor about the topic at hand.   Based on his or her experience, the acquisition of new skills, knowledge and abilities will be in relation to the experience levels of the individual.[9] Figure 1 can illustrate this.

Figure 4

Principle of Adult Learning

Instructor Guided Information + Individual Experience ' New Learning

(Experience in Combination with Exposure to New Knowledge and Skills Enhances Learning)

Common Traits Among Adult Learners

H. They prefer to be self-directing in selecting and attending learning programs. Being self-directing describes a process in which individuals take the initiative, with or without the help of others, to accomplish the following[10]:

- Self-diagnosis of learning needs.
- Formulate their own learning objectives
- Identify those resources needed to accomplish their objectives.
- Selecting and implementing effective strategies for using these resources.
- Evaluate their success in accomplishing their objectives.

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[9]. Knowles, M. (1970). The Modern Practice of Adult Education: An Autobiographical Journey. New York: Association Press.

[10]. Smith, R. M. & Associates (1990). Learning to Learn Across the Life Span. San Francisco: Jossey-Bass.

I. Adults possess extensive experience and training which they bring to the learning environment and which they often share with others in the program.

- While some learning skills are inherent with the individual, many others stem from past experience and reflection on that experience. If the information being presented is an extension of prior knowledge, new awareness is much easier than having to comprehend new and perhaps abstract information.

Note: Conducting learning needs assessment of potential participants is crucial to curriculum development. Knowing current levels of understanding and knowledge of a subject allows the curriculum developer the opportunity to build on present levels and introduce new materials that extend beyond participant awareness.

J. Adult learners tend to be task-centered, problem-centered, and life-centered in their orientation to learning. These variables are deemed more important that being subject-centered. Learning experiences are generally sought when they are relevant to the individual's immediate needs that pertain to work, family, or other current interests.

K. The desire to learn and to attend programs where adult education is centered comes from an internal desire not from external sources. This does not rule out work related learning as it is seen as relevant to and necessary for their employment security and growth.

L. Adult learning that is self-initiated is generally more effective and retained longer that imposed attendance at training that is of little interest to the participant.

Implications for Designing Instruction

M. Training must be related to current or closely related job responsibilities of the participant.

N. Training must include input from participants as to content, delivery system/s, flexibility of availability, and if possible, a variety of delivery formats giving interested parties options on how they will acquire the material.

O. Training must build on existing levels of experience of the participants and demonstrate continued utility to the immediate future as it pertains to their job expectations and duties.

Section Three
The Context of Adult Learning

<u>Learning and Learning Theories</u>

P. Learning, while central to our everyday behavior, is elusive and difficult to define. There are several theories of learning available and for our purposes; the following may be of sufficient comprehensiveness to serve our needs:

- Learning involves a relatively permanent change in behavior or in the potential of behavioral change resulting from experience and cannot be attributed to temporary body states such as those induced by illness, fatigue, or drugs.[11]

- Learning can be thought of as a process by which behavior changes as a result of experiences.[12]

- Learning involves change and is concerned with the accumulation of habits, knowledge, and attitudes. Learning allows the individual to make both personal and social adjustments. Any change in behavior implies that learning has taken place.[13] Learning is reflected by a change in an individual's behavior as the result of some experience.

Q. Learning can be distinguished as three phases[14]:

1. *Learning as a product* where the emphasis is on the end result or outcome of some learning activity.

2. *Learning as a process* where emphasis is on what happens during the course of a learning experience in attaining a given learning product or outcome.

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[11]. Hergenhahn, B.R. (1988). *An Introduction to Theories of Learning*. (3rd ed.) Englewood Cliffs, N.J.: Prentice-Hall.

[12]. Maples, M. F., and Webster, J. M. (1980). Thorndike's connectionism.: in G.M. Gazda and R. J. Corsini (eds.), *Theories of Learning*. Itasca, Ill.: Peacock.

[13]. Crow, L. d., & Crow, A. (1963). *Readings in Human Learning*. New York: McKay.

[14]. Harris, T. L., & Schwahn, W. E. (1961). Selected Readings on the learning process. New York: Oxford University Press.

3.   *Learning as function*, which emphasizes certain critical aspects of learning such as motivation, retention, and transfer.

R. Experiences, for purposes of curriculum development, are introduced through the course materials and accompanying exercises. The learning environment should provide a variety of experiences that help shape a behavioral change (how one does something different in the future as a result of the training), or by providing options on how something can be done at a future time.

S. Learning theories explain what happens when learning takes place. Merriam and Caffarella (1991) condensed a multitude of learning theories into an orientation that offers insight specifically to adult learning.[15] Borrowing from them, the relevancy of four learning theories are presented to direct your attention to finding solutions to learning needs and curriculum development. Each of these diverse theories is presented to help the curriculum developer with ideas and options.

Theory #1:   <u>The Behaviorist Orientation</u>. Three underlying assumptions about the process of learning are held to be true[16].

1. Learning is demonstrated by a change in behavior.

2. The environment shapes one's behavior: what one learns is determined by the elements in the environment, not exclusively by the individual learner.

3. The principles of contiguity (closeness of events in time) and reinforcement (increasing the likelihood that an event will be repeated) are central to explaining the learning process.

4. Implications for Designing Instruction

    a. The ultimate goal of education is to bring about a change in behavior.

    b. The instructor's role is to bring about the desired change in behavior.

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[15]. Merriam, S. B., and Caffarella, R. S. (1991). *Learning in Adulthood*. San Francisco: Jossey-Bass, Inc.

[16]. Grippin, P., and Peters, S. (1984). Learning <u>Theory and Learning Outcomes</u>. New York: University Press of America.

c. Behavior learning theory supports a multitude of training and educational delivery methods. Included are: systematic design of instruction, establishing behavioral objectives, programmed instruction, computer-based instruction, and competency-based instruction are some of the accepted methods.

d. Designing the environment in which the learning takes places is important to outcomes. Realizing that the audience consists of adults who have specific needs and desires from the learning experience as they relate to their jobs and interests, underscores content and the learning atmosphere.

e. The training should be relevant and build on the participant's current knowledge and experiences.

