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Course organization for Distance Education – UMT Approach

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Abstract: Distance Education literature has clearly indicated that the design and organization of an online course are predictors of course effectiveness—poorly designed and organized courses often fail and well designed and organized courses are almost always effective. In other words, the student in a course delivered at a distance should be able to quickly understand the scope and sequence of the contents of the course, including assessment strategies used to determine if learning outcomes have been met.

This chapter proposes a field-tested approach for designing and delivering an effective online course called the U-M-T approach, where U stands for Unit, M for Module, and T for topic. Courses are designed around units that are divided into modules, and modules are divided further into topics. Thus, a typical course might have 3 units, each with 3 or 4 modules, and each module might have 3 important topics. This chapter expands on this basic design approach and discusses assessment strategies and student time allocations in order to produce the perfectly designed online course.

Key-words: Assignments, Design, Module, Research, Theory, Unit

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1. Introduction

Distance education is defined by the Association for Educational Communications and Technology (Schlosser & Simonson, 2009) as:

Institution-based, formal education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources and instructors.

Distance education has two major components, distance teaching and distance learning. Distance teaching is the efforts of the educational institution to design, develop and deliver instructional experiences to the distant student so that learning may occur. Education, and distance education, is comprised of teaching and learning. This paper concentrates on distance teaching.

2. Quality instruction for distance education – the literature

Distance education has been practiced for more than 150 years, passing through three phases: first, correspondence study, with its use of print-based instructional and communication media; second, the rise of the distance teaching universities and the use of analog mass media; and third, the widespread integration of distance education elements into most forms of education, and characterized by the use of digital instructional and communication technologies. Peters (2002) has suggested

that "the swift, unforeseen, unexpected and unbelievable achievements of information and communication technologies" will require "the design of new formats of learning and teaching and [will cause] powerful and far-reaching structural changes of the learning-teaching process" (p. 20). Peters' views are well-accepted, but there is also consensus that the most fruitful way of identifying elements of quality instruction may be to re-examine "first principles" of distance education and mediated instruction.

Perhaps the first of the "first principles" is the recognition that distance education is a system, and that the creation of successful courses – and the program of which they are a part – requires a "systems" approach. Hirumi (2000) identified a number of systems approaches but noted a concept common to all: that "a system is a set of interrelated components that work together to achieve a common purpose" (p. 90). He described a system that involved the efforts of faculty, staff, administrators, and students, and consisted of eight key components: curriculum, instruction, management and logistics, academic services, strategic alignment, professional development, research and development, and program evaluation.

Bates (in Foley, 2003) proposed 12 "golden rules" for the use of technology in education. These "rules" offer guidance in the broader areas of designing and developing distance education:

1. Good teaching matters. Quality design of learning activities is important for all delivery methods.
2. Each medium has its own aesthetic. Therefore professional design is important.
3. Education technologies are flexible. They have their own unique characteristics but successful teaching can be achieved with any technology.
4. There is no "super-technology." Each has its strengths and weaknesses; therefore they need to be combined (an integrated mix).
5. Make all four media available to teachers and learners. Print, audio, television, and computers.
6. Balance variety with economy. Using many technologies makes design more complex and expensive; therefore limit the range of technologies in a given circumstance.
7. Interaction is essential.
8. Student numbers are critical. The choice of a medium will depend greatly on the number of learners reached over the life of a course.
9. New technologies are not necessarily better than old ones.
10. Teachers need training to use technology effectively.
11. Teamwork is essential. No one person has all the skills to develop and deliver a distance-learning course, therefore, subject matter experts, instructional designers, and media specialists are essential on every team.
12. Technology is not the issue. How and what we want the learners to learn is the issue and technology is a tool. (p. 833)

A number of these "rules" are overlapping. Three of them (1, 2, and 11) address course and program design. Any examination of "first principles" should first examine instructional design. While it has been noted that instructors, even those new to distance education, can learn to adapt courses and create materials for online delivery (Ko & Rossen, 2008), and the author-editor model has long been an element of correspondence study programs, "what is strikingly missing in these arrangements, usually, is an instructional designer and many good features of the instructional design approach" (Moore & Kearsley, 2005, p. 104). The team-based approach to distance education course development is generally regarded as more likely to result in high-quality materials, experiences and, hence, more satisfactory teaching and learning experiences (Hirumi, 2000).

