DISTANCE EDUCATION

Best Practices Manual

# Team C Best Practices

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DISTANCE EDUCATION

# Best Practices Guide

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# Introduction

Distance education (DE) is defined as learning through geographical, time, and intellectual distance (Simonson, Smaldino, Albright, & Zvacek, 2000). Learners in formal educational settings are separated by time and space. Communication between instructor and learner take place using email, newsgroups, audio, video, chat, teleconferencing, and Internet (American Federation of Teachers, 2000).

Instructional designers and instructors must combine learning theories, distance education theories, instructional design principles, and technology to create truly effective DE. Best practices are necessary to maintain standards in any industry. Distance education is no exception. In this manual, you will find distance education issues addressed from technological, theoretical, and design aspects.

The following guidelines will assist designer and instructor in developing sound DE. Guidelines should cover students, standards for curriculum and instruction, evaluation, learning resources, services, system design, and web-based instruction systems (Nova Southeastern University, 2000).

Chapter 1

# Key Points in Distance Education History

Distance education (DE) began over 160 years ago in Europe, using mail correspondence. DE has evolved from mail correspondence to TV delivery to computer delivered. Today universities offer entire degrees online. Learners need never step foot onto a college campus. The following is a timeline of significant distance education events.

**1840:** Isaac Pitman

Pitman develops the first DE course. Shorthand was taught through mail correspondence (Distance Learning, 2002).

**1873:** DE begins in the United States.

In Boston, MA, Anna Eliot Tichnor founded The Society to Encourage Studies at Home. Tichnor's initiative attracted over 10,000 women in a span of 24 years (Simonson, Smaldino, Albright, & Zvacek, 2000).

**1918-1946:** Radio.

The United States government grants radio broadcasting licenses to 202 colleges, universities, and school boards (Nasseh, 1997).

**1920:** DE moves into secondary education.

In 1923 correspondence courses began in a Michigan vocational school. In 1929, the University of Nebraska began experimenting with high school correspondence courses.

**1933:** Televised Courses at State University of Iowa.

The first educational television programs were broadcast from the State University of Iowa. Multiple subjects were taught. By 1939, there were more than 400 programs broadcasted (Jeffries, n.d.).

**1960s** and early 1970s: Microwave technology.

Universities began constructing microwave networks to take advantage of television broadcasting (Jeffries, n.d.).

**1960s:** Experimenting with electronic education delivery.

Charles Wedemeyer combines independent study courses with electronic delivery. At this time, Wedemeyer began innovating entire degrees delivered electronically.

**1965:** Industrialization Theory.

Otto Peters writes his book, Distance Education. Peters lays out his division of labor theory.

**1967:** British Open University established.

The university admitted its first students in 1971. The university broke down traditional barriers by admitting students regardless of previous academic experience (PBS, n.d.).

**1973:** Theory of Independent Study.

Michael Moore formulates his theory on independent study based on distance and learner autonomy.

**1970s** and early 1980s cable and satellite television.

Cable and satellite became a delivery medium for DE (Nasseh, 1997).

**1982:** Time and distance model.

Dan Coldeway of Athabasca University established the four models of learning.

**1999:** University accreditation.

Jones Internal University receives accreditation by one of the governing bodies. The accreditation signifies e-learning as a valid method of education (PBS, n.d.).

**1999:** Online education delivery applications.

Learning portals, such as HungryMinds, Click2Learn, eCollege, and Blackboard emerge as DE delivery applications (PBS, n.d.).

**1990s** –present: Emergence of online delivery.

The development of the world wide web, email, and low cost computers increased the base of DE.

Chapter 2

# Distance Education Issues

## Andragogy Vs. Pedagogy

Most distance learners tend to be working adults which indicates the preference for andragogical e-education. Whether andragogy or pedagogy, learning theory should emphasize principles of good practice in education. Educational theorists believe that DE is composed of elements from existing theories and philosophies of education (Simonson, Smaldino, Albright & Zvacek, 2000).

## Communication

To maximize communication DE should incorporate realtime electronic interchange through teleconference, chat rooms and discussion groups, as well as asynchronous communication in the form of e-mail and course bulletin boards. The synchronous interchange allows greater familiarity between the students and instructor and therefore a greater quality of interaction. Asynchronous bulletin boards allow open-ended questions to be explored through continuing threaded online discussion (Picciano, 2001).

## Barriers to learning

Creating Didactic Communication. Most distance learners are adults who bring rich life experience to the learning pool. Learning should be interactive and collaborative, with information flowing from instructor to student, student to student and student to instructor through free and ample discussion. The desired learning environment should be inclusive, respectful, and supportive.

Time Management. Distance learners are busy working professionals with family and other considerations on their time. Online distance learning should allow flexibility for learners to engage in learning. Asynchronous delivery and flexible assignment

completion dates should be used whenever possible to allow learners to engage in educational processes at convenient times.

## Course Materials

Amounts and depth of material covered in DE should be equal to or exceed that of traditional courses. Methods of using visual presentations such as tables, graphs, and figures to present key concepts should be incorporated.

## Completion Rates

Completion rates increase in distance learning when courses are interactive. Teaching strategies should be incorporated to encourage collaborative interaction through an inclusive, respectful, and encouraging classroom environment that fosters a sense of community among the learners. Opportunities to express ideas and perspective should be encouraged and feedback should be timely and positive.

## Technology

A wide variety of technologies is available for DE. Technology should be used that accommodates the broadest range of current and available hardware and software. Educators should attempt to select technologies that best meet goals and objectives, is available, and is educationally sound and cost effective (Picciano, 2001). No single technology is considered the best for DE. The trend is toward digital, computer-based technologies. Blending technologies such as teleconferencing, audio graphics, and videoconferencing can inexpensively augment e-mail and bulletin boards.

Chapter 3

# Domestic Diversity Issues

## Regional issues

Every society has a system of social expectation with regard to its members. Individuals pass through a socially regulated regimen from birth to death with recognized and accepted rights, obligations, and duties (Merriam & Caffarella, 2001). Changes in one's position, within the fabric of their society, result from modifications in their personal goals, which are not always readily accepted within the social predisposition of the region. Learners should be encouraged to examine their perceptions of themselves and others and experiment with relinquishing dominant cultural norms.

## Racial

Educator and learners do not like to admit that race, ethnicity, and gender issues have relevance in educational coursework. However, numerous scholars during the past decade have acknowledged the vital importance of personally and socially accepted notions of racial issues in education (Merriam & Caffarella, 2001). Learners should be prompted to examine their own personal, cultural, and institutional perceptions of diverse groups. Chaves, Guido, DiBritio & Mallory state that class populations should be led to integrate and validate each other (as cited in Merriam & Caffarella, 2001).