Theory #2: The Cognitive Orientation: Believes that learning lies with the individual learner, not the environment. The learner thinks about how to solve a problem and puts potential solutions together (cognitive), examining several possibilities, until a solution is found. Focus is on developing models of comprehension that assists a person understand something, resulting in meaningful learning.

Implications for Designing Instruction

1. Excellent for community policing by having participants identify real problems that they encounter in their neighborhoods and then, either singularly or in groups, work out solutions. This would be guided by the instructor activity.

2. Engages the learner in problem solving using a model or other steps provided by the instructor. This leads the student into a process whereby he or she is forced to think critically, assess alternatives, and seek solution/s to the problem presented.

Theory #3: The Humanist Orientation. The focus is on the individual's self-directedness, personal growth and development, and the value of experience in the learning process.

Note: Implications for Designing Instruction

1. Encourages the learner to adopt positive attitudes in his or her relationship with others, regardless of the association or reason for contact.

2. This process lends itself to administrator and managerial training. Individuals at this level are encouraged to consider others as part of a process of conducting business, not just employees with assigned tasks.

    A. Other learner realizations often include[17]:

        1. The discovery of a vocation or destiny
        2. The knowledge or acquisition of a set of values
        3. Realization that life is precious
        4. Acquisition of peak experiences
        5. A sense of accomplishment
        6. Satisfaction of psychological needs
        7. The control of impulses
        8. Learning to choose judiciously

    B. Cross (1981:228), discussing the humanistic theories, stated: "there is a natural tendency of people to learn and that learning will flourish if nourishing, encouraging environments are provided."[18]

    Theory #4: <u>Social learning Orientation</u>. This theory states that people learn from observing other people.

        9. Observational learning[19] is influenced by four processes:

            a) Attention – seeing a model of behavior and adopting it as one's own.
            b) Retention – putting it on file for future use.
            c) Behavioral rehearsal – comparing own behavior against a

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[17]. Sahakian, W.S. (1984). *Introduction to the Psychology of Learning*. (2nd ed.) Itasca, Ill.: Peacock.

[18]. Cross, K. P. (1981). *Adults as Learners: Increasing Participation and Facilitating Learning*. San Francisco: Jossey-Bass.

[19]. Hergenhahn, B. R. (1988). *An Introduction to Theories of Learning*. (3rd ed.) Englewood Cliffs, N.J.: Prentice-Hall.

model observed and retained.
d) Motivation – to act on it (model it) at some future point.

T. Foundation of Modern Adult Learning Theory -- Key Assumptions[20]:

- Adult's are motivated to learn as they experience needs and interests that learning will satisfy; therefore, these are the appropriate starting points for organizing adult learning activities.

- Adults' orientation to learning is life-centered; therefore, the appropriate units for organizing adult learning events are life situations, not subjects. Students are interested, for the most part, on the performance of everyday tasks and obligations.[20]

- Experience is the richest resource for adults' learning; therefore, the core methodology of adult education is the analysis of experience.

- Adults have a deep need to be self-directing; therefore, the role of the teacher is to engage in a process of mutual inquiry with them rather than to transmit his or her knowledge to them and then evaluate their conformity to it.

- Individual differences among people increase with age; therefore, adult education must make optimal provision for differences in style, time, place, and pace of learning.

- The major emphasis in adult learning is focused more on practice than on academic; on the applied rather than the theoretical; and on skills rather than on knowledge and information.[21]

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[20]. Lindeman, Eduard C. (1926). The *Meaning of Adult Education*. New York: New Republic. Found in Malcolm Knowles (1978:31). *The Adult Learner: A Neglected Species*. Houston, TX: Gulf Publishing.

[21]. Johnstone, J.W.C., and Rivera, R.J. (1965:3). *Volunteers for Learning: A Study of the Educational Pursuits of Adults*. Hawthorne, N.Y.: Aldine.

Table 5
Assumptions and Design of Adult Learning[22],[23]

Assumptions		Design Elements	
Self-concept	Increasing self-directive ness	Climate	Mutually respectful, collaborative, informal
Experience	Learners are a rich resource for learning	Planning	Mutual planning
Readiness to learn	Developmental tasks of social roles	Diagnosis of needs	Mutual self-diagnosis
Time Perspective, utility of learning	Immediacy of application	Formulation of objectives	Mutual negotiation
Orientation to Learning	Problem centered	Design	Sequenced in terms of readiness Problem units
		Activities	Experiential techniques
		Evaluation	Mutual re-diagnosis of needs Mutual measurement of program

Associating Learning to the Learners Contextual Needs

Dirkx and Prenger[24] promote grounding learning in those things that are

22 . Knowles, M. (1980). The Modern Practice of Adult Education. Chicago, Ill.: Follett Publishing
23 . Knowles, M., Holton, E., & Swanson, R. (1998). The adult learner: The definitive classic in adult education and human resource development (5th ed.). Houston, TX: Gulf Publishing Co.
23. Dirkx, J.M., and Prenger, S.M. (1997). A Guide for Planning and Implementing Instruction for Adults. San Francisco: Jossey-Bass.
        .

meaningful, relevant, and significant to an adult's life experiences and situations. Learning carries meaning to the learner and is not just an exercise for the delivery of information that may or may not convey meaning or relevance.

In support of context-based learning, they offer the following guidelines (p. 21):

U. Students are active in the learning process. They are involved in doing things that are relevant and meaningful to them, and they learn through doing.

> **Application to lesson plan development**
>
> Passively sitting and listening to someone lecture for hours on end has little effect on student leaning. Students should be given information and then allowed to determine its usefulness to their needs. This can be done in many ways including practice (hands-on), discussion on relevance, illustration, and other teaching methods that elicit student participation.

V. Learning is viewed as a process of making sense or meaning of real-life contexts and experiences that learners bring to the educational setting.