Bates' triumvirate of subject matter expert, instructional designer, and media specialist is the standard core of the course design team, which may be expanded – one source (Hanna, Glowacki-Dudka, & Conceicao-Runlee, 2000) has suggested as many as eight members – based upon the particular needs of the program and the media employed. No one approach to course design is ideal; as Moore & Kearsley (2005) noted, the course team approach results in "materials [that] are usually much more complete and effective. Furthermore, [it] tends to emphasize the use of multiple media in a course" but is "very labor-intensive and therefore expensive, and

it involves a lengthy development period" (p. 106). Of the two approaches, "the author-editor approach is the only one that makes economic sense if courses have very small enrollments or short lifetimes, while the course team approach is justified for courses with large enrollments and long-term use" (p. 107).

That the course-team approach to course design and development is time-consuming is illustrated by a model developed by Hirumi. That elaborate approach, which received considerable recognition in the field, required 18 months for course design, development, piloting, and revision.

Foley (2003) has noted "there are general principles of good design that can be applied to all distance learning activities" (p. 831) but noted the following influences:

- the target audience of the activity
- the content of subject matter to be delivered and
- the outcomes or objectives desired (p. 831)

Other considerations having "profound effects on the design of the learning activities" (p. 831) include:

- the cost effectiveness of the system,
- the opportunity costs of alternative systems and methods,
- the availability of technology to the provider and to the learners,

- the geographical location of the learners, and
- the comfort level of the learners with any technology that is used (p. 834)

Foley notes that these factors apply equally well when designing instruction for any give audience, from children to adults.

When designing the World Bank's Global Development Learning Network, "results of more than 30 years of research on adult learning were applied to the distance learning programs" (p. 832). The criteria included:

1. They are based on clearly established learning needs and built around succinct statements of outcome.
2. They are based on a variety of teaching and learning strategies and methods that are activity based.
3. Effective distance learning materials are experiential ... they address the learner's life experience.
4. Quality distance learning programs are participatory in that they emphasize the involvement of the learner in all facets of program development and delivery.
5. Successful distance learning programs are interactive and allow frequent opportunities for participants to engage in a dialogue with subject matter experts and other learners.
6. Learner support systems are an integral part of any successful distance-learning program. (p. 832)

The Indiana Partnership for Statewide Education (IPSE) (2000) proposed "Guiding Principles for Faculty in Distance Learning:"

- Distance learning courses will be carefully planned to meet the needs of students within unique learning contexts and environments.
- Distance learning programs are most effective when they include careful planning and consistency among courses.
- It is important for faculty who are engaged in the delivery of distance learning courses to take advantage of appropriate professional developmental experiences.
- Distance learning courses will be periodically reviewed and evaluated to ensure quality, consistency with the curriculum, currency, and advancement of the student learning outcomes.
- Faculty will work to ensure that incentives and rewards for distance learning course development and delivery are clearly defined and understood.
- An assessment plan is adapted or developed in order to achieve effectiveness, continuity and sustainability of the assessment process. Course outcome assessment activities are integrated components of the assessment plan.
- Learning activities are organized around demonstrable learning outcomes embedded in course components including; course delivery mode, pedagogy, content, organization, and evaluation.

- Content developed for distance learning courses will comply with copyright law.
- Faculty members involved in content development will be aware of their institution's policies with regard to content ownership.
- The medium/media chosen to deliver courses and/or programs will be pedagogically effectual, accessible to students, receptive to different learning styles, and sensitive to the time and place limitations of the students.
- The institution provides appropriate support services to distance students that are equivalent to services provided for its on-campus students.
- The institution provides its students at a distance with accessible library and other learning resources appropriate to the courses or programs delivered via technology. It develops systems to support them in accessing and using these library and other learning resources effectively.
- It is important to provide the appropriate developmental experiences for faculty who are engaged in the delivery of distance learning experiences.
- The institution implements policies and processes by which the instructional effectiveness of each distance-learning course is evaluated periodically.
- Timely and reliable technical support is vital to the success of any distance-learning program.
- It is recommended that a system of faculty incentives and rewards

be developed cooperatively by the faculty and the administration, which encourages effort and recognizes achievement associated with the development and delivery of distance learning courses.

