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Distance Learning Methodologies
for the Design of Collaborative Learning Activities within a Visual Framework

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About the College

- A university college of the State University of New York
- 35 Locations around New York State

Some Annual CDL Statistics:

- 75,000 Credits;
- 20,000 Course Enrollments
- 70% NYS Residents
- 30% Out-of-state; all states represented;
- small portion international
- 30% Fulltime students
- 50% Students use financial aid or loans

The Center for Distance Learning (CDL) serves students around the world, including military students.
Center for Distance Learning

- Offers online courses
- in five, 15-week semesters per year
- Leading enroller in SUNY Learning Network
- Partners with eArmyU, Navy, labor unions, and public & private organizations

Offers degree programs in eleven areas of study:

- The Arts, Humanities & Cultural Studies
- Business, Community and Human Services,
- Educational Studies,
- History, Human Development,
- Labor Studies,
- Science-Math-Technology,
- Social Theory-Structure-Change
Leader in educational technology

- SUNY’s leader in the design and delivery of online courses
- Largest provider of distance learning in New York state
- Rich array of library and study skills materials available via the Internet
- Connection with faculty and other students throughout the college’s online worldwide network
Core Competencies

- Success with adult learners seeking degrees
- Growth is carefully balanced with models for FT/PT faculty balance, design staff and student supports
- Course completion rates 90%, high student satisfaction
- Mentoring/personalization in all aspects
- Comprehensive student services
- Quality assurance through benchmarking with competitors
Our curricular and instructional design goals:

- Promote deep learning through visual and multimedia approaches.
- Enhance collaborative learning – teams, group presentations, debates, students as facilitators.
- Integrate Case studies across the disciplines to promote learning transfer.
- Integrate library research and library based activities into every course.
- Integrate optimal technology tools for multiple pedagogical uses.
- Integrate work-based learning and connection with social problems.
- Build community beyond courses
Curriculum and Instructional Design Group

• Advises area coordinators on curriculum development
• Shepherds developers through the development cycle
• Provides pedagogical, assessment, and instructional development training as needed
• Designs course development processes
• Facilitates team development sessions
• Aligns support for course developers
• Assures academic excellence and design quality of courses
• Oversees program evaluation and improvements.
CDL Course Development Teams

Development Team = multidisciplinary group in charge of creation, conversion or revision of Center for Distance Learning courses.

A course development team includes one or more of the following:

- An area coordinator (department chair)
  - A coordinator of instructional design and curriculum development for the course area of study (course project manager)
  - One or more course developers (sme)
  - One or more instructional designers
  - A multimedia instructional designer
  - And a librarian.

Developer ≡ Course creator/content expert: a member of the development team. S/he develops the course content and assessment activities.
Course Development
Resources and Support

• Instructional Design Assistance
• Pedagogical Advice
• Librarians Research Course Related Resources
• A Library of Discipline Specific Assignments
• Assistance Designing Learning Activities
• Media Rich Content Identification
• Multimedia Learning Objects
• Website Identification, Evaluation, and Compilation
• Digital Image Identification
• Best Practice Examples Provided
• Ongoing Theory Based and Data-Driven Research
• Final Pre-Publication Review and Formatting of Course
The following slides illustrate some of our distance learning methodologies applied to the design of instruction, including:

- Visual Approaches to Learning
- Collaborative Approaches to Learning
- Integration of Library Research
- Case Studies
Sample Visual Pedagogy

Sample Document with Images:

power (social) The power of an individual or institution is the ability to achieve something, whether by right or by control or influence. Power is the ability to mobilize economic, social, or political forces in order to achieve a result. It can be measured by the probability of that result being achieved in the face of various kinds of obstacle or opposition. It is not essential to this definition that the result be consciously intended by the powerful agent; power may be exercised unknowingly, although of course it is frequently deliberate. However, in the views of some theorists, notably Foucault, all social relations are systems of power. Fundamental power is not exercised by individuals, but is a dispersed, impersonal aspect of society, and in particular is manifested in the modes of surveillance, regulation, or discipline that accept human beings to the surrounding social structure. The power of society is not limited to its ability to prevent people doing things, but it includes control of the self-definition and preferred way of living of its members. A principal concern of political theory is to determine when the exercise of power is legitimate; this is often posed as the problem of distinguishing authority from power. See also exploitation, oppression.

Images as Content: The New Borders of Security

Thinking about security is not a new concern for the nation or even for humanity. Physical security of ourselves and our assets within our communities, as well as keeping our nation safe from harm, have been concerns for every human being throughout the ages.