> **Application to lesson plan development**
>
> Training materials and lesson plan design should schedule time for student contribution to the discussion at hand. Relevancy and grounding concepts into one's own experience comes from hearing others discuss similar experiences, providing your own experience, having the opportunity to discuss the implications of some concept on the job that they currently perform, and in making the conceptual link between the point being made and experience and application to the learner's needs.

W. In the Integrated Theme Based approach, students actively participate in deciding what they should learn and how they should learn it.

> Application to lesson plan development
>
> The lesson should include all of the necessary materials the instructor believes should be there, and include materials desired by the students as well. Student needs and expectations are obtained by conducting a learning needs assessment prior to the class to determine what relevant materials should be included. Once this is known, the lesson plan can reflect methods of delivery and periods of interaction, discussion or practice.

X. When engaged in active learning, students use skills such as reading, writing, and computing to identify and solve problems within their own life contexts.

Application to lesson plan development

Problem solving as an exercise often requires the participant to analyze information particular to the issue at hand. For example, when looking at how to reduce violent crime in a neighborhood, crime statistics, GIS hot spots, and other relevant information must be studied to obtain the global picture of contributing events. Breaking segments down to workable areas, making comparisons, eliminating non-contributing aspects requires the student to call upon a number of skills. Focusing the individual's collective SKA's on a problem demands a deeper level of conceptualization that normal and leads to new knowledge.

Y. In the Integrated Theme based approach, learners construct their own knowledge, rather than being recipients of others' knowledge.

Application to lesson plan development

Drawing on past knowledge and experiences and applying them to a new problem or need has the effect of creating new answers that are based on previous success.

Z. In active learning, the teacher is a guide on the side rather than a sage on the stage.

Application to lesson plan development

The instructor should not assume responsibility for all aspects of the learning environment. This means that students must be actively engaged in the learning process and there are a number of means to accomplish this. Role-playing, small groups, focus groups, debates, presentations, etc., are all acceptable alternative methods of teaching. The activities involving students are in addition to instructor lead activities and presentations.

AA. Problem-based Learning25

Problem-based learning (PBL) is a total approach to education. As defined by Dr. Howard Barrows and Ann Kelson of Southern Illinois University School of Medicine,

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25 . Source: http://www.mcli.dist.maricopa.edu/pbl/info.html

PBL is both a curriculum and a process. The curriculum consists of carefully selected and designed problems that demand from the learner acquisition of critical knowledge, problem solving proficiency, self-directed learning strategies, and team participation skills. The process replicates the commonly used systemic approach to resolving problems or meeting challenges that are encountered in life and career.

Role Changes

In problem-based learning, the traditional teacher and student roles change. The students assume increasing responsibility for their learning, giving them more motivation and more feelings of accomplishment, setting the pattern for them to become successful life-long learners. The faculty in turn becomes resources, tutors, and evaluators, guiding the students in their problem solving efforts.

History

Problem-based learning began at [McMaster University Medical School](#) over 25 years ago. It has since been implemented in various undergraduate and graduate programs around the world. Additionally, elementary and secondary schools have adopted PBL. The PBL approach is now being used in a few community colleges as well.

Results

Students involved in problem-based learning acquire knowledge and become proficient in problem solving, self-directed learning, and team participation. Studies show that PBL prepares students as well as traditional methods. PBL students do as well as their counterparts from traditional classrooms on national exams, but are in fact better practitioners of their professions.

This is a realty based teaching concept where the learner is given real life problems that are supported by "best-practice" and proven concepts that are both situational and applied in their approach to seeing, trying, receiving feedback and correction and eventually acquiring the needed skills and knowledge to allow proficiency in carrying out the task or role.

Section Four
The Learning Environment

Obviously, different kinds of learning require different environments. The physical room should offer flexibility that allows the instructor to implement a variety of activities and teaching aids. These often include watching videotapes, conducting practice or demonstration, and small group activities and/or discussion. Small, cramped space inhibits learning. For example, a conference setting requires 23-25 square feet per participant while a classroom is comfortable at 15-17 square feet per participant. Tables or chairs should be arranged in such a manner as to provide maximum space for participants to be able to both move around and spread out their materials. The environment should be free of smoke and other odors that are offensive. Lighting should be bright enough to meet the learner reading needs, which are the equivalent of 70 to 100 foot-candles at desk levels. Temperature and ventilation are also important aspects when considering environment. The room should not be too hot (between 73 and 75 degrees with relative humidity about 50 percent), and have the capability of removing any odors that might be generated by the training. As people and equipment generate heat, it is recommended that ventilation is best served by keeping the air velocity moving at 12 to 15 feet-per-minute.

Seating configurations are best served when students can freely and easily see other class members. This encourages circle, rectangle, and semicircular patterns. If row seating must be used, it is important to stagger the seats to allow individuals to look between the people in front. Arrange seating to permit maximum visibility of participants and to allow the instructor to see whom he or she is addressing. Maintaining eye contact is an important part of the teaching process. Seating of the type that provides maximum visibility also permits participants the opportunity to see overhead projections, materials being demonstrated, etc.

Sufficient breaks should be given to allow participants a distraction from the presentation, to use the bathroom, to take a smoking break, obtain something to drink,

etc. Breaks are recommended every 50 minutes if the material is difficult to comprehend or within the first 90 minutes for most courses. The break should last 10 minutes with the instructor collecting and getting participants back into the room on time. Establishing informal rules of conduct regarding breaks is the responsibility of the instructor.   If the program can afford the cost or it can be built into the registration fee, refreshments should be provided for a mid-morning and a mid-afternoon break. These breaks can be 15 minutes in length and is usually a refreshing and energy renewal time for most participants.

Distracting noise from adjacent rooms or external to the classroom can extensively diminish the effectiveness of the learning environment. The instructor should insure before the day the class begins that there will not be construction or other events taking place that are noisy and distracting. The same concept applies to noise within the training room. If teaching aids have a noisy fan or there is something generating noise in the background, it will frustrate both the instructor and the participants. Insuring that the class will proceed flawlessly requires the instructor to review all systems and environmental concerns BEFORE the day the class begins.