## Disability

The advent of DE has created new learning opportunities for the physically disabled. The socially accepted notion that disabled people do not need to learn creates a cultural distinctness that can impede learners within their social confines. Section 504 of the Rehabilitation Act of 1973 requires that disabled people not be "excluded from the participation in, denied the benefits of, or subjected to discrimination under any

program or activity receiving Federal financial assistance." (Blaser, 2001) That includes higher education.

Education institutions now operate against a backdrop of quality and legislative issues relating to the provision of learning and teaching for all students, notably the Special Educational Needs and Disability Act 2001. Web accessibility for students with disabilities and special needs is a growing concern for educational and training institutions. “In the US, the Americans with Disabilities Act (ADA) legislation and the Rehabilitation Act 508 requirements for Federal Departments and Agencies require that Web resources must be made accessible to people with disabilities (Harrison, n.d.). Provisions must be made for learners with disability. The requirement to comply with the disability act has led institutions to come up with a list of strategies how to accommodate disability students, and at the same time accommodating able students. The World Wide Web Consortium (W3C) has a list of recommended accessibility guidelines for designers located at http://www.w3.org/TR/WAI-WEBCONTENT/#toc. Distance educators may access this website to make sure guidelines are met.

Chapter 4

# Global Diversity Issues

DE has become increasingly pervasive worldwide. It is creating large numbers of new alliances, as traditional schools working with businesses, foreign governments, and international organizations become a part of this development (Potashnik & Capper, 1998). Technology plays an important role in facilitating the growth of distance learning. The World Bank' executive board has recently approved expansion of its own DE and learning activities. Expansion will help countries indirectly improve educational quality for its citizens. A website called *educationNet* has been established to help with global diversity issues taking place in DE and to help bridge cultural gaps in the exchange of knowledge (Potashnik & Capper, 1998).

## Technology

Language Terminology and Systems. Many countries are making use of the Internet and other technologies to improve access and quality of DE. There is an abundance of terminology associated with new technology having similar meanings. As a result, building delivery systems can be a challenge due to these language differences, cultural mores, and communication styles worldwide (Massy, 2002).

Types of Technology. The type and form of technology used must be decided upon and standardized by a multi-cultural board of educators. Inappropriate decisions on the choice of technology used can be costly, and can hinder the success of distance education programs. Care must be taken to avoid delivery modes in which technology alone drives the decisions regarding this educational method.

## Cost and Financial Issues

Tuition Costs. Monetary exchange rate difference among countries is a concern due to differences in various world economies. Learners in most third world countries cannot afford to study in foreign universities. Online education should prove to be a

solution. However, financial aid resources must be available, such as student loans, government funding, grants, and scholarships.

Program Investments. The growth in worldwide DE has caught the attention of many universities for its opportunities and ability to reach populations without learning resources. However, African universities venture into e-education, supported by the World Bank received low enrollments, while the United Stated venture received a boom in student participation (Potashnik & Capper, 1998). This is a signal that third world nations must focus attention on better grass-roots level DE marketing. At the same time, a need for sound financial planning, research, and management is required to ensure that institutions can afford to maintain DE programs. Developing distance courses requires larger investments in time and resources than traditional learning. It is suggested that institutions begin with a limited number of courses to with reduce initial start-up costs (1998). Careful attention must be paid to pilot testing courseware and delivery methods before launching the program.

## Universal Education Demands for Faculty, Students and Administrative Systems

Increasing Demand for Higher and Unified Qualification Among Instructors. Qualification requirements and educational methods vary worldwide. Online education requires a unified system instructor training and delivery methods. The World Bank should be a financial resource to support and provide funding for necessary technology required to overcome this issue.

Program Credibility. A concern for educational qualifications and proper skill development governs hiring by major companies of foreign graduates with online degrees as compared to conventional graduates. At this time, coursework completed in foreign institutions is often not accepted in other countries or educational institutions in these countries (Potashnik & Capper, 1998). This is why global online education must be standardized. Institutions participating in online education must address this issue to assure graduates and potential employers a standardization of knowledge and skill upon graduation.

Curriculum Design. The key word here is global; therefore, curriculums must be designed to meet this challenge. Criteria to consider is (a) usage of a common language, (b) programs of study relevant to current industry demands, and technology advancement, (c) cultural diversity in how information is disseminated, and (d) a commonality of requirements for degree granting. Educators, technologists, and industry professionals must continually evaluate curriculum.

Chapter 5

# Relevance of E-Education Theories

Learning theories are an important foundation in the learning process. Theories give a framework in which to operate. Theories also provide solutions to problems. E-Education theory is an extension of learning theory. DE theory has built itself upon traditional learning theories. Prominent e-education theorists are Wedemeyer, Holmberg, Moore, and Peters. Most e-education theories came from abroad. E-education has become a mature market in America resulting in domestic e-education theory (Simonson, Smaldino, Albright, & Zvacek, 2000).

Five key learning theories to consider when constructing DE are behaviorism, cognitivism, humanism, social learning, and constructivism (Merriam and Caffarella, 2001). There is also Gardner's theory of multiple intelligences. In addition, andragogy, which is based on Knowles adult learning theory, is learner-centered verses the traditional pedagogical form of learning (Knowles, 1984).

DE theory is important because there is a direct impact to the industry (Simonson, Smaldino, Albright, & Zvacek, 2000). The difference with e-educational theories deal with learner's geographical, understanding, and perception distance (Moore, 1991). Also, e-education theories deals with multimedia and courseware.

Learning theories are integrated into the instructional design process. After the analysis phase is completed, designers develop instruction. Choose DE presentation, application, feedback and delivery methods based on objectives, learner analysis, learning theory, and DE theory. Without learning theory, courses become strictly presentation. Application of e-education theory turns instructional design into a science.

Chapter 6

# Application of Issues in Diversity to Distance Education

## Application of Issues in Diversity to DE

Integration of both individualist and socio-constructivist worldviews are necessary to create effective learning practice for distance learners. What culturally diverse learners find to be personally relevant is often directly related to individual values, which are social constructions (Wlodkowski, 2001). Promoting learning among adult learners is most possible through culturally responsive interaction based on intrinsic learner motivation. Most distance learners are predisposed to a high level of motivation. However, motivating those same learners to discuss or comment on issues of cultural difference that may be considered unmentionable, or simply bad manners in their societal environment presents the instructional designer with a unique challenge.

## Strategies for Motivating Culturally Responsive Interaction

Establish Inclusion. Create a learning atmosphere where learners feel respected and connected to fellow students and instructor through collaborative learning and abundant open discussion. Learners should have the opportunity to introduce themselves and respond to their classmate's introduction at the beginning of a course. Small learning groups should be created in which learners can express ideas, experiences, and attitudes about the topics being covered with fellow students. The instructor should encourage and respond to learner's comments regarding discussion questions and topics of conversation in the classroom.