Advanced technologies have simply made the stakes higher and the risks greater. There was a time when information simply wasn't available at the touch of one's fingertips, and when all of a nation's secrets were never vulnerable to a teenage hacker determined to crack a system just because he can. The skies were filled with great flying machines built for transportation, but used as a weapon in one incident that would forevermore change, and challenge, freedom.

Although it would be all to easy to consider the Homeland Security Act as "conspiratorial," as some do, consider the following:

Having lived in Texas on the US/Mexico border for many years, I can testify that US citizens traveling within a certain number of miles from the Mexican Border are subject to a stop and search by Border Patrol at any time, and must show identification at the internal Border Checkpoints.

These are not at the border, but rather, strategically placed throughout the border states (California, Arizona, New Mexico, Texas, etc.) and internally located. A citizen stopping at such a checkpoint might be asked: "Where were you born?", "Where are you from?", "Where are you going?", "What will you be doing there?" etc. Unless you pass frequently through a given checkpoint and are recognized by the agents, they are most likely to run your ID through a computer check. This was the case prior to 9/11, and I am sure that they are even more diligent post 9/11.

If we consider that the 9/11 incident has changed the ways we think about borders (the skies being the new border), then many of the newly proposed measures and policies are simply an extension of existing policies applied to the Mexico/US border.

Having said this, our concerns for security do have the potential to encourage citizens to voluntarily relinquish civil liberties such as privacy and certain freedoms. Let us examine this concern for security and the policies that are emerging, keeping in mind Bruce Schneier's risk assessment and security trade-offs.

What are we willing to give up to be: Safe? Free? Private?


If you have any questions about this material, please click on the ASK A QUESTION link below. Now go to the next document to continue this module.
Welcome to Applications of Fire Research

This course is designed to provide you with an overview of the basic research methodologies used in the field of fire research and testing, with the goal of teaching you how to design a research project, find and evaluate existing research, and interpret research reports. In addition, Applications of Fire Research provides an overview of the subfields of fire-related research, both in fire science and fire services.

Understanding fire research is not an easy topic; it requires a thorough grasp of a number of complex concepts and methods. Some of this may be familiar to you, and some of it will be quite new. The course authors have attempted to introduce the more complex concepts in different ways and walk you through them step-by-step with the discussions and final research project assignments. Don't be intimidated if some of the information seems rather overwhelming at first. With the incremental approach we use throughout the course, you should be able to successfully accomplish each of the objectives one step at a time. Don't hesitate to ask your instructor for further guidance, if needed.

At first glance it certainly appears that we have a lot of reading for this course. But do not let that discourage you, as there are strategies and techniques for reading successfully. We have several types of readings in the course: the texts, the online course documents, and related websites.

The first textbook for the class is Practical Research: Planning and Design. This textbook will provide you with a solid foundation about planning and designing practical research. The second text is the Fire Protection Handbook in which you will be required to read many chapters from Section 3. This will provide you with a detailed example of the various types and methods of research testing pertaining to the fire service. The Fire Protection Handbook will most likely be used in other fire science classes. Today's firefighters, researchers, and fire protection personnel use this text on a daily basis.

It is our goal to bridge the gap between the Practical Research: Planning and Design text and the Fire Protection Handbook. The research text should be viewed as an introduction to research, written in a way that should be easily understood by an advanced undergraduate student. The Fire Protection Handbook should be viewed as an authoritative guide to fire-related research and testing, among it's other values.

You will find Practical Research: Planning and Design by Leedy and Ormrod to be an easy read and you should read this book thoroughly to develop a good understanding of how research is conducted. Some of the Leedy and Ormrod sections are a little dated and cover elemental aspects of how to use technology and the Internet. Ignore those, and focus on the important sections that detail everything you need to know about research and that will guide you through research planning and design.

The Fire Protection Handbook is considered to be a single-source handbook for the fire protection community. The Handbook is organized around six major strategies that are the building blocks of a systems approach to fire safety through balanced fire protection: prevention of ignition, design to slow early fire growth, detection and alarm, suppression, confinement of fire, and evacuation of occupants. During this course, you will be asked to read the section of the Handbook that pertains to fire research and testing.