Section Five
Critical Thinking

Implications for Designing Instruction

When we consider critical thinking we are often rebuffed and shy away from something so seemingly complex that it is best left alone. We need not be cautious, for as stated simply; *critical thinking refers to being able to think well and fair mindedly not only about our own viewpoints and beliefs, but the viewpoints and beliefs of others, even those that are different than ours.*[26]

Example: We find it abhor able that someone could blow him or herself up and kill innocent people. Can you imagine strapping on an explosive devise, walking into this classroom, and detonating it? Yet, what of the person's perspective who is able to do this? What is the thought process, what are the justifications, why end one's life for a cause of others? What were the messages and learning that was introduced to produce someone who could commit suicide and kill others? What struggles do we encounter when we try to rationalize something like this?

You say you could not kill! What if someone murdered your family? Would you be able to kill them in return? What if they were arrested, convicted and sentenced to die in the electric chair and you were asked, "*do you want to pull the switch*"?

When we think critically we go beyond the first thought or impulse. We explore, delve deeper into meaning, question what it is we are thinking and why, and attempt to understand a broader meaning and context. Critical thinking is <u>not accepting</u> things at face value. Critical thinking includes both a cognitive (thinking) and affective (feelings and emotions) process. [<u>Author's note</u>: I also believe that our past experiences come into play and although not consciously reviewed, they nonetheless influence our

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[26]. Nosich, G. (1992) "Educational virtue: Becoming a critical thinker." In Richard Paul's *Critical Thinking*, Rohnert Park, CA: Foundation for Critical Thinking.

thinking.] We are a collection of moral concepts, values, tradition, and a product of work enculturation. When we engage in critical thinking we seek to understand the diversity of values, behaviors, social interactions, and alternative ways of living in this and other societies.[27] In a sense we are pre-programmed for much of our daily interactions and activity, albeit products of habit and comfortable ways of thinking and acting.

Example: You are walking across campus and encounter someone preaching of God, waving a bible around, shouting that you are all whores and whore mongers and condemned to hell! The individual is well-dressed, does not appear to have been drinking or using drugs. What are your thoughts? Do you move on, stop to watch and listen, do you argue back? How do you feel about being in a situation where there is someone acting unusual? Are you embarrassed, do you enjoy the discomfort of others; do you feel you should intercede and say something or take action?

The question arises: Why bother to think critically? Is critical thinking related somehow to being unhappy or disgruntled about work or some aspect of ones life? No, to both questions. In policing as with other occupations we must continually ask why things are as they are, or how we can improve on conditions that affect the quality of life in our communities. We may also encounter a new idea or a request to modify current practices (i.e., implementing community policing) or resolving some other problem or issue.

With rapid cultural changes, increased diversity of our citizens, along with issues of morality, politics, economic and technological changes, we are constantly faced with making decisions on how to conduct business differently. It becomes important to do this deliberately and with forethought to avoid exacerbating issues and needs. Brookfield (1987:43) makes an excellent point when he says, "the ability to be critically analytical concerning the assumptions underlying our own actions and those of others

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[27]. Brookfield, S.D. (1987). *Developing Critical Thinkers*. San Francisco: Jossey-Bass.

is organizationally and culturally beneficial as well as personally liberating." Police continually examine their policy, strategies, and operational responses to community problems. While it is difficult to consider these issues in light of someone else's point of view, it is sometimes necessary. With a society in a constant state of flux, we cannot escape the greater issues in conducting our daily business. Being able to critically examine issues, problems, and potential solutions is an important skill in modern society.

When we experience new information and situations that require us to act or react in some manner, we draw upon past experience and training responding from that base rather than devising completely new responses from the current encounter. We cannot know exactly how others feel about an issue, how they are judging us, what difficulties exist, and what must be done to realign conditions and circumstances. However, we can identify and challenge assumptions and explore alternative ways of thinking and acting[28].

Question: Why is it important to engage in critical thinking when we consider neighborhood crime and violence? Why not just continue to operate as usual and rely on tried and true practices that have existed for decades? Whose responsibility is it anyway?

The knowledge that we possess at this very moment was acquired by thinking. Thinking begins at birth (perhaps even earlier) and continues as long as we are alive and conscious. Richard Paul (1993:) said, *"knowledge is discovered by thinking, analyzed by thinking, organized by thinking, transformed by thinking, assessed by thinking, and, most importantly, acquired by thinking."* If we are to teach others in any type of educational setting, including training and development, we cannot lose sight to building in events leading to discovery, analysis, organization, transformation, and the assessment process in developing our lesson plans (Paul, 1993). Simply put, we must utilize the following in developing critical thinking skills:

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[28]. See Stephen Brookfield (1987:71).

1. <u>Discovery</u>. Build in aspects that will bring about new discovery to the student. This discovery may emerge from putting new information together with existing knowledge pointing the way to new ideas or concepts. An example is describing the importance of building police and citizen relationships to enhance a police department's effectiveness. When the process is described, ask for examples from participants of a situation when they worked successfully with a citizen or citizens group which resulted in solving a crime, or bringing about a solution to some problem. Conceptual leaps occur when students are able to "make a connection" between new concepts and past experience. Learning occurs and there is a change in thinking.

2. <u>Analysis</u>. Presenting information that contains complex or new ideas which challenge an individual's values, beliefs, or approved ways of thinking and which require that he or she continue to contemplate this information to arrive at some conclusion, causes a person to carefully review and analyze several aspects in a thoughtful manner. Thoughtful and extensive analysis generally leads to acceptable conclusions for the person experiencing the process. An example is presenting complex information regarding a series of brutal murders to homicide investigators. The volume of information would be such that individuals would have to learn how to categorize, organize and process in such a way as to make sense of it all and to arrive at some logical conclusion. Analysis is not an easy process and requires commitment and dedication to the task at hand. It requires higher order thinking than normal everyday activities.