- The institution will communicate copyright and intellectual property policies to all faculty and staff working on distance learning course development and delivery.
- The institution complies with state policies and maintains regional accreditation standards in regard to distance learning programs. (www.ihets. org/learntech/principles_guidelines.pdf)

Commonalities between these principles and those suggested by other authors and organizations may be readily perceived. For instance, careful planning and the need for teacher training are cited by Bates (in Foley, 2003), and the emphasis on the unique needs of students in a variety of contexts is mentioned by Foley (2003). The IPSE principles make an important contribution by highlighting need for consideration of copyright law and policies, intellectual property ownership, faculty incentives, and state policies and accreditation standards.

Because education (including distance education) is a system, each of its elements interacts with other elements, making difficult the isolation of elements. Interaction (its type, quantity, quality, timing, etc.) for instance, cannot be separated from

instructional philosophy, choice of media, and other factors.

Whatever media are selected to facilitate instructor-student and student-student interaction, it should be recognized that these forms of mediated discussion should not completely replace the face-to-face element in courses. As Peters (1998) noted, those who believe that new, digital media will "supply the interactivity and communication lacking in distance education ... cherish a hope here that will prove to be serious self-delusion" (p. 155).

Peters' comments on the topic [in the context of videoconferencing, a relatively rich "high bandwidth" form of communication], trenchant and incisive, are worth quoting at length:

Communication mediated through technical media remains mediated communication and cannot replace an actual discussion, an actual argument, the discourse of a group gathered at a particular location. Mediated communication and actual communication stand in relationship to one another like a penciled sketch and an oil painting of the same subject. What takes place in a discussion between two or more people can only be transmitted in part electronically. ... A virtual university that does without face-to-face events by referring to the possibility of videoconferencing can only ever remain a surrogate university. ... There is no doubt that to a certain extent [videoconferencing] will improve the structure of communication in distance education – but it cannot ever take the place of personal communication in distance education. (p. 155)

Peters' views on virtual communication have not been significantly modified with time. More recently (2002), he has noted that the losses inherent in mediated communications are serious:

They reduce, surround, parcel out, spoil or destroy experiences gained at school or university. For this reason, it may be concluded, learning in virtual space will never be able to replace completely teaching in real spaces" (p. 104).

The effective use of a variety of media to facilitate communication, combined with critical quantities of well-structured face-to-face instruction and learning, have characterized many distance-delivered programs. They are two key elements of what has been called "the best of both worlds" (Schlosser & Burmeister, 1999).

As important as is the appropriate selection and use of technologies of instruction and communication, Moore (1998) has noted that these technologies are not critical elements in shaping students' satisfaction with their distance courses. Rather, satisfaction is determined by "the attention they receive from the teachers and from the system they work in to meet their needs ..." (p. 4). Those needs, "what all distant learners want, and deserve" include:

- content that they feel is relevant to their needs
- clear directions for what they should do at every stage of the course
- as much control of the pace of learning as possible
- a means of drawing attention to individual concerns
- a way of testing their progress and getting feedback from their instructors
- materials that are useful, active, and interesting (p. 4)

At the same time, it should be noted that frustration with the use of complex, inadequate, malfunctioning equipment, as well as perceptions of emotional distance engendered by the use of distance education technologies, have negatively affected students' attitudes toward – and, in some cases, achievement in – distance education.

Bates' seventh "golden rule," that "interaction is essential," is well-accepted by the field, and is a central element in most definitions of distance education (see, for instance, Keegan, 1996, and Schlosser & Simonson, 2009). Keegan (1996) noted that distance education must offer "the provision of two-way communication so that the student may benefit from or even initiate dialogue" (p. 44). Initial provisions for interaction were primarily for student-instructor interactions but with the availability of expanded communication technologies in the 1990s came an increasing emphasis on additional forms of interaction. Three forms of interaction are widely recognized by the field: student-content, student-instructor, and student-student. It is this third form of communication, reflecting, in part, andragogical and constructivist perspectives,

that has increased dramatically with the rise of online education.

Concurrent with the expansion of online education and the diffusion of new communication technologies, there arose the mistaken belief that, if interaction is important, "the more interaction there is in a distance education class, the better" (Simonson, 2000, p. 278). As Simonson (2000) has noted, early research in the field had "demonstrated clearly that the provision for interaction was critical" (p. 278), but later research indicated as clearly that "interaction is not a magic potion that miraculously improves distance learning" (278). Indeed, "the forcing of interaction can be as strong a detriment to effective learning [as is] its absence" (p. 278).

When quantifying and qualifying student-teacher and student-student interaction, perceptions may be less than reliable. In a study comparing distance students' perceptions of interaction (as compared with observations of their interaction), Sorensen and Baylen (2000) noted that students accurately noted that: across-site interaction was very low, that within-site interaction was very high, that interaction changes with instructor location, that remote site students participate less, and that group activities increase interactions. However, students perceived that less interaction occurred over time (when, in fact, interaction increased), and that technology inhibits interaction (when,

more accurately, it seems to create different patterns of interaction (p. 56).

Although Sorensen and Baylen examined interaction in the context of an interactive television course, their findings have implications for other distance education modalities. The researchers concluded that a sense of community formed among students at the distant sites, but interaction increased when the instructor was present at a given distant site. Having instructors rotate among sites encourages interaction. Interaction was hampered when students were unable to see or hear their distant classmates. Allowing constant displays of distant students would likely increase interaction. Maintaining distant students' attention "appears to be a more difficult task than perhaps in the traditional class" (p. 56). Sorensen and Baylen noted that "varying activities and including hands-on exercises and small and large group discussions were instructional methods appreciated by the students" (p. 56). Students in the Sorensen and Baylen study expressed satisfaction with the "distance learning experience," but suggested that the course include "at least one opportunity for students to meet face-to-face" (p. 57).

Distance-teaching institutions (and their students) have a wide variety of instructional and communication media from which to choose. These two categories (instructional and communication) may be, to some extent, addressed separately, but they are often one and the same. Bates' fourth "golden rule," that

there is no "super-technology," is well accepted and understood by experienced instructional technologists and distance educators, but often less so by those new to the field (and many, many of today's practitioners fall into this latter category). For this reason, it is important to invoke the findings of Clark (1983), who noted, two decades ago, that "media do not influence learning under any conditions" (p. 446). Indeed,

The best current evidence is that media are mere vehicles that deliver instruction but do not influence student achievement any more than the truck that delivers our groceries causes changes in our nutrition. (p. 446)

Clark's conclusions have been bolstered by Russell (1999), whose well-known "No Significant Difference Phenomenon" articles have summarized the conclusions of decades of media-comparison studies.

If, as Clark (citing hundreds of studies and decades of research) maintains, the application of any particular medium will neither improve student achievement nor increase the speed of learning, what criteria might a distance-teaching institution apply in the selection of media for the delivery of instruction and the facilitation of communication? Cost (to both the institution as well as to the student) is an obvious criterion. Less obvious, perhaps, are the culture of the institution and expectations of students (or potential students).

At a very practical level, Ko and Rossen (2008) suggested that, prior to selecting media and instruction for online education, the institution's resources be assessed and the following questions asked:

- What's already in place (what, if any courses are being offered online; who is teaching them, etc.)?
- What kind of hardware and operating system does your institution support?
- What kind of network has your institution set up?
- What kind of computer support does your institution provide? (p. 19)

As Ko and Rossen noted, "the tools an institution uses and the support it offers very much influence the choices [the instructor will] need to make" (p. 18).

Other guidelines for selection of media for synchronous communication, in the context of one "best practice" in distance education – collaborative, problem-based student work groups – have been offered by Foreman (2003). Foreman notes the usefulness of a wide variety of synchronous technologies: chat, telephone conference, Web conferencing and application sharing, voice-over-IP, virtual classrooms, and videoconferencing. Of the technologies at either end of the spectrum – chat and videoconferencing – "neither works especially well as a tool for collaborative teamwork" (para. 5) because chat is slow and awkward, and because videoconferencing

is expensive, is frequently of low technical quality, and often fails to capture many of the visual cues so helpful for communication.

Telephone conferencing, however, "is highly effective for organizing small-team distance learning experiences" (para. 6), as it "provides immediacy, a high rate of information exchange, and complex multi-person interaction facilitated by a familiar audio cueing system." Foreman recognizes that telephone conferencing can be expensive, but counters that significant savings may be realized through inexpensive three-way calling options – which, "despite its name, four or more people can use...at once" (para. 7) – available through most telecom providers.

Commercially-provided Web conferencing, combining telephone and Web technologies, overcomes the limitations of voice-only technologies through the provision of "application sharing," but its telephone component is costly. Voice-over-IP is a promising technology but, at its current level, is "intrusive and clumsy" because of sometimes-lengthy lag time and overall low fidelity (para. 15).

Virtual classrooms focus on synchronous teacher-student and student-student interaction through application-sharing and voice-over-IP. Virtual classrooms have been available for several years, but only recently (as with Elluminate's "V-Class" product) has usability advanced to a level considered

acceptable by many. Foreman suggests that this final category is most promising, as it can:

...create inexpensive cyberspaces where geo-distributed students can perform their learning work through the preferred medium for intense communication—talk. Their talk will focus on shared screen objects...that facilitate the dialogue.... Under the best circumstances, the students will divide the work, perform it separately, and then gather online to share their findings and integrate them into a deliverable product that can be assessed by the instructor. This is the decentered classroom taken to a logical extreme by an emerging technology. (para. 21)

Adams and Freeman (2003) have noted the benefits of the virtual classroom, noting that the interactions within them "in addition to allowing for the exchange of information, provide participants with a shared feeling of presence or immediacy that reinforces their membership in the community."

In the end, all of the above criteria are considered and, frequently, a pragmatic approach is adopted. As Bates recommends in his fourth "golden rule," "each [medium] has its strengths and weaknesses, therefore they need to be combined (an integrated mix)" (Foley, p. 843).

The literature abounds with guidelines for distance education and identified "best practices" of distance education. Sometimes these are based on careful research but are, in the overwhelming majority of cases, the

products of practitioners relating practices that have proven successful for that author. Still, some common threads have emerged.

Graham, Cagiltay, Lim, Craner, and Duffy (2001) offered seven lessons for online instruction:

1. Instructors should provide clear guidelines for interaction with students
2. Well-designed discussion assignments facilitate meaningful cooperation among students.
3. Students should present course projects.
4. Instructors need to provide two types of feedback: information feedback and acknowledgment feedback.
5. Online courses need deadlines.
6. Challenging tasks, sample cases, and praise for quality work communicate high expectations.
7. Allowing students to choose project topics incorporates diverse views into online courses. (http://ts.mivu.org/default.asp?show+article&id=839)

In his eighth "golden rule," Bates notes that "student numbers are critical." While this observation is made in the context of cost and media selection, student numbers are, indeed, critical in at least two other respects: class and working- (or discussion-) group size. Distance education has been embraced, in some quarters, as an opportunity to reduce costs by increasing class sizes. The literature clearly indicates that there are practical limits beyond which the quality of

instruction and learning are compromised. As Hanna, Glowacki-Dudka, and Conceicao-Runlee (2000) noted, "demand for interaction defines the size of face-to-face classrooms and the nature of the interactions within those classrooms; the demand for interaction has a similar effect upon online classrooms" (p. 26). Palloff and Pratt (2008) suggest that experienced online educators can "handle" 20 to 25 students in an online course, while "instructors who are new to the medium, or instructors teaching a course for the first time, should really teach no more than fifteen students" (p. 118). Chat sessions should be smaller, with perhaps 10 to 12 students (Palloff & Pratt, 2008), and work/discussion groups might have four or five members (Foreman, 2003; Hanna, Glowacki-Dudka, & Conceicao-Runlee, 2000).

On a larger scale, institutions of higher education should understand that distance education is not the "cash cow" that some have mistakenly suggested (Berg, 2001). Indeed, the development and support of distance education courses and programs is normally more expensive than similar traditional courses and programs. When exceptions are occasionally noted, it is usually found that a difference in scale could explain the savings, as in the University of California-Davis study that found that preparing and offering a large (430 students) general education course at a distance costs less than the cost of the same course delivered traditionally (Simonson, 2009). A second exception is the instance of the

very large distance-teaching universities, such as the British Open University, where large enrollments and a long "product cycle" reduce the unit cost per student to about half that common among traditional graduate programs (Moore & Kearsley, 2005).

Care should be taken when schools search the field for suitable models. As Garon (2002) has noted "...academic attempts at providing universities online have been marketing failures and academic distractions. New York University, Temple University, and other famous universities have closed their virtual doors" and "highly touted start-ups such as Columbia University's Fathom.com and Western Governors University...[have] dramatically downsized the attempts to provide online degrees..." (para. 2). Garon cites two successful for-profit institutions – the University of Phoenix and DeVry University, while noting that their success may be because, given their model for instruction, they "are much closer to large, national community colleges than traditional four-year colleges, but the model serves their community of adult learners well" (para. 6). Schools, then, should clearly identify the type of students they wish to attract, the needs of those students, and the type of university they aspire to be.

Distance education is a broad field with a long history. It is important to remember that, the views of some authors notwithstanding, there is no one "right" way to conduct distance education. At the same time, it would be foolish to ignore the insights and recommendations of longtime practitioners of distance education, as well as those whose field is the study of distance education. Distance education has experienced a marked expansion and, to a certain extent, reinvention in the past few years (coinciding with the rise of the Web and entrepreneurial forces in education). However, it should be borne in mind that online education is not the sum of distance education, that the field existed long before the Web, and that enduring principles of education did not become obsolete with the development of new, electronic technologies.

3. Recommendations for Distance Delivered Instruction

These recommendations are based on the current literature of the field of distance education, some cited above. These recommended guidelines are intended to provide ways to organize courses and be guiding principles that will make courses with equal numbers of semester credits equivalent in terms of comprehensiveness of content coverage, even if these courses are offered in different programs, cover different topics, and are delivered using different media.

A. Organizational Guidelines

In traditional university courses, the 50-minute class session in the building block for courses. This is called the Course Unit or Carnegie Unit model (Simonson, 2009). Usually, 15 classes were offered for each semester credit.

Distance delivered courses do not have class sessions. Rather, the field uses the *topic* as the fundamental building block for instruction. Topics are organized into *modules* that are further organized into *units* that are roughly equivalent to a semester credit traditionally offered using 15, 50-minute class sessions.

Generally, a student in a semester long, 3-sedmester credit college course should allocate to the course about 8 – 10 hours per week for the entire 15 week semester. Thus, online courses should be designed to require 8 – 10 hours per week of studying, reading, viewing, listening, writing or preparing (Simonson, 2009).

When courses are planned, the designer can use the Unit, Module, and Topic Approach (U – M – T Approach), as explained next:

Unit/Module/Topic Guideline:

• Each semester credit = 1 Unit
• Each Unit = 3 – 4 Modules
• Each Module = 3 Topics
• Each Topic = 1 Learning Outcome

A typical 3-credit course has 3 units, 9 – 12 Modules, 36 topics, and 36 learning outcomes

Working definitions of Unit, Module, and Topic are:

Unit – A unit is a significant body of knowledge that represents a major subdivision of a course's content. Often, one unit of a course would represent four or five weeks of instruction in a semester long college course, and would be equivalent to a semester credit. For example, a unit in an Educational statistics course might be "Descriptive Statistics."

Module – A module is a major subdivision of a unit. A module is a distinct and discreet component of a unit. Generally, a unit such as Descriptive Statistics might be divided into 3–4 major components, such as Statistical Assumptions, Measures of Central Tendency, Measures of Variation, and the Normal Curve. Modules generally are the basis for several class sessions and are covered in about a week or two of content review and study.

Topic – A topic is an important supporting idea that explains, clarifies, or supports a module. A topic would be a lesson or an assignment. Topics in a module on Central Tendency might be Median, Mode, and Mean.

These three terms (Unit, Module, Topic) can be used in a variety of ways. Of importance is the idea that topics form modules and modules form units, and units are the main sub-divisions of courses.

B. Assessment Guidelines:

Assessment is defined as the determination and measurement of learning. Ultimately, assessment is used for grading. Assessment is directly related to learning outcomes.

Normally there is at least one learning outcome for each topic.

- 1 major assignment per unit
- 1 minor assignment/2 – 3 modules

A typical 3-credit course has the following assessment strategy:

- *1 examination*
- *1 10-page paper*
- *1 project*
- *3 quizzes*
- *3 small assignments (short paper, article review, activity report)*
- *graded threaded discussions, emails, and chats*

Learning Outcome – A learning outcome is observable and measurable. Learning outcomes are a consequence of teaching and learning – of instruction and study. Often, learning outcomes are written with three components: conditions under which learning is facilitated (instruction), observable and measurable actions or products, and a minimum standard of expectations. Usually, there is at least one learning outcome for each course topic. For example, a learning outcome for a topic dealing with the median might be:

After studying the text, pages 51–53, reviewing the PowerPoint with audio presentation on measures of central tendency, and participating in synchronous chats, the Child and Youth Studies student will satisfactorily complete the objective test dealing with measures of central tendency at the 90% level.

C. Content Guidelines

Traditionally, instructors have offered content by making presentations during face-to-face instruction. Additionally, readings in textbooks and handouts are required of students.

In distance teaching situations, readings in texts, handouts, and information on the Internet are often used to deliver content. For high quality courses, there should be an emphasis on the use of various forms of visual media to offer instructional content. Videos, visual presentations with accompanying audio, and other graphical representations of important topics are important to the well designed course. A variety of delivery systems for content should be considered, including the use of compact disks, electronic files posted to Web sites, and streaming.

Content is organized for students into *topics*. Topics are combined into *modules* of similar topics and modules are used to form *units*.

Modules might have 3 – 5 topics presented in the following ways:

- readings in the text or other written materials
- videos supplied on CD, DVD, or streamed
- audio recordings of speeches or presentations supplied on a CD, as an email attachment, or streamed

- recorded presentations using PowerPoint with prerecorded audio
- synchronous chats with content experts

D. Instruction/Teaching Guidelines

The pace of instruction for learners is a critical concern to the distance educator. Because many distance education students are employed full-time, it is important to offer instruction in a way that complements their other responsibilities. These guidelines relate to the pace of instruction and the need for continuing interaction between instructors and students.

- 1 module per week or two
- Instructor email to students each week
- 1 synchronous chat per week
- One or two threaded discussion questions per topic, or three or four questions per week
- Instructor comments on discussions as part of threaded discussion
- Progress reports (grades) submitted to students every two weeks

These course design guidelines are based on the literature of distance education.

4. Summary

The simplicity of the Carnegie Unit, a process that organizes instruction around class sessions or meetings, has made it the standard for traditional course design, primarily because it was easy to apply.

It is easy to count class sessions in order to determine if a course "measures up". Distance Education, with few if any face-to-face sessions, does not have such an easily applied standard. The Unit, Module, and Topic approach is being applied in courses and seems to be quickly and accurately applied while establishing a standard of quality. Try it out in your courses and write an article for *Distance Learning*.

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