Although we do not expect you to read every paragraph with a critical and analytical eye; you should be reading the material from the perspective of a "researcher." Having said that, you should not merely skim or scan through the Fire Protection Handbook, nor should you read too critically and analytically; a happy medium will do.
The Nature of Law

A sensible fire service manager will work to minimize the fire department’s exposure to legal action. Therefore, the first step in such prevention is an understanding of the nature of law. These chapters provide an overview of what law is and where it comes from. As you read through this, think about society’s attitude toward law, how and why people obey or break laws, and our government’s attitude towards enforcing laws. A basic appreciation of the foundations of both civil and criminal law is needed. The discussion question and suggested associated websites are designed to get you thinking about the overlap of civil and criminal law and the many legal aspects which can apply to a factual situation.

On-line Resources - Optional

A fire service manager does not need a law degree to navigate the legal arena but does need a basic understanding of the law’s major categories. To learn more about public law (criminal law, constitutional law and administrative law) and private law (property law, tort and contract law) view the following websites:

United States Courts
http://empire1.esc.edu/library/intresources2.nsf/bykeyredirect/13927/opendocument

Federal Emergency Management Agency
http://empire1.esc.edu/library/intresources2.nsf/bykeyredirect/1477/opendocument

The Council of State Governments
http://empire1.esc.edu/library/intresources2.nsf/bykeyredirect/12967/opendocument

National Center for State Courts
http://empire1.esc.edu/library/intresources2.nsf/bykeyredirect/11937/opendocument

If you have any questions, please click on the ASK A QUESTION link below.
Think Like a Researcher

Hello, everyone! Let’s begin by discussing a problem that has impacted the emergency services for the past few years and destroyed 4% of Manhattan’s total office space. The World Trade Center incident of 9/11 has created a plethora of articles in a variety of trade journals, but let’s discuss the way researchers have looked at the incident. A good start to investigate authoritative fire research problems, projects, and reports is the National Institute of Standards and Technology website: http://nosc.nist.gov.

When researchers encounter a gap of knowledge in a given area, they try to focus on the problem by asking questions such as: How can this problem be characterized? What factors are involved? How can these factors be defined in a way that they can be measured? What does the previous research say about it? Is it possible to establish causal relationships between certain factors and the phenomena under investigation?

For the purposes of this discussion, let us review the findings of the NIST investigation of the World Trade Center disaster. Go to the following website to find out more about each of the individual research projects addressing the WTC problem: http://www.bnl.nist.gov/oasis_programs/pageWTC.htm.

The primary objectives of the NIST-led technical investigation of the World Trade Center (WTC) disaster were to:

1. Determine why and how WTC 1 and 2 collapsed following the initial impacts of the aircraft and why and how WTC 7 collapsed;
2. Determine why the injuries and fatalities were so high or low depending on location, including all technical aspects of fire protection, occupant behavior, evacuation, and emergency response;
3. Determine what procedures and practices were used in the design, construction, operation, and maintenance of WTC 1, 2, and 7; and
4. Identify, as specifically as possible, areas in building and fire codes, standards, and practices that are still in use and warrant revision.

You’ll discover that the basic research focuses on some critical areas:

- Analysis of Building and Fire Codes and Practices
- Baseline Structural Performance and Aircraft Impact Damage Analysis
- Mechanical and Metallurgical Analysis of Structural Steel
- Investigation of Active Fire Protection Systems
- Improved Building Evacuation
- Improved Emergency Response
- Education and Training Programs

Consider the objectives and expected outcomes of the research that were incorporated by the Building and Fire Research Laboratory (BFRL) in the NIST study. These are broad research questions that must then be refined into more narrowly defined problems/approaches. Non-governmental organizations, such as the American Institute of Architects, National Fire Protection Association, and the Factory Mutual Research Corporation, etc., also address these research problems from different perspectives. Investigate their websites, and ask yourself: Are their approaches biased towards their specialty? If yes, how?
Phases of Disaster

The stages of disaster begin before the actual impact. For groups that are often mobilized for disasters (e.g., police, firefighters, disaster workers), as well as those exposed to disasters for which there may be substantial warning (e.g., storm disasters, toxic spills) there is the anticipatory stage of disaster exposure and possible stressor effects. This is followed by the impact of the disaster and its aftermath. Each stage has its characteristic stressors, responses and potential interventions (Ursano, Gherger & McCarroll, 1998). Stages may not however, be clear-cut.

From a mental health disaster viewpoint it is important to recognize the various psychological phases which both at-risk populations and the survivors in the aftermath may experience. This model, which is described in detail below, is useful for acute events, e.g., a cyclone or flood, and their aftermath, but is not so appropriate for longer term slow disasters, which affect communities in different ways and may be insidious in terms of their disastrous impact (Raphael, 1993).