3. <u>Organized</u>. Thinking about many things at once demands the ability to organize and categorize them into logical and inter-connected relationships. An instructor should construct his or her lesson plan with organization in mind. Facts and information should build one on the other, in a logical manner, and according to some scheme that goes from easy to concepts that are more complex. In this way, students are able to grasp ideas, information, and concepts in a manner that is not confusing and/or overwhelming.

4. <u>Transformed.</u> We acquire knowledge from multiple experiences and exposures to the world around us. It may be in a formal classroom, experiences we have in the world at large, self-directed learning, hobby, discussion, and a host of other ways. We take in information and transform it to enhance our knowledge, skills, and abilities in the way we live and the things we do. Classroom experiences should assist students to think about the information presented and put it into a context useful to the individual. The student must be able to transform new information with existing information into new knowledge.

5. <u>Assessed</u>. Assessment permits the individual to evaluate and make judgments about the information being presented. There should be some challenge to the individual bringing to the forefront of his or her thinking questions and

assimilation of new to current knowledge. Instructors should build into lesson material a number of questions that cause students to assess and assimilate available information resulting in new conclusions.

In changing our present level of thinking about information, we must consider alternatives, challenge accepted states of being, and open ourselves to new possibilities and ideals. In this way only, do we gain genuine new knowledge?

Building Critical Thinking into Lesson Plan Development for Adults[29]

Critical thinking involves two interrelated processes: (1) identifying and challenging assumptions, and (2) imagining and exploring alternatives.[30] Brookfield (1987) further states that critical thinking is a continuous process of alternating phases which include (1) reflecting on a problem or theme, (2) testing new solutions, strategies, or methods on the basis of that reflection, (3) reflecting on the success of these actions in particular contexts, and (4) further honing, refining, and adapting these actions according to alternative contexts (p.230).

Exercise: You are on a tight budget and have little extra money. Many of your friends say to you that they have this wonderful deal on a beach house for three weeks in June. You are supposed to begin work at the end of the semester and have figured out your budget carefully and need to work as much as possible. Still, you have worked hard, your grades are good, you have not taken any time for two-years and you feel tired. A break would be great.

As you consider this, what alternatives come to mine in finding a solution, what information do you need, what are the likely outcomes to any decision, what should you do?

<u>Learning to Think Critically</u>:

Three aspects of learning to think critically emerge as crucial components of the learning process. These include (1) curriculum content, (2) Socratic teaching, and (3) skills in forming and asking questions that foster critical thinking. A brief discussion of

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[29]. Paul, Richard (1993). *Critical Thinking*. Rohnert Park, CA: Foundation for Critical Thinking.

[30]. Brookfield, S.D. (1987:229). *Developing Critical Thinkers*. San Francisco: Jossey-Bass.

each of these will help the curriculum developer conceptualize how they can be incorporated into lesson plan development.

A. Curriculum Content[31]

When designing curriculum and instruction, course content represents a way or mode of thinking that will guide student involvement and interaction in the learning environment. Richard Paul's conceptualization of course content is to say that content relates to a subject and that all subjects are areas of study. Given that, all areas of study are things we are interested in figuring out or learning more about. When we are figuring things out we are engaged in the process of thinking. To think, we must be thorough, concentrate, and consider all relevant aspects of the subject at hand. Paul's[26] examples include: (a) There is no way to learn mathematical content without learning how to figure out correct answers to mathematical questions and problems, (b) studying psychology to figure out human behavior (to answer questions about certain human problems), and (c) any subject or content area can therefore be understood as a mode of figuring out correct or reasonable answers to certain body of questions (P.1).

We also cannot learn about a subject (content) without learning the concepts that define and structure it. We must think it through carefully and thoroughly within the content area. Again quoting from Paul,[26] "to learn the concept of family is to learn how to distinguish a family from a gang or social club" (P.1). Content of any subject or topic is logically interdependent and to understand one part we must determine its relationship to other parts of the content under examination. We cannot learn something with lasting utility and application by memorization without understanding the connection among and between its component parts. This involves thinking and rationalizing about the component parts and their relationship to one another. For example, lecturing about any topic where the teacher provides a sequence of information that students then memorize and spit back in some form of testing is not long-term learning. Thinking involves dissecting and reassembling component parts. It

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[31]. Paul, R. (1996). Center for Critical Thinking.
Http://www.sonoma.edu/cthink/university/univlibrary/content.nclk

involves looking for relationships and their inter-relationships, blending current knowledge into new concepts resulting in new understanding and application. The concept of community partnerships is relevant to this discussion. Traditional policing does not consider the public as an integral partner to the success of police services. Community policing, on the other hand, sees this as crucial to success.   Blending traditional and community policing concepts into a new model or philosophy requires deep and dramatic understanding of the component parts of each and how the two can co-exist and form a new model which can be applied and incorporated as standard operating procedure.

B. Socratic Teaching[32]

This model of teaching is centered on giving students questions, not answers, about subjects and/or topics. This creates an inquiring and probing thinking process about a subject, rather than a passive listening and self-selection about entering into a conversation or not. We can question and probe into questions of goals and objectives, the nature of a problem or issue, if there is relevant data available to analyze key concepts and ideas, question assumptions, and consider alternative points of view. This leads to new understanding and applications (P.1).[27]

Successful Socratic questioning includes:[27]

- Keeping the questions focused
- Keeping the discussion intellectually responsible
- Stimulate the discussion with probing questions
- Periodically summarize what has and has not been dealt with or resolved

Questioning ability is a science that can be learned and becomes a natural teaching skill with practice. Students are forced to get out from behind restrictive borders and think more deeply into areas that are subject related, extending thinking and problem solving skills.

C. Questioning[33]

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[32]. Paul, R. (1996). Center for Critical Thinking.
Http://www.sonoma.edu/cthink/university/univlibrary/socratict.nclk

Richard Paul (1996) says: "*The kind of judgment most important to educated people and the kind we most want to foster falls into a third, very important, and now almost totally ignored category, that of reasoned judgment"* (P.1). Reasoning goes beyond fact and opinion. It delves deeply into all relevant information and concepts, it distinguishes between opinion and empirically sound information, and it causes the individual to think extensively about an issue, seeking all possible avenues to arriving at a conclusion. The decision of a Judge, for example, is reasoning that includes relevant evidence and valid legal guidelines and findings.

1. Critical thinking includes three different kinds of questions:[28] (P.1)

    A. **Those with one right answer (factual questions fall into this category).**
        - What is the boiling point of lead?

    B. **Those with better or worse answers (well-reasoned or poorly reasoned answers).**
        - How can we best address the most basic and significant economic problems of the nation today?

    C. **Those with as many answers as there are different human preferences (a) category in which mere opinion does rule).**
        - Which would you prefer, a vacation in the mountains or one at the beach?

Note: "C" is an opinion question, "B" requires reasoned judgment.

Supporting evidence and solid reasoning is deemed much better in the educational process than accepting something stated as fact as being true without question or probing.

Note: Two pages from the Center for Critical Thinking are included to assist the curriculum developer in conceptualizing how to build into topic curricula

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[33]. Paul, R. (1996). Center for Critical Thinking.
Http://www.sonoma.edu/cthink/university/univlibrary/catquest.nclk

considerations on helping students' master new ways of thinking as part of the course or class.

"Helping Students Assess Their Thinking" by Richard Paul and Linda Elder

The Power of Questions*34*:   (Note: This section is based on material from Elder and Paul's material cited below)

"It is not possible to be a good thinker and a poor questioner."

Questions define tasks, express problems, define issues, and raise not so obvious doubt to the light of day, meaning, without questioning many important aspects of our examination remain in the dark, unexplored. Answers, that do not generate new questions, usually indicate a "stop" in thinking. Critical thinking is "inquiry" – inquiry generates further exploration in both individual thinking, in the types of questions that are asked, in the generation of new information and knowledge.

NO QUESTIONS (Asked) '   NO UNDERSTANDING (Achieved)

Thinking in disciplines (i.e., criminal justice, biology, political science, mathematics) is driven not by answers or bland information; rather it is the essential nature of questions that lead to new ideas, practice, knowledge. Where would medical science be if no one ever asked a question about practice, treatment, causes, etc?

Example/Exercise:

When I ask you, what are the essential components of community policing, you respond?

   (1) List responses on the board.   (2) Compare that list with indicators list.

NOTE: "Indicators of COP is a separate posting on Angel.

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34 . Elder, L., & Paul, R. (2002). The Art of Asking Essential Questions. Foundation for Critical Thinking.

Categories of Questions

I.   Analytic Questions:

    A.   Break a whole into component parts.

    B.   Problems in a whole are often a function of one or more of its parts

    C.   We must be able to identify components of thinking by asking essential questions that are focused on the components parts.

Example: Asking you what makes an automobile work brings a vision to your head.

Get in, insert key, start engine, and steer in direction you want to go.

However, in depth, the question is asking what are the component parts of an automobile, how do they work as a system, what is the physics and engineering behind the theory of an automobile, etc. That is a complex question and one that we could answer with study, discussion, illustration, and lots of information. **This drilling down into the nitty gritty of a functioning automobile is more work, requires thinking, conceptualization, the ability to make linkages, to see the larger picture, etc.** Yet, if we are truly interested in understanding and gaining in knowledge that improves who we are, this activity is necessary.

Practical Exercise: components of Analytic Questions/Thought   [Appendix A – blank and personal completed version]

Components of Analytic Questions/Thought	Student Personal Example
Question: \<Student writes in his or her question\>	
1. What is my fundamental purpose?	
2. What is the key question I am trying to answer?	
3. What information do I need to answer my question?	
4. What is the most basic concept in the question?	
5. What assumptions am I using in my reasoning?	
6. What is my point of view with respect to the issue?	
7. What are my most fundamental	

inferences of conclusions?	
8. What are the implications of my reasoning (if I am correct)?	

Three Kinds of Questions

One System	**No system**	**Conflicting Systems**
Established procedure or method for finding the answer. Settled by facts, definition, or both. Prominent in mathematics, physical sciences and biological sciences. ——————— ▪ What is the boiling point of lead? ▪ What is the size of this room? ▪ How does the hard drive on a computer work?	Questions with many answers as there are different human preferences. Subjective in nature. ——————— ▪ Which would you prefer, a vacation in the mountains or at the beach? ▪ What color scheme do you prefer in your house? ▪ What personal characteristics and attitudes do you prefer in other people?	Questions requiring reasoning but with more than one arguable answer. Questions that make sense to debate. Seeking the best answer. Wide range of possibilities. Huma disciplines of history, philosophy, economics, criminal justice, etc. ——————— ▪ Should capital punishment be abolished? ▪ What is the best economic system? ▪ How can we best reduce drug dependence of addicts? ▪ Is abortion justifiable?

Questioning in Decision-Making and Problem-Solving

Every day of your life, you engage in decision-making and problem-solving. *"What is my schedule to day and what do I wear?"*

- ▪ If you make rational decision, you life a rational life.
- ▪ If you make irrational decisions, you life an irrational life.
- ▪ Rationality maximizes chances of happiness, successful living, fulfillment, and less harm to others.

These same principles apply to problem-solving.

The logic of decision-making rests in the principle of asking questions that improve the quality of our decisions. **Example**: My friends are going to a new bar tonight and I really want to go with them. Yet, tomorrow I have a difficult mathematics examination and I must get a good grade. Using questions, we raise the process of decision-making to the level of conscious and deliberate choice.

"If I stay and study, will I be better prepared for the test?"

"Are my grades high enough now that I could afford a lower grade on the test?"

""How important is going to this new bar to my personal life?"

Etc……………

So, the logic behind our decision-making is determined by the need to make a decision in which the consequences of that decision is minimized and does the least harm and the most good. This is based on:

- **The goal**: to decide between sets of alternatives and our most valued outcome.

- **The question**: "Faced with this dilemma, what are the alternatives (1, 2, or 3), and which is most likely to enhance my welfare and the welfare of others (if others are involved).

Four Keys to Sound Decision-Making

1.   To recognize when you face an important decision.

2.   To accurately identify the alternatives.

3.   To logically evaluate the alternatives.

4.   To act on the best alternative.

The Logic of Problem-Solving

Problems are part of our lives as is decision-making. Many of the points expressed in decision-making about also fit with problem-solving.

"Problems are embedded in the fabric of our lives almost to the same extent
as decision. Every domain of decision-making is also a domain in which we
have to solve problems. Every decision has an impact on our problems,
either to minimize them or to contribute to them. Poor decisions create

problem. Many problems can be avoided by sound decision-making early on
(Elder & Paul, 2002:19).

<u>Two Types of Problems</u>:

1.   Problems that we ourselves have created by our own decisions and behavior.

2.   Problems created by forces outside of us.

<u>Summary</u>

So it seems that continuing professional development must consider examination of where our students currently are, with regards to a particular topic, and to then engage them in discussions about the topic at hand and its application to their job/s. It is possible to build in exercises and actions by the instructor to build critical thinking skills. The following concepts on the left side of the page seem central to critical thinking. On the right, I have provided some teaching approaches that enable the educator the opportunity to build them into his or her lesson plan.

Table 6

<u>Critical Thinking Concepts and Corresponding Teaching Techniques</u>

Critical Thinking Concept	**Teaching Technique**
1. Critical thinking involves a process by which a person solves problems and makes appropriate decisions.	Issues or problems relevant to the topic of the class are presented, students either individually or in small groups are allotted time to solve them and report out to the other class members.
2. Critical thinking involves examining all sides of an issue methodically and with concern for thoroughness and completeness.	A problem or task is described and those individuals involved are required to brainstorm ideas. Step #2 is to organize ideas in to a relevant list, add/subtract from this list and then put it all into perspective, discussing the relevancy.
3. Critical thinking involves the formulation of appropriate questions that cause a person to	In the classroom, we must frame questions and develop exercises that bring out peoples' past experiences and

	acquire greater insight.	outcomes.
4.	Critical thinking helps individuals to analyze and evaluate their thinking, feelings, beliefs, ideas, reasons, and thoughts with respect to those of other individuals.	Using case studies and other familiar scenarios that put the learner in direct contact with his or her inner feelings and motivations will help bring out relevant discoveries about the individual him or herself.
5.	Critical thinking seeks the truth using an open mind to raise appropriate questions.	This is accomplished using a group roundtable approach where question and comments are made about a particular topic or issue to bring all relevant aspects to the surface.
6.	Critical thinking includes the ability to reason in a clear and unbiased manner to arrive at reasoned judgment.	Requires having all facts and information about a topic to allow an informed decision. The instructor's role is to present this information and elicit discussion and questioning.
7.	Critical thinking is a process that takes all the ideas, questions, and problems of daily life enabling us to arrive at adequate solutions.	Putting things in context. Includes self-examination and reflection in an environment that is conducive to thinking and deliberation.
8.	Critical thinking is being able to analyze and probe new and old information seeking solutions to issues, needs and problems.	Discussion and questioning of what has taken place, what the current state of the art is must be put to the forefront. Then, using a number of approaches, new ideas and concepts are determined and presented which allows the group to conceptualize and consider new approaches to fulfilling needs and solving problems.
9.	Critical thinking allows one to use past and new experiences and learning to reevaluate situations or problems, seeking new and innovative solutions.	The instructor, when presenting a new idea or concept, presents components and asks participants to relate prior knowledge or experience to the issue at hand. Links past with present.
10.	Critical thinking allows students to be involved in their own learning. This involves Socratic dialogue	Accomplished using small group sessions, focus groups, and then a discussion with all members where

between students and teacher and with one another.	questions are asked and alternatives are considered.

For example, policing is a profession that prides itself on being inquisitive about suspicious situations and people, relies on assumptions and hunches to determine what occurred, tests new assumptions and strategies when solving problems, and finally, takes action based on the results of this process. These are also important aspects of thinking critically.

Course design should incorporate methods and techniques that include the learner in the learning process. Understanding emerges from inquiry, probing, and looking for relationships among the items of interest. As stated earlier, students should be guided into the routine of analyzing key concepts and ideas, questioning assumptions, and seeking alternative points of view about specific topics or proposals. Forcing students to think more in-depth about something is a challenging and difficult process that requires well-developed instructor skills. The results, however, are most rewarding.

Creating an interactive classroom where guided discussion takes place, where new ideas are proposed and challenged for their validity, where students tie together past and present information and experience to produce new information is a valuable and rewarding learning environment. With new concepts of policing emerging daily, training and learning needs of police practitioners presents a unique opportunity for providers of training and education. Those institutions earning the reputation of being innovative and meeting participant needs will enjoy a bright and prosperous future.

Section Six
Delivering Training to Adults

Training for adults differs from that of children given the maturity, needs, experience, prior learning and other variables. There is often an "immediacy" attached to the training given the individual's work, hobby, problem-solving or interest status. Training should address the needs and purpose and not contain extraneous information that has little association with the desired learning outcomes.

The following outline provides a series of steps to consider when designing, delivering and following up on delivered training. It is adaptable to the type of training being delivered and the audience you are preparing for.

<u>Training is a Process Not an Event</u>[35]

By[36]
Richard C. Lumb, Ph.D.
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Training is often considered a classroom experience where staff gathers, listens to an instructor, and then returns to the workplace as changed individuals. This is an unlikely outcome. If training is to be effective, it must be carefully choreographed, advocate the desired change, evaluate outcomes, and adjust as needed. Training as a process has a beginning, on-going activities, and assessment of outcome components that do not end when the class is over. Specifically, we are referring to three steps involving pre-training strategies, training event strategies and post training strategies.

<u>Steps:</u>

❧ I. Pre-Training Strategies

A.   Executive Identifies a Needed Change

1.   Clearly state the purpose of why change is needed
2.   Communicate this to employees

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36 . My documents/Training Material/Training is a Process Not an Event Sept 2006

3. Charge lead staff on purpose, expected outcomes, and responsibility
4. Develop evaluation plan with measurable outcome goals
4. Continuous evaluation, assesses outcomes, & implements changes as needed

B. Decision Made to Conduct Training

1. Who will be trained?
2. What are the costs?
3. What is the schedule?
4. Determine pre-training considerations
5. Assignment of training coordinator for program delivery and evaluation

C. Determine Training Needs

1. Conduct needs assessment - (change goals and achievement steps)
2. List events or issues that prompt a change in performance
3. Conduct a careful analysis and draft a report of findings
4. Hold a round-table discussion with relevant staff and finalize report

D. Develop Training Program

1. Determine content - (targeted and tightly packaged SKAs)
2. Determine delivery methods and alternatives
3. Determine trainers
4. Determine training sites
5. Determine schedule

E. Transfer of Training Considerations

1. Ideal on-the-job performance and behavior goals
2. Training equates to new performance and behavior habits
3. Supervisor and employee coaching planning
4. Measuring change and outcomes – reporting results
5. Resolution of issues, problems, and unacceptable performance
6. Improvement and change acquisition – **transformation of behavior**

F. Pre-Training Steps

1. Supervisors conduct meetings with employees who will attend training
2. Establish goals and expectations
3. Listen to and resolve issues, needs and concerns of employees
4. Establish a follow-up or post-training conference with employee

🦅 II. Training Event Strategies

G.   Conduct Pilot Training Program

1.   Test runs the content and teaching model
2.   Conduct evaluation of participants and instructors
3.   Revise curriculum and materials

H.   Deliver Training to Employees

1.   Provide training as developed
2.   Participant active classroom
3.   Problem-solving and integration of information to practice[37]
4.   Tell, demonstrate, participant role-plan, evaluate and feedback

🦅 III. Post-Training Strategies

I.   Evaluation and Follow-Up

1.   Classroom evaluation (pre, during, post)
2.   Follow-up in 4 weeks
3.   Follow-up evaluation in 3, 6, 9, and 12 months
4.   Continuous availability of training staff and coordinator to employees
5.   Coordinator evaluates and reports outcomes to Executive and staff
6.   Old habits are replaced with new skills and performance

J.   Transfer of Training Reinforcement[3839]

1.   Post-training conference between participant and supervisor
2.   Determine how new skills will be applied

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37 . Skill acquisition is believed to pass through three steps: (1) <u>Cognitive step</u> – a description of the procedure in learning (**declarative knowledge**), (2) <u>Associative Steps</u> – facts are compiled and integrated with a method for performing the skill (**procedural knowledge**), and, <u>autonomous step</u> – the skills becomes more automatic in the individual's behavior and performance (**routine or habit**). Step #3 is critical for competent performance and generally dissipates 5-6 weeks after the training unless reinforcement and practice are initiated. Retention diminishes without intervention.

38 . May et al. (2000:12). "Current approaches to soft skills training are often deficient and probably a waste of time and money in terms of real skills acquisition. The problem with transfer begins with inadequate learning.

39 . May et al. (2000:13). Solution to transfer might lie in …"reengineering training curriculums to reduce the number of 'course du jour' and finding creative ways to devote more participant training time to those skill sets that really matter to the strategic direction of the organization." 1) less classroom, 2) one-on-one practice, 3) drill to acquisition of automatic behavior, and 4) practice, practice until it becomes habit.

    3.   Conduct follow-up, problem-solving, and feedback
    4.   Track over an appropriate period of time
    4.   Measure outcomes
    5.   Continuously adjust and adapt to conditions of change

K.   Support to training Reinforcement

    1.   Instructor/s available to assist with questions and problem solving
    2.   Establish a website where information is posted and participants can exchange information
    3.   Establish mini-workshops for the opportunity of participants to come together to discuss use of training, applications and other information of value. Facilitate sessions.

Developed by,

Richard C. Lumb, Ph.D.

APPENDIX A.

Components of Analytic Questions/Thought

Components of Analytic Questions/Thought	Student Personal Example
Question:	
1. What is my fundamental purpose?	
2. What is the key question I am trying to answer?	
3. What information do I need to answer my question?	
4. What is the most basic concept in the question?	
5. What assumptions am I using in my reasoning?	
6. What is my point of view with respect to the issue?	
7. What are my most fundamental inferences of conclusions?	
8. What are the implications of my reasoning (if I am correct)?	

Example

Components of Analytic Questions/Thought	Student Personal Example
Question: Given the type of cancer I have, what are my treatment options and what are the health implications of each?	
1. What is my fundamental purpose?	To conduct research on this type of cancer, to determine treatment modalities, and to weight this information against my personal philosophy and desires.
2. What is the key question I am trying to answer?	Chances for survival with the least negative consequences to quality of life.
3. What information do I need to answer my question?	The latest medical research, information that I can understand, case histories of others who have experienced this problem, given options that are most appropriate to my thinking and expectations.
4. What is the most basic concept in the question?	Which type of treatment is most appropriate to my cancer?
5. What assumptions am I using in my reasoning?	I have cancer. It is treatable. I have options. I am optimistic in my outlook.
6. What is my point of view with respect to the issue?	Frightening but it exists, now what steps must I take.
7. What are my most fundamental inferences of conclusions?	I will acquire knowledge and information, discuss thoroughly with the doctor, make a decision based on choices, and commit myself to that course of action.
8. What are the implications of my reasoning (if I am correct)?	Elimination of cancer, return to full health.

We have arrived at the end. Teaching adults is an important undertaking and should not be taken lightly. There are methods and techniques that will enhance learning, participation, critical thinking, problem-solving and other outcomes. It is the responsibility of the teacher to know the best ways of accomplishing this formidable enterprise.

Contact Information

Richard C. Lumb, Ph.D.

Tele: 207-786-8196   Email: rlumb@adelphia.net