Fostering Favorable Attitude. Create a favorable attitude toward recognizing and addressing issues of cultural difference and misunderstanding through open discussion. In order to create a learning environment where a classroom community can enjoy an effective learning experience, cultural misunderstanding problems must be confronted

and addressed in a collaborative manner. In the context of DE, these ends can best be accomplished through the open and abundant use of discussion. It has been determined that when online groups collaboratively probe into the underlying dynamics of a cultural misunderstanding that they each begin to see that their original perspective on the problem was flawed, misguided or incomplete (Williams, Watkins, Daley & Courtenay, 2001).

Enhance Meaning. Create new learning experience and personal relevance by encouraging learners to offer topics for discussion, personal experience, and personal perspective. Opportunities for multidimensional sharing should be offered in the form of introductory exercises, personal anecdotes, and credible experience. These and other such methods are inclusive and motivating when they validate the experiences of individuals and establish a sense of affiliation between the learners (Wlodkowski, 2001).

Chapter 7

# Learning Objectives

Learning objectives are the rudders in a distance-learning environment. Learning objectives are standards learners must meet. Coursework is built around learning objectives.

## Setting Objectives

Objectives answer the question, what do I expect learners to be able to do after completing the course? Learning objectives are high-level compilations of instructional design task analysis. Instructional designers begin by analyzing tasks. Tasks set learning objective parameters.

## Writing Objectives

There are three reasons for writing objectives. They are (a) provide a basis for selecting material, content, and delivery methods, (b) provide a way to measure transfer of knowledge, and (c) give learners the expectation of what is expected during the assessment (Jones, 1997).

Learning objectives are broken into three sections, (a) task, (b) condition, and (c) standard. These three areas state who will do what for whom, when they will do it, and under what specified conditions. Learning objectives are best written when using an action verb describing the task (Clark, 2000). Verbs should use Bloom's Taxonomy (Bloom, 1956) based on performance requirements from the needs analysis.

Task. The task states what learners will perform. The verb selected should use Bloom's Taxonomy of Learning (1956). The verb uses the chosen cognitive domain as shown in Figure 1.

**Figure 1: Verbs from Bloom's Taxonomy of Cognitive Domain (University of Illinois, 2002).**

| | |
|---|---|
| 1. | Knowledge: arrange, define, duplicate, label, list, memorize, name, order, recognize, relate, recall, repeat, reproduce, state. |
| 2. | Comprehension: classify, describe, discuss, explain, express, identify, indicate, locate, recognize, report, restate, review, select, translate. |
| 3. | Application: apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write. |
| 4. | Analysis: analyze, appraise, calculate, categorize, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test. |
| 5. | Synthesis: arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepare, propose, set up, write. |
| 6. | Evaluation: appraise, argue, assess, attach, choose compare, defend estimate, judge, predict, rate, core, select, support, value, evaluate. |

Standards. Standards are measurable criteria determined in the needs analysis phase of instructional design.

Conditions. Conditions describe the environment in which learners will perform tasks. The conditions can describe what is given or what is not given (Clark, 2000).

## Assessing Objectives.

Learning objectives are assessed through multiple Kirkpatrick levels (Kirkpatrick, 1998). Objectives are part of the assessment equation of objectives = tasks = assessment (Langevin Learning Services, 1997). Learning objectives are assessed through traditional or alternative assessments. Alternative assessments would include authentic, performance, or constructivist evaluations. Assessments used are based on learning strategy, objectives, and goals.

Chapter 8

# Communication

## Forms of Communication

Communication is extremely important in distance learning. Synchronous and asynchronous are forms of online communication. Paulsen (1995) indicated that there are four types of communicative interaction in an online learning environment used for application of knowledge and skill and collaboration. The first is one-way communication. Students are the directed learner, which requires minimal interactivity. The only interaction is primarily in studies or research with online databases, journals, interest groups, and print media. Next, is one-on-one where personal communication occurs between instructor and learner. Examples are in learning contracts, apprenticeships and correspondence studies via email or phone. The third is one-to-many. Bulletin boards, listservs, and audio-video conferencing may be used for lectures, symposia, and skits where instructors play an active role during sharing of subject matter. The fourth form is called many-to-many conferencing. All participants are involved during interaction sessions that take place in discussion groups, debates, case studies, and group projects (1995).

## Strategies for Effective Online Communication

Synchronous or asynchronously delivered communication is vital for DE (Picciano, 2001). The following strategies are used to create an effective communication environment.

Establishing Clear Communication. Instructors must communicate class expectations, assignment requirements, and regulations on the first day of class. A detailed syllabus, which serves as a roadmap, minimizes confusion and anxieties in course expectations (Justus, 2002). A listing of additional resources to enhance course content is also helpful (Gottschalk, 2002).

Instructors should make detailed comments on students' assignments and progress. The instructor's critiques should support the grade received. This helps clarify instructor's expectations and student's level of understanding of course material.

Using emoticons and displaying an open attitude are important elements in setting the classroom tone. In addition, instructors must review their notes carefully for clarity before posting (Justus, 2002).

Encourage and Stimulate Interaction. Instructors must engage in timely and adequate interaction with learners, and must encourage interactivity among the students as well by creating stimulation questions of interest. Encouragement helps create a motivational learning environment.

Instructors must also provide feedback to problems and student progress in a reasonable amount of time (Justus, 2002). Institutions or instructors should create formative evaluations where students can give feedbacks regarding course content, relevancy, pace, delivery problems, and instructional concerns. The communication through evaluation, helps instructors adjust courseware and delivery to better meet students' learning needs (Gottschalk, 2002).

Chapter 9

# Technological Modes

There are two categories of technologies used for DE. The first category is technology communication that facilitates interactions between instructors and distance learners. Examples are email systems, discussion boards, computer networking, and telephones. The second category is classroom technology that utilizes tools to display instructional content. Examples are video, audio, web, and computer-based system (Simonson, Smaldino, Albright, & Zvacek, 2000). Choice of technological delivery can be in synchronous, asynchronous, or blended formats.

Teaching online using various types of technology requires skill sets and competencies that are different from traditional educational systems. Utilizing online delivery tools requires mastery in order to be effective (Simonson, Smaldino, Albright, & Zvacek, 2000).

## Strategies in Adopting Technology in DE

A variety of technology is available for DE that can enhance or hinder student learning. Listed are suggested strategies that institutions and educators can use to meet learning goals and objectives.

Research and Evaluation. Institutions must research and evaluate tools that have been used based on environmental type, teaching strategies, learning styles, and assessment tools for online delivery (Ehrmann, n.d.). Reasons for success or failure based on past experiences must be noted to help prevent future losses of revenue and time investments while selecting the right delivery systems.

Technology Must Facilitate Student Learning. Institutions must not allow technology to rule curriculum goals and objectives. Instead, technology must be used to create user-friendly learning systems that can function as tools to facilitate and meet learning goals and objectives.

Institutions should ensure students have adequate technical knowledge of delivery systems prior to the course by arranging orientation sessions. Technical manuals and CD training materials can be used as resources to acquaint students with the technology.

Provide Training Skills for Instructors. Instructors must receive adequate training and given sufficient learning time to practice using the delivery system. Instructors must not be required to trouble shoot technological problems. Technical problems detract instructors from their focus. Instructors must be released to function as facilitators and motivators of instructional content (Sherry, 1996).

Adequate Resources and Services. Institutions must be prepared to provide technical support services. Online service and 24/7 telephone support must be available to administration, instructors, and students. The support ensures that technology failures will not interrupt lesson flow for instructors and students.

Chapter 10

# Learner Attributes

When educational programs are designed, basic characteristics of students, including age, interests, academic preparedness, and career goals should be considered. With respect to DE, these same characteristics must be carefully considered in order to provide quality learning experiences (Picciano, 2001). In designing DE and development programs, the primary concern should be the student perspective (Picciano).

To effectively understand characteristics of learners, Willis in Simonson, Smaldino, Albright & Zvacek (2000), suggest four questions should be addressed. The questions are (a) what are the students' ages, cultural backgrounds, interests, and educational levels, (b) what is the student's level of familiarity with the instructional methods and technological delivery systems under consideration, (c) how will students apply the knowledge gained, and how is the course sequenced with other courses, and (d) can the class be categorized into several broad subgroups, each with different characteristics (Simonson, Smaldino, Albright & Zvacek, 2000). Conducting a random sample based on the four questions or preferably conducting a learner analysis will give designers and instructors the learner profile to help understand backgrounds, needs and expectations (2000).

## Profile of Successful DE Learners

A picture of a successful distance learner has emerged from research studies. These attributes are taken from Simonson, Smaldino, Albright & Zvacek as shown in Figure 2.

**Figure 2: Characteristics of successful DE learners (Simonson, Smaldino, Albright & Zvacek, 2000).**

| Characteristics of Successful Distance Learners | | |
|---|---|---|
| Enter with high levels of expectations | Abstract learning style | Study more than 10 hours per week |
| High educational goals and expectations | Persistent | Prefer content that involves interviewing. |
| Most likely women | Positive attitude | Intrinsically motivated |
| Internal locust of control | Tend to bond more with classmates | |

Chapter 11

# Theoretical Frameworks

E-learning is one of the most significant new learning technologies to emerge in the last 10 years (NCREL, 2002). The emergence of distance learning gives rise to address the theoretical framework of E-Education. Theoretical frameworks give instructors and designers parameters in which to solve learning objectives. E-Education maintains the pitfall of no single theory. To develop sounds instructional design and delivery, designers and instructors must use a compilation of learning, instructional design, and distance learning theory.

## Parameters

There is no set framework for E-Education. Since E-Education is a method of delivery, traditional education theories still apply. This includes theories of pedagogy, andragogy, five key learning theories, and theories of multiple intelligence. The distance delivery method adds another theoretical layer.

Distance theoretical issues revolve around the instructor, learner, and technology (McIsaac & Gunawardena, 1996). Desmond Keegan identifies three approaches to distance learning theory. The approaches are (a) independent study and learner autonomy, (b) industrialization, and (c) interaction and communication (1996).

## Applying Theories

Whether educating in an academic or corporate environment, using sound learning theories still applies to DE. Designers should apply traditional learning theories based on learning objectives. Both andragogy and pedagogy are acceptable in an educational environment. The five key learning theories are strategies to meet learning objectives.

E-Education or distance learning theories is addressed in determining methods of delivery design phase (Langevin Learning Services, 1999). Designers consider the target audience, methods of available communication, and industrialization factors.

Appropriate distance learning theories are applied in the design structure phase (Appendix A).

Five changes in transitioning from traditional to E-Education that must be addressed are (a) industrialization of teaching, (b) privatization of institutional learning, (c) administrative structure change, (d) different plant and buildings, and (e) cost structure (Simonson, Smaldino, Albright & Zvacek, 2000). Without the brick and mortar building and face-to face classes, these paradigms shift.

Chapter 12

# Teacher Delivery of Cultural Awareness and Sensitivity

## Teacher Issues

Many of the teacher issues in DE are the same as the faculty issues such as training, class size compensation, and intellectual property rights. In addition, instructors must consider and prepare for greater time requirements, stay current with delivery technologies, and copyright issues.

### Time Requirements

A large portion, if not all of a DE course will be in the asynchronous format. Learners generally have questions that are more numerous and substantive than in traditional learning. Distance instructors must be more deliberate and diligent in formulating answers (Picciano, 2001). The DE instructor must be prepared to spend more time in formulating answers to student questions, comments, and responses.

### Keeping Current with Technology

Another time consuming demand on the DE instructor is keeping up with upgrades and changes. Technology in general and associated with delivery systems evolves quickly. The DE instructor must pay particular attention to online and Internet based software, which is undergoing continual and rapid change (Picciano).

### Copyright Procedure

Copyright laws are inherently complex and fair use stipulations more stringent for DE (see Copyright Issues). Distance educators need to become familiar with fair use rules contained in section 107, Copyright Act of the United States Code. Instructors in distance education should always (a) follow fair use rules as they apply to DES, (b) when in doubt about fair use, always obtain permission from the rights holder (Simonson, Smaldino, Albright & Zvacek, 2000), (c) acknowledge and give credit when

using any intellectual property taken from the Internet, and (d) follow all institutional policies and guidelines pertaining to copyrighted materials (Piccano).

## Teacher Perspective

There are several issues, which must be addressed in DE from the teacher perspective. These concerns should be resolved prior to the teacher conducting the first class in DE.

### Learning Format

The instructor's comfort level using the distance learning format should be sufficient that the instructor is able to successfully facilitate the course. Many traditional learning methods are not effective in the distance format (Piccano). The instructor should have, or be willing to learn effective distance learning methods.

### Comfort with Technology

Distance learning is heavily technology based. Instructors must have or be willing to acquire computer skills adequate to the task of distance instructing.

### Adaptability

Software and hardware technologies as well as Internet delivery technology is changing rapidly. The distance educator must be willing to adapt to changes with each course or perhaps mid-course.

### Attitude

The DE instructor must examine their personal attitude toward DE. A positive attitude about the quality of the educational product that can be delivered through DE is important. The distance instructor should have confidence in the medium and their own ability to accomplish learning objectives in the DE format.

## Faculty and Staff Issues

Corporate and Academic institutions need to address DE faculty issues. Administrations need to consider training, class size, compensation, and intellectual property issues.

### Training

Faculty members need to be trained on DE pedagogical, communication, and technology issues. Communication is important to 93% of learners (Fender, 2001). Knowledge in skill in these three areas should be completed before facilitating the DE class.

Faculty member must know how to use the DE delivery system and their computer. Knowing the system results in less time spent on delivering communications. Basic operating system knowledge helps instructors keep their computers functioning. Communication is important (see Communication chapter) because of the lack of face-to-face environment. "Holmberg's theory of guided didactic conversation suggests that a positive relationship exists between the use of didactic

conversation and student involvement, motivation, and performance (Dillon & Walsh, 1992). Different techniques are employed to overcome this barrier.

### Class Size

Class size is important. DE classes are smaller than traditional classes. The smaller size allows faculty to attend to learner needs, questions, and assessment feedback (Simonson, Smaldino, Albright & Zvacek, 2000). Asynchronous delivery sizes tend to be smaller than synchronous. Optimal class size should be 10 learners.

### Compensation

DE facilitators are quickly coming from non-traditional sources to educate. To adequately compensate DE facilitators, institutions should explore both intrinsic and extrinsic incentives.

*Intrinsic.* Some facilitators are compensated intrinsically. There are five intrinsic motivating factors found in research: (a) ability to reach new audiences that cannot attend classes on campus; (b) opportunity to develop new ideas; (c) personal motivation to use technology; (d) intellectual challenge; and (e) overall job satisfaction (Wolcott & Betts, 1999).

*Extrinsic.* Initial reports state that financial reward systems for DE are not adequate (Wolcott & Betts, 1999). Currently most universities are giving additional pay for DE classes. The trend is toward including DE responsibilities into the job description (1999).

### Intellectual Property Rights

Intellectual property rights in education has been traditionally handled by contract negotiations. Administrations must create policy on who owns the intellectual property on DE design.

Chapter 13

# Student Delivery of Cultural Awareness and Sensitivity

have doubled in a single year. Thirty-four percent of two- and four-year colleges offered degrees via computers in 1999-2000, compared to 15% the year before. There is also a growth in education providers from corporate training programs to lifelong learning institutions which rely significantly on distance learning, resulting in intense competitions for online student enrollments and tuition rates (Gilbert, 2001). This overwhelming growth creates many issues and perspectives among students who are planning to further their studies online.

## Student Perspective and Issues

There are currently many different forms of global online learning available. New students can develop a sense of fear and insecurity enrolling into DE classes due to the tremendous source of growing information on the web about online learning. Institutions can prepare online information or printed documentation giving a perspective online student the definition, types, and information about what is online learning. Documentation should cover the following information that can help prospective and current online students overcome fears, concerned questions, and issues as shown in Figure 3.

**Figure 3: Questions and issues to address for online learners.**

| Questions to Address Student Issues and Perspectives |
| --- |
| Who makes a good candidate for online learning? |
| The advantages and disadvantages of online learning. |
| The online learning environment and requirements such as software tools and hardware equipment. |
| Types of technology that will be used |
| Sources of help and training that is provided to students before the course begins. |
| Resource of updated material for further research. |
| Guide on how to get started, selecting the right courses, and enrolling online. |
| Guide on how to relate to online peers and instructors. |
| Resource for help and information. |
| Testimonials of past online students experiences. |
| Quality assurance levels given to help students get acquainted with the online environment. |
| Accreditation of the institution and its goals for their students. |

Chapter 14

# Design Issues

## Copyright

The notion of copyright and copyright law begins with the premise that the copyright owner has exclusive rights to many uses of the protected work. The Copyright Act of the United States Code however, set forth several important exceptions to those rights (Crews, 2000).

### Fair Use Analysis

Legislation known as the Copyright Act located in Title 17, section 107 of the United States Code, exempts text, the web, or other sources for teaching or educational purposes (Justus, 2002). In order to determine fair use, Congress established four essential criteria (Simonson, Smaldino, Albright, & Zvacek, 2000). The criteria are (a) purpose - the use should be for non-profit educational purposes, (b) nature - non-fiction published or printed works are more likely to fall within the fair use criteria than fictional, artistic or audio-visual works, (c) amount - the amount of the publication used should be no more than that necessary to meet the educational purpose, and (d) effect - the market value of the copyrighted work, and of reproduction on the market value (2002).

The application of the fair use criteria requires weighing and balancing the four factors before reaching conclusions. Each factor is subject to continual interpretation as the courts struggle to make sense of the law (Crews, 2002).

### Public Domain

Any work in the public domain may be used freely for any DE course. The public domain is made up of work not protected by copyright. Public domain consists of works which were originally non-copyrightable, expired copyright, works specifically granted to the public domain. Most material published by the United States

government which are specifically excluded from copyright protection by Section 105 of the code, are in public domain from the date of creation (API, 2001).

### Audio Visual Materials

Section 101 of the Code defines *audiovisual materials* as " works that consist of a series of related images which are intrinsically intended to be shown by the use of machines or devices such as projectors, viewers, or electronic equipment." (Simonson, Smaldino, Albright, & Zvacek, 2000) Material which may be used in DE include displays of photographs, illustrations, maps and other printed materials as well as still images from video tape or 35 MM slides, provided that they are not displayed in sequence (2000).

### Internet Based Materials

Materials placed on the Internet represent intellectual property fixed in a tangible medium of expression. Internet materials are entitled to copyright protection just like any other work of authorship (Simonson, Smaldino, Albright, & Zvacek, 2000). Copyright laws apply even when special client software or passwords restrict access. Many websites include copyright polices regarding the site sponsor's position on downloading. However, the fair use, four factor analysis should be applied before downloading and printing.

### Purchase Necessary Materials

Many copyrighted works are subject to a *licensed use*. Under licensing provisions, or specifically negotiated use provisions, right to use the material can be purchased. The Copyright Clearance Center (CCC) has been established as the reproduction rights organization for the United States. The CCC can license the reproduction of over 1.7 million titles already preauthorized by rights holders (Crews, 2000).

### Obtaining Permission

If fair use cannot be determined or if there is any doubt, distance educators should obtain permission for use of copyrighted materials from the rights holder. Permission should be requested in written form and likewise granted in writing (see Appendix C). Copyright holders should preferably reply on personal letterhead in order to provide tangible evidence of exactly who provided the permission (Simonson, Smaldino, Albright, & Zvacek, 2000).

## Handouts

Handouts are supplemental material given to learners. Handouts provide additional or expanded information on course content. They also provide material that supports key points (Smith, n.d.). An example of a handout is a course syllabus. Other types of handouts are agendas, reports, diagrams, articles, case studies, references, and presentation slides (Presentations.com, n.d.). Well-prepared handouts are the best way to jog learner's long-term memory (n.d.).

### Purpose

The purpose of handouts is to provide learners with relevant course or content information. Learners receive a contextual framework of the content. Handouts are advisable to use when dealing with complex concepts.

### Preparing

There are three steps in preparing handouts. The steps are (a) deciding function and format, (b) relate content to course or task objectives, and (c) write the document (LOEX Conference, 2000).

Only use handouts if they provide relevant information for learners in terms of course information or content. Nice to know information may look good, but must relay relevant information. If the handout is not relevant to course details or objectives, it may distract learners from important information.

A good handout supports, expands, or clarifies content. Before creating the document, designers or instructors should consult the learner analysis to determine at which grade level to write. Documents can be prepared in Microsoft Word or PowerPoint in addition to other graphic applications. For DE, these formats can easily be placed on the web or emailed.

### Cautions

Avoid too much information.

Observe design principles.

## Study Guides

Study guides are similar in nature to handouts. Study guides are different from handouts in that they encompass a larger volume of content. When designing a study guide, learning and design principles apply as well as the three steps in creating handouts.

### Purpose

Study guides ensure learners focus their attention on important content (Golden Essays, n.d.). Content must be relevant to course assessments. Study guides are useful tools to enhance a students learning. The main purpose is learners can use study guides as models of how to plan their own scheme of work. Study guides are meant to be an initiation to self-direction (n.d.).

### Benefits

The major benefit of study guides is that they close significant knowledge and skill gaps. In DE, study guides work as tutors. Study guides also provide communication of what should be learned and where to find resources (University of Newcastle, n.d.).

### Content

Study guides should contain four elements: (a) what should be learned, (b) how it can be learned, (c) the order in which it can be learned, and (d) how you can recognize if you have learned it (University of Newcastle, n.d.).

## Visuals

Visuals are meant to enhance learning. Visuals are used to explain content, gain and maintain learner's attention, and aid in recall (St. Cloud State, 1997). Visuals are broken into three categories, (a) representational, (b) analogical, and (c) charts and graphs (St. Cloud State, 1997).

### Position

Position of elements is important. Correct positioning of elements directs the eye. The eye reads from top left to bottom right. Elements should be designed with this in mind using a curve or Z pattern.

Visuals should provide one dominant element. There should be sufficient positive or white space around elements. The white or positive space allows the eye to focus on important content and keep information uncluttered.

### Color

Color is used to attract attention. When color is used there is an increased retention rate of 20% with one color and 60% with full color over black and white documents (Roper Starch, 2000). Color is used to set the tone of a piece. The rule of thumb is to use no more than three colors. An example of use of color choice is when addressing an older or serious audience. Using Navy blue or maroon sets a serious tone. When addressing a young audience, bright colors should be used.

Color is used to draw attention to a particular area. When using multiple colors, contrasting colors should be used. The color wheel provides contrasting colors (see Appendix D). The exception is using red and green due to colorblindness.

### Fonts

Font choice and size are important in handouts. Fonts, like color, also display an image or tone. The rule of thumb is to not use more than three families of fonts in a document. When viewing documents online, san serif fonts are preferred for readability.

All capital letters should be used sparingly. Capitals are hard for the eye to read. Also bold and italics should be reserved for key words or phrases. Type size should be large enough to easily read. On screen visuals type size should be no smaller than 18 pica points.

## Internet Communication Tools

Communication technologies over the Internet have driven DE into an actively growing field with high interactivity options to offer online learners the freedom of time and place to further their education and skills (Rosenkrans, 2001). DE has opened doors for delivery learning and training content to a wide global audience (Kerka, 1996).

Distance learning on the Internet can effectively function with the use of communication tools. Internet communication tools are comprised of the following, (a) electronic mail for delivery of course material, assignments and projects, student-instructor feedbacks, and personal concerns, (b) discussion boards for special topic discussion and class participation, (c) downloading course material via File Transfer Protocol (FTP) software application tools, (d) interactive tutorials, (e) synchronous tools such as chat programs and phone conferences, (f) intranet networking within corporations for distribution on in house training for employees, and (g) informatics which is the use of library resources, online databases, and search engines for research (Kerka, 1996). Communication strategies outlined in Chapter 8, along with knowing and understanding how to use these tools help create an effective online learning environment.

### Need for Expertise and Training

Instructors and facilitators need to know the latest technology to use the communication tools effectively. There is a need for training to eliminate fears and disruption in classroom flow due to a lack of technical knowledge (Meyen, Tangen, & Lian, 1999). Instructors can select the right communication tool to enhance and facilitate the learning process with knowledge of how each operates.

### Availability of Vendors

There is currently a huge vendor selection in the industry such as Blackboard, WebCT, WebEx, Smartforce, etc that can have designed communication tools that effectively enhance DE communication on the Internet. Also, most of the vendors provide onsite support and maintenance in case of technology failure. Institutions can research into vendors that can best provide their course and training needs within budget constraints.

### Teamwork, Instructors, and Technical Team

Instructors specializing in course content should work collaboratively with technical developers who design the online communication tools (Meyen, Tangen, & Lian, 1999). Each team, focused on their specialized areas, eliminates overwhelming responsibilities for online delivery. Upon evaluating course delivery systems, teams can again collaborate and share ideas to improve and enhance course delivery needs.

### Pilot Testing

A pilot testing stage must be implemented before officially running any course online. This helps avoid any course delivery malfunction of the communication tools. A smooth delivery system eliminates frustration and wasted problem solving.

### Backup System

Technology failures due to electrical malfunction, server breakdowns, or virus attacks can hinder communication flow in DE. Companies and institutions should offer alternative solutions if such an event were to occur. Also, multiple communication modes should be available in case the main mode fails.

## Teaching with the World Wide Web

Web technology has opened doors for corporations and institutions to offer a wide range of beginners to advanced online courses in a wide variety of modes. The web offers flexibility that allows motivated trainers and instructors to achieve training and academic goals easily. Success may depend on technical support and computer facilities available to trainers and educators (King, 1998).

Developing an effective and functioning DE website requires course syllabi, schedules, resource links to supplement learning content and research, assignments, software, hardware, and system requirements (Rosenkrans, 2001). Companies and institutions offering courses over the fast growing and competitive web environment must aim at establishing standards and encourage high training or academic integrity.

Instructing courses on the World Wide Web involve the following stages; (a) definition and purpose of course, (b) needs analysis for module delivery, (c) design, (d) development, (e) implementation, (f) assessment, and (g) evaluation.

### Advantages & Disadvantages of WWW Teaching

Kilby's advantages and disadvantages of WWW teaching are listed as follows (cited from Lee & Do, 1997) in Figure 4

**Figure 4: Advantages and disadvantages of WWW teaching.**

| Advantages | Disadvantages |
|---|---|
| Easy delivery of training to users | Limited formatting of content in current browsers |
| Instant multi-platform capabilities (Windows, Mac, UNIX) | Bandwidth/browser limitations may restrict instructional methodologies |
| Easy updating of content | Limited bandwidth means slower performance for sound, video, and intense graphics |
| Shift from costly programming to interface and content design | Someone must provide server access, control usage, bill users |
| Quicker turnaround of finished product | |
| Requires less technical support | |

| |
|---|
| Billing options by user ID, number of accesses, date/time of access |
| Access is controllable |
| Options for installations on private networks for security or greater bandwidth |
| Options to link with other training systems |
| Multitasking capability suitable for electronic performance support systems (EPSS) |
| Vast, untapped market for training |

### Uses of the WWW as a Tool of Education

Lee & Do (1997) stated that companies and educational institutions can make educational productive use of the WWW as a: (a) research tools for information. [There are currently many libraries and sites which have placed many resource links to valuable information that can help supplement teaching material.], (b) tool to reach and teach others globally regardless of location, and (c) supplement tool to traditional classroom instruction. The use of current technology allows connection to an immeasurable variety of information on the Web.

## Assessment Issues

Assessing is a critical point in the learning process. Assessments tell instructors if learners have achieved the desired knowledge and skills. Assessments also give learners the necessary feedback to achieve desired knowledge and skill (Hueftle, 2001). Three reasons to use assessments are validation, accountability, and decision-making (Binder, 2001).

Assessment is used at different stages in the learning process. The first stage is in the practical application of an individual task in the task analysis. Assessing the application portion of an individual task gives the instructor and learner feedback that shows whether or not the learner understands the concept. The immediate feedback gives the learner the necessary background to proceed to the next task. If the task analysis is broken into sections, then section assessments may be necessary (Hueftle, 2001)

### Assessment Essentials

It is essential that assessments contain four elements. These elements are the foundation for a sound evaluation. They are based on performance objectives, unbiased, reliable and valid, and use formal or informal methods (Langevin,1998).

Assessment standards are based on the course's performance objectives. The assessment measures competency of the learner's performance. Measuring against the performance objectives maintains continuity for the learner and the trainer by the equation of task analysis = performance objective = criterion test (Langevin, 1998).

Assessments must not contain bias. Each learner is objectively evaluated against the performance objectives. If performance objectives are written correctly, this will help ensure that there is no bias. Using a rubric for example will allow for objectivity. The assessment designer will also need to consider cultural differences and learner constraints to avoid bias (Hueftle, 2001).

Assessments must also contain an acceptable measure of reliability and validity. The assessment should measure performance objectives in a manner that is statistically reliable and maintains a high measure of validity. This is usually referred to as the confidence level of assessments (Hueftle, 2001).

Assessments use formal, informal, or alternative methods. The use of alternative methods allows learners to be assessed outside the traditional testing environment.. Types of alternative assessments include criterion, curriculum, portfolio, and performance assessments (Askov, 1997).

### How to Evaluate the Assessment

Once the assessment method is chosen to measure performance objectives, and the level of taxonomy is determined, the weight of the scoring needs to be determined (see Appendix E). The importance of each objective will be determined back in the needs analysis between the instructional designer and stakeholders (Hueftle, 2001).

### How Assessment Affects Distance Learning

The same assessment criteria hold for DE. Criteria for distance learning assessment should be appropriate for the task, technology, and the learner. The instructor will not be able to view physical performance. For example, in an online mathematics class, if only the answers are given to the instructor and not the process of getting to the answer, then the assessment will need to be changed to allow the instructor to view the learner's application domain (Hueftle, 2001).

Online learning lends itself to a higher level on the Kirkpatrick scale (Naugle, 2000) such as a level 3. Because there is usually only the written word, by setting up projects, the learner can be assessed not only in the knowledge and comprehension domain, but also in the application, analysis, synthesis, and evaluation domains as well (Rothwell, 2001, p.64).

## Evaluation Issues

Evaluation is accomplished using different levels. Three reasons to evaluate DE is to (a) justify the existence of the class and how it contributes to goals and objectives, (b) decide whether or not to continue a class, and (c) gain information on improving future classes (Kirkpatrick, 1998). There are two focuses for evaluation. The focuses are on the learners and on the instruction.

### Four Levels of Evaluation

The four levels for evaluation are (a) reaction, (b) learning, (c) behavior, and (d) results (Kirkpatrick, 1998). The appropriate level to use is based on learning and evaluation objectives.

### Implementing

Determine which focus, instruction or learner, to evaluate. Develop a tool that is valid and reliable. Test the evaluation to determine that it measures the objective.

Begin at level 1 and proceed up the levels as time and opportunity allows (Kirkpatrick, 1998). Proceed at least to level 2 to determine if no change in behavior is based on lack of learning or a poor learning environment (1998).

### When to Implement

Evaluations can be conducted before, during, and after learning. Consulting the needs analysis, learning objectives, and stakeholders objectives will help determine where evaluation is needed.

### Cautions

Administrators or upper management usually dismisses level 1. Reaction sheets are more useful at the instructor or training manager level. Level 2 is not widely accepted in fields where certifications or mandatory testing is required. Levels 3 and 4 are viewed as costly and time consuming (Todesco, 1997).

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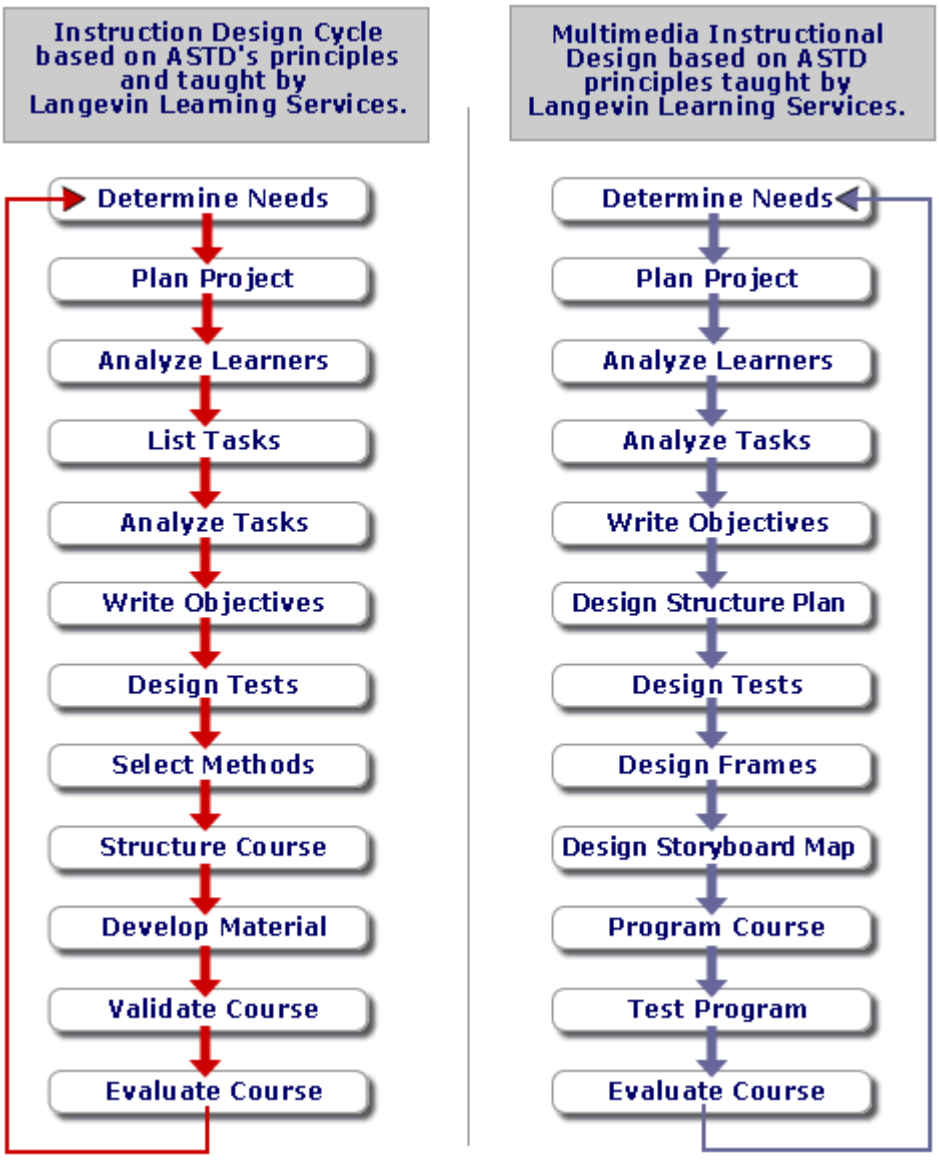
# Appendix A

*Langevin instructional design steps for traditional and distance learning (Blank, Hueftle, Stamatopoulos, Sumner & Tan, 2002).*



# Appendix B

## *Web resources for developing e-education*

### Periodicals

ASTD E-Learning

http://www.learningcircuits.org/

Brandon Hall

http://www.brandon-hall.com/

Chronicle of Higher Education

http://chronicle.com/distance/

Industry Standard Archives

http://www.thestandard.com/

Online Learning

http://www.onlinelearningmag.com/onlinelearning/index.jsp

Training Magazine

http://www.trainingmag.com/training/index.jsp

### Resources

Copyright Laws

http://www.copyrightlaws.com/

Copyrights Explained

http://www.cruising.org.uk/copyright2.htm

Copyright Permission Forms

http://usfweb.usf.edu/usfgc/gc_pp/genadm/Fm105.htm

http://www.edu-cyberpg.com/Technology/permissionform.html

Distance Learning

http://distancelearn.about.com/mlibrary.htm

Distance Learning on the Net

http://www.hoyle.com/distance/define.htm

E-Learning Age

http://www.elearningage.co.uk/

Ethics

http://ethics.acusd.edu/index.html

Graphic Design Principles

http://www.mundidesign.com/presentation/index2.html

Informational Design

http://lrs.stcloudstate.edu/cim/courses/pine/visual.html

Instructional Design Models

http://carbon.cudenver.edu/~mryder/itc_data/idmodels.html

Instructional Design in Distance Education

http://online.parkland.cc.il.us/ofh/instdesign.htm

Instructional Support

http://www.pde.rpi.edu/services/id/itsup_resources.html

Instructional Technology Connections

http://carbon.cudenver.edu/~mryder/itcon.html

Learning Theories

http://www.ucalgary.ca/~gnjantzi/learning_theories.htm

Multicultural Education

http://curry.edschool.virginia.edu/go/multicultural/

Rubrics

http://www.odyssey.on.ca/~elaine.coxon/rubrics.htm

Tapped In

http://www.tappedin.org/

Technology for Developing Online Learning Programs

http://www.vnulearning.com/wp/developtechnology.htm

USDLA

http://www.usdla.org/

# Appendix C

## *Copyright Permission Letter (Association Of American Publishers, 1998)*

### Standard Permission Request Form

Please fill out this form and fax or mail it to the appropriate copyright holder.

To:

Publisher Contact _____

Publisher _____

Fax Number _____

Date of Request _____

From:

Your Name _____

Department _____

School Name _____

Address _____

City _____

State _____

Zip Code _____

Phone Number _____

Fax Number _____

Course Name

and Number _____

Number of

Copies Needed _____

Instructor _____

Semester and Year _____

ISBN/ISSN Number (usually found near the UPC price code) _____

Book or Journal Title _____

Author _____

Translator _____

Editor _____

Edition _____

Volume _____

Copyright Year _____

Publication Year _____

Chapter/Article Title _____

Chapter/Article Author _____

Page Numbers _____

Total Pages _____

Is it an out-of-print work? _____

Have you included a copy of the material with this request? _____

Are you the author? _____

Fax or mail this sheet to the appropriate rights holder/publisher or copyright clearance service three to nine weeks before class begins. Permission is requested for use during one term only.

Permission is null and void if payment is not received.

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# Appendix D

## *Color Wheel*

# Appendix E

## *Evaluation Rubric (EdWeb, n.d.)*

| | **Beginning**<br>**1** | **Developing**<br>**2** | **Accomplished**<br>**3** | **Exemplary**<br>**4** | **Score** |
|---|---|---|---|---|---|
| Stated Objective or Performance | Description of identifiable performance characteristics reflecting a beginning level of performance. | Description of identifiable performance characteristics reflecting development and movement toward mastery of performance. | Description of identifiable performance characteristics reflecting mastery of performance. | Description of identifiable performance characteristics reflecting the highest level of performance. | |
| Stated Objective or Performance | Description of identifiable performance characteristics reflecting a beginning level of performance. | Description of identifiable performance characteristics reflecting development and movement toward mastery of performance. | Description of identifiable performance characteristics reflecting mastery of performance. | Description of identifiable performance characteristics reflecting the highest level of performance. | |
| Stated Objective or Performance | Description of identifiable performance characteristics reflecting a beginning level of performance. | Description of identifiable performance characteristics reflecting development and movement toward mastery of performance. | Description of identifiable performance characteristics reflecting mastery of performance. | Description of identifiable performance characteristics reflecting the highest level of performance. | |
| Stated Objective or Performance | Description of identifiable performance characteristics reflecting a beginning level of performance. | Description of identifiable performance characteristics reflecting development and movement toward mastery of performance. | Description of identifiable performance characteristics reflecting mastery of performance. | Description of identifiable performance characteristics reflecting the highest level of performance. | |
| Stated Objective or Performance | Description of identifiable performance characteristics reflecting a beginning level of performance. | Description of identifiable performance characteristics reflecting development and movement toward mastery of performance. | Description of identifiable performance characteristics reflecting mastery of performance. | Description of identifiable performance characteristics reflecting the highest level of performance. | |

Developed by

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