**Phase 1: Preparation and Planning**

Disasters can be anticipated with varying degrees of accuracy. Disaster plans embody the collective knowledge and risk assessment for any particular region. Therefore one dimension of the stress response to disaster involves anticipation and a willingness to contemplate the possibility of disaster and to see that the provision of resources in the development of disaster plans is an adaptive strategy. This reflects an attitude of risk appraisal and management that can decrease the possibility of exposure in the event of a disaster. Studies have examined the effect of this preparation on outcome and have shown that training is a predictor of post-disaster adjustment (McFarlane, 1995).

Education about possible disaster experiences and how to deal with them, training through disaster exercises, and awareness of likely psychological reactions in the self and others are all helpful. This will increase the individual’s and the community’s capacity to respond appropriately, to recognize and deal with stress effects and will lessen the likelihood for adverse outcomes from these. Including the mental health response in disaster training is relevant for all workers (Emergency Management Australia, 1999).

**Phase 2: Threat and Warning**

Threat and warning refer to the time before a disaster when there may be either a general recognition that such a disaster could occur (threat) or a specific warning that a disaster is approaching (warning). Some communities may expect certain disasters because they know they are vulnerable, or have experienced them before — for instance areas that have been repeatedly flooded, or where there have been previous bushfires, or cyclones. In such communities a disaster sub-culture may develop, with a set of beliefs about the likelihood of an episode and what should be done, or what may be effective (Raphael, 1993).

**Phase 3: Impact**

The impact phase of disasters is extremely variable according to the type of event. There is also great variability within events. One house can be destroyed while the one next door is left unscathed. There is a need to compare the different types of disaster and identify the differing role of the components of threat, exposure, loss and dislocation in the patterns of adjustment (McFarlane, 1995).
You are called to a fire at a downtown hotel. The building is Type 1 construction. The damage in the room is consistent with post-flashover fire conditions. Looking at the remains of the furniture in the room and examining the adjacent (undamaged) hotel rooms, you notice that the rooms are sparsely furnished. Each room has a bed, a TV, and a shelf with a clothing rod underneath as shown below. There were no witnesses. The tenant was a smoker.

Submit an essay that addresses the following:

Based on the amount of fuel and the potential amount of ventilation, discuss what analytical tools and techniques you would use to determine if this fire was unintentional or incendiary. Develop a list of questions that you would need answered in order to make the final determination.

Once you have submitted the answers to the above, I will submit a response that will provide you with all the necessary data (fuel types, doorway dimensions, ceiling height, bed location, type of clothing on rack, and the type of mattress) so that you may:

- use formulas for Flame Height and Minimum Heat Release Rate to Flashover calculations and submit the calculations
- discuss what other approaches you would recommend to confirm your hypothesis
What is a Case Study?

A typical case study is a written narrative of some real-life event, situation, or experience centered in a problem or issue faced by a person, group of persons, organization, community, or even an entire society. Case studies actively engage students in the learning process as they analyze cases and develop solutions to the problems posed in cases.

Case studies are used in a wide variety of disciplines. While their usage is most prominent in business schools, they are also used in teacher education, faculty development, social work, political science, economics, public administration, medicine, nursing, and engineering programs.

Because case studies are written in such a way that they are incomplete, there is always some uncertainty about what happened and why. As a result, cases are open to multiple interpretations, allowing students to use acquired concepts and frameworks to "fill in the blanks" so to speak. Case studies, therefore, provide an excellent vehicle for illustrating conceptual issues, refining knowledge, and developing skills by using them to "read" the case. Most importantly, case studies help students learn how to relate knowledge to action as they see how different "readings" of a case entail different solutions to the problems posed in that case. Case studies can, therefore, empower students by giving them the ability to deal with problems which they could face, not in a naive fashion, but in a more informed manner.

Above: A fisherman makes his way up the Tennessee River Wednesday, Sept. 24, 2003, past the cooling towers of the Tennessee Valley Authority's Watts Bar Nuclear Plant in Spring City, Tenn. Production of the hydrogen isotope tritium, which enhances the force of nuclear bombs, will begin here soon. Of 104 commercial reactors in the United States, Watts Bar will be the only one that makes electricity and a weaponized material. (AP Photo/Todd Payne)

Case Study Instructions

Review the news article from Grist Magazine located at grist.org dated March 29, 2002, entitled Safety Dance, a three-part series by Shelley Smithson. After reviewing the case study, you are requested to apply the issues reviewed in the chapters from the course text to the situation from the case study article, which is a three-part article.

Submit a discussion analysis regarding the case study as it relates to the issues of selection, training, and supervision of security personnel. Your analysis should include suggestions on how to address the security problems within the case study as they relate to the three issues from the assigned text book. After developing your research, you will be required to combine the research into a class discussion analysis by writing a minimum of 250 words (single spaced using number 9 Arial font) and post your results for discussion along with an annotated bibliography of at least two (2) additional sources to support your analysis. Refer to my Guidelines for Annotating Resources document for additional instructions.

Your discussion analysis should be posted no later than the Friday of the first week of the module. (See course schedule) After your posting is submitted you will be required to review all other postings submitted by your classmates and respond to at least two (2) others. Discussions will be based on these responses. As always the following applies to the discussion area.
Reflect

From: Security Management

**Discussion Topic**

How do the principles of selection, training and supervision of security personnel relate to the case study?

Submit a discussion analysis regarding the case study as it relates to the issues of selection, training and supervision of security personnel. Your analysis should include suggestions on how to address the problems within the case study. After developing your research, combine the research into a class discussion analysis by writing a minimum of 250 words (single spaced using number 9 Arial font) and post your results for discussion along with an annotated bibliography of at least two additional sources to support your analysis. You must cite your sources using the MLA or APA citation styles. Refer to the Guidelines for Annotating Resources document for additional instructions.

Post your findings in this discussion forum by the discussion opening date in the course schedule.

Then, respond to at least two additional discussion issues that are posted by your classmates. Your response to other classmate's analysis must be a well-written response with sources to back up your comments. Remember, college-level writing involves analytical thinking and you should base your responses on agreement or disagreement with respect to the topic.

The discussions are intended to help you further explore and think critically about the information you are reading and viewing. I shall pose questions to get the discussions going. I intend to be an active–two or three times a week–participant in the discussions, and expect each of you to be so, as well.

Respond

To review how to respond, click on "How to Participate in a Discussion".

You can include a web link when responding to the discussion by:
Clicking on the "Respond" link, a yellow response form comes up. You must complete the "Subject" and "Comments" fields in the form. The "Comments" field allows you to add a URL link to a discussion posting in two ways: either type the full address into the body field, including the "http://" (for example - [http://www.suny.edu](http://www.suny.edu)) or you can use the Optional Web Link area by entering a name for the site and then the web address without the http://.
Pro-Con Debate

Debate Groups Assignments: During this activity the class will be divided into two debate groups: one group that is in favor of private security at our ports of call will be assigned to the Pro Debate Team and the other group that is against it will be assigned to the Con Debate Team. Note that I will hand-pick students and assign each student to a particular side. Each side will have to come up with a list of reasons to support the side they have been assigned and should cite sources to defend their position.

Debate Instructions: You will be requested to participate in an on-line pro/con debate in a discussion format after conducting ample research for either the use of private security at our ports of call or against private security and the need for government take-over. One example of government-run security is the present TSA used in our nation's airports.

A review of Samnevald's Effective Security Management, Fourth Edition chapters 23-26 will assist you with respect to the procedures relating to the increasing need to coordinate security efforts with law enforcement, the community, and other governmental entities.

After reading the assigned portion of the text and reviewing the assigned web article, you will be required to conduct research of six (6) additional sources (2 Pro, 2 Con) to prepare for a pro/con debate. You will be assigned to either pro or con side of the argument and expected to support that side of the pro/con debate. Present your side of the argument in a clear concise manner, no later than the end of the first week of the assignment.

Debate Topic:
Can private security perform sufficiently enough to protect our ports of entry without involvement from the federal government?

You are required to read the following in preparation for the debate:

- web article at http://www.americanprogress.org July 1, 2004 article entitled Making OurPorts a Priority, by P. J. Crowley

First: Article Research and Analysis
Beginning with the web resources provided as a starting point, research, select and analyze a minimum of three journal or website articles in support of your assigned position, and three journal or website articles against your assigned position (knowing the core if you are a pro will help you better prepare your arguments, and vice-versa).

Post a 100 word analysis per article. Cite the articles using MLA or APA format, your choice. If they are from a website, you must include the url in the citation.

Second: Support Your Position as assigned, Pro or Con
Using your articles and other resources to support your viewpoint. You will be assigned to a group posting area for either the pro or the con team.
Then, go to the other side. Challenge someone’s argument. Be sure to use your references to support your challenge.

This means that someone from the other camp will have challenged your original statement. Go back and refute that challenge by continuing to support your original position.
Role Play Scenario: Group Project


A sign outside the Red Lake High School states weapons are prohibited in the school on the Red Lake Indian Reservation in Red Lake, Minn. on Tuesday, March 22, 2005. Jeff Weise, a 17-year-old student, reportedly killed a school security guard, a teacher and five other students in the high school on Monday. At least 14 others were wounded. He also shot and killed his grandfather and his grandfather's wife. Weise killed himself afterwards. (AP Photo/Jim Mone)

Choose one of the following scenarios:

1. Imagine that you are an all board members of a school district having to establish a security policy after an incident in the school.

2. You are the computer security team for a government organization housing highly sensitive information. An unknown hacker has accessed your files and leaked confidential information to the public. Concerned that insider information may have given the hacker easier access, you must develop a tighter internal security policy.

First, decide on the scenario: what happened, how, what are the implications. Start an initial group discussion on the scenario. Each group member must research and review 2 articles/websites that might be relevant to the case, and submit an evaluation/review of the article to the group.

Then, develop a 500 word security policy after weighing the rights of the individuals against the security of the group.

As you develop your policy, follow the five step process proposed by Schneier in Beyond Fear (Chapter 15, pp 257-268). Be sure to consider the four "environmental constraints on behavior" (pp264-265). In addition, consider Schneier’s three final rules (pp. 279-280).

In addition, the group must reference one or more sections of the Homeland Security Act in support of the proposed policy.
Conclusion

- This is a brief description of small components of a comprehensive process.

- And a few snapshots of documents from a selection from hundreds of courses applying the distance learning methodologies presented today.

- We are currently undertaking a migration to a new learning management system, and will be experimenting with new methods and approaches in the new platform.

- Our next generation research includes visualization and immersive worlds; 3D and emerging mobile applications.
If you’d like to learn more ...


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Appendix

Brief description of Theories

and

References
social constructivism

- is a variety of cognitive constructivism that emphasizes the collaborative nature of much learning.

Social constructivism was developed by post-revolutionary Soviet psychologist, Lev Vygotsky. Vygotsky was a cognitivist, but rejected the assumption made by cognitivists such as Piaget and Perry that it was possible to separate learning from its social context. He argued that all cognitive functions originate in, and must therefore be explained as products of, social interactions and that learning was not simply the assimilation and accommodation of new knowledge by learners; it was the process by which learners were integrated into a knowledge community.

(from: http://gsi.berkeley.edu/resources/learning/social.html).
social constructivism and instructional models:

- Instructional models based on the social constructivist perspective stress the need for collaboration among learners and with practitioners in the society (Lave & Wenger, 1991; McMahon, 1997).

- Lave and Wenger (1991) assert that a society’s practical knowledge is situated in relations among practitioners, their practice, and the social organization and political economy of communities of practice. For this reason, learning should involve such knowledge and practice (Lave & Wenger, 1991; Gredler, 1997).

social constructivist approaches can include:

- reciprocal teaching
- peer collaboration
- cognitive apprenticeships
- problem-based instruction
- webquests
- anchored instruction and other methods that involve learning with others (Shunk, 2000).

Marton and Saljo (1976) developed the following definitions of surface and deep approaches to learning:

**Surface approach:** Students relate to the needs of the instructor, rather than to either their own personal identification with the subject or to the structure of the imparted knowledge. The learning task is to reproduce the subject matter at a later date (e.g. in an exam).

**Deep approach:** Students connect the structure of the subject to their own learning structures. This involves thinking, seeking integration between components and between tasks, and ‘playing’ with ideas.

deep learning:

Gibbs (1992) further refines the definition:

Most students can adopt both surface and deep approaches to their learning; students can develop an increasingly sophisticated conception of learning; inappropriate course design, teaching methods and assessment can foster a surface approach; and appropriate course design, teaching methods and assessment can foster a deep approach. Gibbs, G. (1992a). Improving the quality of student learning through course design. In R. Barnett (Ed.). Learning to Effect. Buckingham: SRHE/Open University Press. Part I Using research to improve student learning.

adult learners need:

— To know why learning is required
— To direct their learning
— To contribute their experiences to the learning situation
— To apply what they have learned to serve real world problems
— To feel competent and experience success throughout the learning program.

adapted from:

References:
