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Educational Quality Correlates of Online Graduate Management Education

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Abstract

The purpose of our paper is to describe and compare educational models based on four major concepts that can be used to assess educational quality. We focus on graduate management programs since they are increasingly supporting their education offerings with state-of-the-art internet-based technology. It does not appear that there are any "perfect" educational models. Therefore, we examine why some distance educational models are more appropriate than others. We first discuss the literature surrounding distance education with a focus on two major concepts—*dialogue* and *structure*—that are frequently used to describe and assess the quality of distance education. We then examine the student-related factors driving the need for increased *access* and *flexibility*. Next, we explore the association between these four factors (dialogue, structure, access, and flexibility) and existing models of distance education. Finally, we compare these models and suggest which models are most applicable to graduate management course delivery.

Résumé

Le but de cet article est de décrire et de comparer les modèles éducationnels basés sur quatre concepts majeurs qui peuvent être utilisés pour évaluer la qualité éducationnelle. Nous nous attardons aux programmes gradués de gestion parce qu'ils soutiennent de plus en plus leurs cours par une technologie de pointe. Nous examinons pourquoi certains modèles éducationnels sont plus appropriés que d'autres. Nous discutons d'abord de la littérature entourant l'éducation à distance avec une emphase sur deux concepts majeurs, le dialogue et la structure, qui sont fréquemment utilisés pour décrire et évaluer la qualité de l'éducation à distance. Nous examinons ensuite les facteurs reliés aux étudiants motivant le besoin d'augmenter l'accès et la flexibilité. Ensuite, nous explorons le lien entre ces quatre facteurs (dialogue, structure, accès et flexibilité) et les modèles existants en éducation à distance. Finalement, nous comparons ces modèles et suggérons quels modèles s'appliquent le mieux à la prestation d'un cours gradué en gestion.

Introduction and Definition of Constructs

It has been approximately 15 years since the commercial accessibility of the World Wide Web and approaching 30 years since the Internet became available for public use. In addition to an enormous array of

opportunities for the delivery of educational material (McCorkle and Alexander 1998), the Internet and the Web have supported new forms of education which, as their development has progressed, have significantly increased in status and educational value (Clark 2001). "Distance education" has been available for a number of years. Due to recent advances in communication technology, former "correspondence courses" have grown into the variety of courses and seminars that can be accessed through the Internet. In particular, Internet-supported graduate management education is the focus of this paper, since students who are likely to obtain their education in this manner exhibit many of the needs that can be best served via this new technology (Close, et. al. 2005; Clarke, et. al. 2001; Smith 2001; Moon 1999). The Internet provides many features and resources beneficial to graduate management education such as immediate access to global information, desk-top multi-media capabilities, and communication and dissemination of materials outside traditional class venues and hours (Atwong & Hugstad 1997; Close, et. al. 2005; Dacko 2001).

Our paper describes and compares educational models based on four major concepts that can be used to appraise educational quality; dialogue, structure, access, and flexibility. Since it does not appear that there are any "perfect" educational models, models we investigate what might be done to improve graduate management education programs. We first examine *dialogue, or faculty-student communication* (Marks, et. al. 2005; Su, et. al. 2005; Hay, et. al. 2004; Peltier, et. al. 2003; Arbaugh 2000). Makau and Marty (2001) define dialogue as "…a process of communicating with others - rather than at, to, or for them—and the sharing of a mutual commitment to hear and be heard." Palloff and Pratt (1999) point out that dialogue offers us a useful method for academic inquiry. These authors note that dialogue has several facets that need to be addressed which include: (1) encouraging expansive questioning that stimulates student critical thinking; (2) providing opportunities for student facilitation that affords these students leadership as well as content learning experiences; and (3) promoting feedback that can involve supportive, positive, and reinforcing comments in addition to corrective and direction-changing suggestions.

The second construct we discuss is *structure, or course objectives, strategies, content, and processes* (Karns 2005; Peltier, et. al. 2003; Holmberg 1995). Holmberg (1995) notes that distance learning can easily become "instructor/faculty centered" as opposed to "student centered." Since being "student-centered" is thought to be a beneficial orientation, we address the potential problem of becoming overly instructor/faculty-centered in our definition of structure. Therefore, structure for our purposes is conceived somewhat differently than by others, in that

structure, as depicted here, represents the degree to which students believe that the objectives, content, strategies, and processes of graduate management courses meet their educational needs as opposed to the scheduling of classes and the setting of assignments and exams.

Our third construct is the *access* to offered courses (Jones and Kelley 2003; Chute, et. al. 1999). It is important to note that there are several reasons that impact graduate management program access and they come in the form of categories of students' conditions. Some of those conditions include disabilities (problems with sight and hearing), age (the elderly), geography (students who live in rural, international, and military areas), illness (students with communicable diseases), prisoners, and students who are employed with conflicting work hours. Chute, et. al. (1999) suggest that there are three major elements to be considered when developing a distance learning system. These facets include: (1) equipment (faculty and student), (2) communication services, and (3) facilities. These authors also point out the three noted distance learning system elements are dependent upon the choices of communication connections (one-way, two-way asynchronous, and two-way synchronous) and associated faculty-student connection technologies (audio, audiographics [audio and data], video, e-mail, group conferencing systems, interactive messaging systems, and Internet). Access in terms of students who are interested in obtaining graduate management education need, at a minimum, a method of connectivity and the appropriate sending and/or receiving and, perhaps, information storage equipment that allows three types of interaction; learner-content, learner-instructor, and learner-learner (Moore and Kearsley 1996).

Flexibility (Hollenbeck, Zinkham, and French 2005; Moon 1999) is the fourth construct that we investigate which focuses on when and from where courses/programs can be accessed (Marks, et. al. 2005). Collis and Moonen (2001) provide an in-depth analysis of *flexibility* by describing several dimensions of this construct. They present five major dimensions of flexibility that include: (1) flexibility with regard to time; (2) flexibility relative to course/program content; (3) flexibility regarding course/program entry requirements; (4) flexibility associated with instructional approach and resources (pedagogy/andragogy); and (5) flexibility concerning delivery and logistics.

Additionally, we note that many students, especially working students, are initially faced with the educational issues of *access* and *flexibility*. Therefore, these issues need to be addressed prior to the development of graduate management courses in conjunction with the concepts of dialogue and structure.

Next, we discuss important characteristics of existing distance-education models that can be employed to deliver graduate management

courses, as well as how these models relate to our depiction of the online method for course design and delivery. We also examine recent developments associated with online and hybrid forms of delivering graduate management courses.

Graduate Management Education Trends and Quality Considerations

Petrick, et. al. (2001) suggest six important challenges that are faced by graduate management programs. These challenges include (1) strategic leadership incompetence, (2) curriculum inadequacy, (3) structural defects in faculty performance incentives, (4) unsatisfactory proficiencies in management school graduates, (5) mixed management school stakeholder relations, and (6) inadequate executive education/management development services. These authors also suggest two factors that affect the continuing evolution of current management curricula that include; (1) interactions between faculty and business practitioners and (2) adaptations of curricula to keep current with or ahead of business and industry needs. Both of these factors speak to the relevance of the knowledge and skills to be presented by graduate management programs.

Additional trends in graduate management education are offered by Wish and Mirabella (1998). These authors point out that there has been a sudden and swift growth in the demand of nonprofit management education. This suggests that graduate management programs need to meet student objectives and desires relative to a broad range of management knowledge and skills. Ball (2006) suggests a new model or way of viewing graduate management education. He poses two major questions that need to be answered to influence the manner by which graduate management programs are constructed; these two questions include (1) what should be taught and (2) how should it be taught (pedagogy/andragogy and technology). Ball (2006) also points out four elements determined from academic research that are: (1) purpose of the program; (2) sequencing of program content; (3) relationship of the material to the student's world; and (4) appropriate evaluation models.

Athiyman's (2001) study of 1,000 graduates in Australia of *undergraduate* business school programs found that nine determinant factors or skills were associated with this sample's perceptions of the effectiveness of their educational programs. These nine factors include (1) oral communication, (2) interpersonal, (3) supervision, (4) leadership, (5) motivation, (6) teamwork, (7) negotiation, (8) initiative, and (9) enthusiasm. Athiyman's (2001) study also found that students who were 45 years of age and greater, were unsatisfied with their education and with their attempt to climb the corporate ladder, found the program difficult due to a lack of these skills. In a study of 196 students from three universities, Raymond and McNabb (1993) noted that employers state

that the three most important qualities to be found in new business graduates are: (1) written communication skills; (2) interpersonal skills; and (3) enthusiasm. Although the subjects were undergraduate students, these skills appear applicable to graduate management students as well. Bedore and O'Brien (1991) noted that the nature of work was changing and that workers and their education would have to also change to meet future needs of employers. These authors point to three major attributes that graduate management students are thought to possess: (1) the ability to interpret as well as absorb systematic and abstract knowledge; (2) an understanding that businesses operate in a truly global economy; and (3) the recognition that modern products and processes are primarily knowledge-based.

Relationships Among the Constructs and Quality

We define the *degree of separation or transactional distance* in a management education context as the quality of student-faculty and student-student relationships (Saba 2007, Kanuka, Collett, and Caswell 2002; Moore 1993, Moore 1983). In other words, the greater the separation, the lower the quality exhibited by student-faculty and student-student relationships is likely to be. Thus, management educators need to strive to reduce the degree of separation between faculty and students as well as among students. To attain these objectives, educators need to fully understand the characteristics of education quality.

In his description of a variety of models thought to depict the quality of online education, Stephenson (2005) notes that quality is far easier to describe than to define or implement. However, Owlia and Aspinwell (1996) analyzed a number of education models and concluded that the dimensions of higher education quality consist of: tangibles, competence, attitude, content, delivery, and reliability. Additionally, the Sloan Consortium developed a five-element online quality framework that takes into account learning effectiveness, cost effectiveness, access, faculty satisfaction, and student satisfaction (Moore 2005). It has also been suggested that the *degree of separation,* as a metric of education quality, is primarily a function of two major variables: *dialogue and structure* (Kanuka, Collett, and Caswell 2002; Moore 1983).

Dialogue represents the extent to which faculty and students respond to each other (Moore 2007, Marks, et. al. 2005; Peltier, et. al. 2003; Arbaugh 2000; Garrison, 1993). Moore (1993) elaborates that to achieve dialogue faculty and students need to be respectful and active listeners where all parties contribute and build on the contributions of others. Moreover, Garrison (1993) states, "While the design of print materials and other resources will influence the quality of learning, the overarching impact on

the quality of an educational experience is the provision of sustained discourse between teacher and student." Structure is exemplified by students' control over course objectives, strategies, content, and processes through which their educational needs are met (Moore 2007, Karns 2005; Peltier, et. al. 2003, Moore 1993). We examined the factors suggested by Owlia and Aspinwell (1996) and concluded that tangibles and content are closely related to our construct of structure whereas the factors of competence, attitude, delivery, and reliability appeared to be associated with the construct of dialogue. In Figure 1, we posit the relationships among the concepts of dialogue, structure, and the student-perceived quality of online graduate management education. Figure 1 also demonstrates that a high level of dialogue and a low level of structure can lead to the greatest degree of educational quality whereas a low level of dialogue and a low level of structure can lead to the lowest degree educational quality. We next present a discussion and examples of the relationships among these three variables (dialogue, structure, and perceived quality).

Rumble (1986) presents two examples of distance education that bring clarity to the concepts of dialogue and structure portrayed in Figure 1. An example of an extreme degree of separation is a wholly self-directed course involving individual readings. In this case, both dialogue and structure are low or absent. Rumble (1986) points out that the narrowest degree of separation, or the greatest educational quality, can be depicted by an individually tailored course. Such situations often exhibit

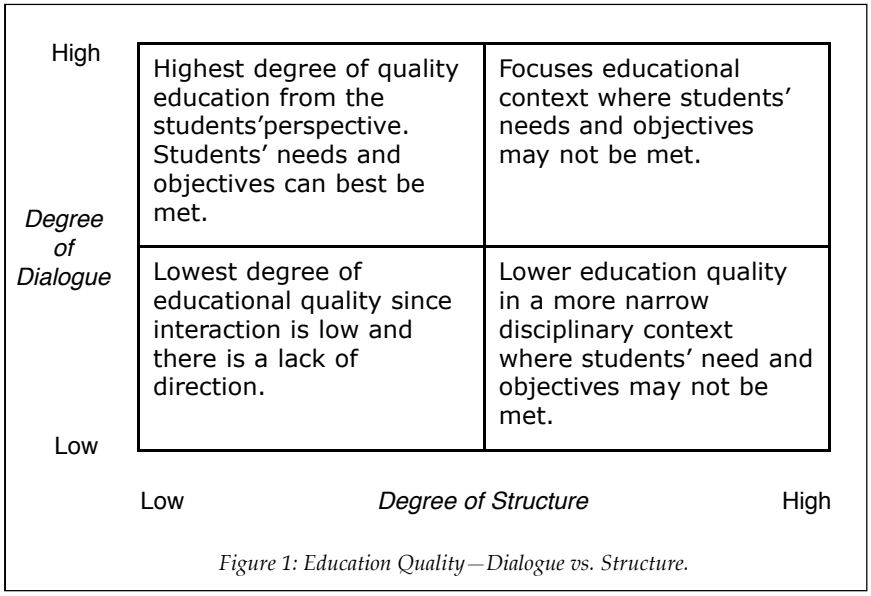

Figure 1: Education Quality—Dialogue vs. Structure.

exceptionally high dialogue with little or no educational structure. From these two instances describing high and low degrees of separation, it can be seen that dialogue is the primary controlling variable relative to educational quality.

Our discussion suggests that dialogue, the degree of student-faculty communications, is the basis for a quality faculty-student relationship, and can, therefore, be seen as a predictor of quality in graduate management education. Consequently, dialogue appears to be a central element associated with the quality of graduate management education, and, therefore, the degree of educational content structure can be thought of as a controllable mediator that can influence the effectiveness of dialogue (Karns 2005; Rumble 1986). We can extrapolate from the two prior examples to hypothesize that the quality of graduate management courses, especially from an adult learner's perspective, will come from learning situations in which there is high dialogue and low structure, since students' specific needs and objectives appear best met under these circumstances.

In situations where dialogue is high and structure is low, we suggest that the quality of graduate learning will be the greatest. Conversely, we posit that when dialogue is high and structure is high, a situation exists in which narrowly focused learning occurs and students' needs may not be well aligned with graduate management course objectives. Therefore, students may perceive that quality is lessened. Alternatively, when dialogue is low and structure is high, there exists the possibility for low quality due to reduced communication and narrow learning experiences, since high structure indicates that students' needs may not be in alignment with management course objectives. Moreover, there is usually little or no feedback from faculty. Finally, the condition in which both dialogue and structure are low appears, unsurprisingly, to lead to low quality from a student's perspective, since communication is nominal and students are given minimal direction. Therefore, dialogue can be considered the focal point for quality education while the degree of course structure can be employed to meet students' learning needs.

Drivers of Growing Graduate Management Education Demand

The educational needs of students have undergone significant modifications since the conceptualization of distance education. These evolving needs have been changed considerably due to the impact of several factors including graduate students' increased geographic mobility, increased numbers of women returning to the work force with related needs for updated competencies and knowledge, longer and more flexible work hours required by employers, older, employed students

who desire knowledge and skill augmentation, and increased commute times due to impacted traffic conditions adjacent to universities, especially those located in major cities. Therefore, major limitations of an on-campus model for delivering graduate management courses from a student's perspective can be summarized as lack of access to management courses and inadequate *flexibility* with regard to the timeliness of management course offerings. For these reasons, technologies that provide access to management courses from a distance with clear communications that are available when graduate students have time to "connect" will often be preferred by these students.

Distance Education Models

We explore ten educational models and examine how the various models are associated with the constructs of dialogue, structure, access, and flexibility. This section draws from and extends our earlier work entitled, "New Product Development in Graduate Management Educational Programs" presented at the 2006 R&D Management Conference in Cumbria, England. We first briefly review the traditional, on-campus model. Next, we analyze three models of distance education-Institution-Centered, Person-Centered, and Society-Centered-discussed by Davis (1998) and Rumble (1986) relative to the traditional on-campus model we use as a baseline. Third, we analyze five educational models depicted by Twigg (2003). Finally, we describe how Twigg's (2003) fully online model can be modified to fulfill the specific requirements of graduate management education. We also show in Table 1 how all of these models relate to the constructs of dialogue and structure as well as to access and flexibility. Table 1 also demonstrates how all of these models facilitate the quality and delivery of graduate management education.

Traditional, On-Campus Model

We rated the traditional, on-campus model as *moderate* with regard to its ability to provide quality graduate management education since the on-campus model often provides limited dialogue due to the minimum amount of time that students are in classrooms and that time needs to be shared by 20, 30, or more students in many university settings. Also, this is typically true of classes presented in a lecture-based format. Students frequently have low levels of access and flexibility with regard to the times and locations that courses are offered.

Table 1. Educational Model Comparison—Dialogue, Structure, Access, Flexibility, and Applicability to Management Education—Structure ratings are inversely rated

Model	Dialog.	Struct.	Access	Flexibility	Solves Salient Grad Mgmt. Education Challenges	Overall Model Applicability to Grad Mgmt. Education
Traditional, On-Campus Model	Mod.	Mod.	Low	Low	Mod.	Mod.
Institution-Centered Model	Low	High	High	High	Low	Low
Person-Centered Model	High	Low	Mod.	Mod.	High	Mod.
Society-Centered Model	High	Mod.	Mod.	Mod.	Mod.	Mod.
Supplemental Model	Mod.	High	Low	Low	Mod.	Mod.
Replacement Model	Mod.	Mod.	Mod.	Mod.	Mod.	Mod.
Emporium Model	Low	Mod.	Low	Low	Low	Low
Buffet Model	Mod.	Low	Mod.	Mod.	Mod.	Mod.
Fully Online Model (Twigg) 2003)	Mod.	High	High	High	Mod.	Mod.
Modified Online Model	High	Mod.	High	High	High	High

Institution-Centered Model

The *Institution-Centered Distance Education Model* (Davis 1998) provides education access via mail, television, and satellites, most often based on a unidirectional communication process in which large numbers of students absorb educational messages delivered to them. The institution-centered model is efficient due to its ability to communicate to large numbers of students, provides mass educational content dissemination, used with largely passive audiences, and can be characterized by a low degree of dialogue combined with a high degree of institutional control and structure. This model is similar to the on-campus, mass-lecture model but operates from a distance.

In their study, Ponzurick, et. al., (2000) note that students interestingly appear to favor distance courses more for convenience than for quality. Lack of convenience from a student's perspective often correlates quite well with problems associated with access and flexibility. The institution-centered delivery method can address the issues of access and flexibility in an online mode, but weaknesses can be noted in other areas. The primary deficiencies associated with the institution-centered model include the passivity of student learning, the minimal degree of contact (dialogue) between faculty and students, and a high degree of educational structure and formality as structure is defined here. This model is equally deficient specifically from a graduate management education perspective, as it is from a general education perspective, primarily due to its low potential to provide the opportunity for high levels of dialogue. Additionally, the study of management often necessitates a high degree of interaction, as well as presentation, and this model does not facilitate these skills very well. We rate the institution-centered education model *low* with regard to its applicability to provide quality graduate management education.

Person-Centered Model

Students participating in the *Person-Centered Distance Education Model* (Davis 1998) are seen as recipients of knowledge who are able to fashion individualized learning experiences. Therefore, this model provides increased student control over course structure and content as compared to the institution-centered model. This model views students as participants in independent study courses. Consequently, this model can offer high dialogue associated with varying degrees of structure. A lack of economies of scale can be pose a formidable deficiency with regard to this approach, since it is required for faculty to concentrate on multiple students, each with customized learning needs. Therefore, the person-centered model shows evidence of a high degree of dialogue while

demonstrating low levels of access due to the individual attention needed by students and the inability of faculty to allocate sufficient time to provide often needed attention. This model provides flexibility when supported by varying degrees of course structure which can entail the creation of multiple, focused courses. We suggest that flexibility will decrease and the degree of structure will increase as the number of students served by individual faculty increase. It can provide tailored course content with rich faculty communications and feedback. However, it has the potential to not perform as well when it comes to student-faculty access and the potential for inflexibility when it comes to providing students with the capability to easily communicate with faculty to hone communication and interpersonal skills. We rate the person-centered model *moderate* with regard to its ability to provide quality graduate management education.

Society-Centered Model

The *Society-Centered Distance Education Model* is the third distance education model described by Davis (1998). A primary focus of this model is on students learning from each other, often in groups. This model offers high dialogue among faculty and students, and can be associated with varying degrees of course structure. The society-centered model can also provide significant access as well as flexibility that can be limited by students' inadequate access to other students. Student-student points of contact, especially at the graduate level, can provide theory-confirming experiences that reinforce learning based on the assumption that student-student points of contact approach a faculty-equivalent level of understanding.

As pointed out by Anderson (1999), to achieve the greatest degree of success, the teaching act needs to be integrated with the learning act. In the society-centered model, much of the teaching is provided by experiences of others. Therefore, learning is often derived from the analysis of these experiences. In this sense, teaching and learning can be closely integrated. As a result, this model emphasizes class members' personal experiences to a greater extent than most traditional course delivery modes and materials such as textbooks. A major deficiency of the society-centered model becomes evident when students do not have an adequate understanding of the major management theories prior to their involvement in group exchanges or associated experiences that relate to those theories. Prior student management knowledge and experience becomes an important factor when departments consider the Society-Centered Model.

This model can create conflict between the structure desired by students and the structure faculty desire. Since faculty should not be

expected to be the source of all knowledge in such course environments, structure often needs to be imposed to effectively facilitate discussion. Furthermore, the society-centered model depends heavily on the communication skills of the group members. Unfortunately, excellence in such skills is often lacking. In addition, some students may register complaints if they perceive disinterest on the part of faculty who encourage increased communications among students. We rate the society-centered model *moderate* primarily because the model without technological support can be ineffective in linking faculty with students and students with students, however, it offers students the potential to exercise many skills needed in management, affords many points of contact and learning with other students and faculty, and provides greater access than the person-centered model.

Recently Twigg (2003) described five educational models supported by web-based technologies; the supplemental model, the replacement model, the emporium model, the *fully* online model, and the buffet model. We now analyze these 5 models.

The Supplemental Model

In the *Supplemental Model* traditional classroom instruction is the focus and software or online technologies are used solely to augment classroom activities. As Twigg (2003) notes, the supplemental model retains most of the traditional classroom model characteristics but allows instructors to facilitate outside-of-class student meetings as well as providing students with access to course materials outside of classroom time. This mode of course delivery provides students with the ability to take and retake quizzes to gain mastery of material without the instructor as an intermediary. Software programs known as Learning Management Systems (LMS) often become the intermediaries for these processes. In many instances the lecture portions of courses remain in the traditional classroom model but the laboratory or exercise portion of the course can be accomplished without human intervention. We rate the supplemental model *moderate* since it provides an equivalent amount of class time as the on-campus model for practicing important management skills, however, it has the same deficiencies as the on-campus model in that access to classes and the flexibility of when to attend classes can be low. Additionally, online technologies are often only used for student testing but interaction with faculty and other students is constrained in the same manner as traditional on-campus class settings. Structure could be varied if faculty tailor the online portions of their courses. However, typically online environments in these circumstances are fairly rigid and to make them more flexible can be viewed as teaching multiple courses for each student.

Emporium Model

The *Emporium Model,* as described by Twigg (2003), replaces traditional classroom meetings altogether with virtual, on-campus learning center meetings that aggregate many course sections of students. This model is designed to serve large numbers of students through technologically structured education based on a university's need to achieve economies of scale. The mass customization of education in this situation comes from being able to discern the most often asked questions and commit the answers to software programming. Again, the personalized attention that students receive in this model is in the form of a liaison person who links students to programmed educational material. This model rates quite low on both access and flexibility since students need to synchronously attend the online session even though they will also be individually accessing the educational material via computer. Moreover, dialogue is also low with structure moderate and dictated by the degree of sophistication of the preprogrammed feedback to students' course submissions. Dialogue is primarily in the form of the instructions and information provided by liaison personnel who operate in between faculty and students. We rate the emporium model *low* relative to its ability to provide management students with effective dialogue, feedback, and skill building opportunities. This model also suffers from the potential for low access and flexibility.

Buffet Model

The *Buffet Model,* provides several learning options based on both computer and traditional classroom components from which students can choose to attempt to fulfill their learning objectives (Twigg 2003). This model is somewhat akin to the person-to-person model described by Davis (1998) with extensive technology support. Rather than each student studying in isolation, small peer learning groups (about 6 students) of students from large classes (could be hundreds of students) are formed. Each student is individually evaluated regarding their learning style to assist in the selection of the most appropriate educational program. Each student involved with this model of education is required to sign a contract at the beginning of *each* course that depicts what is necessary for course completion. There is an exam or other assessment vehicle at the end of each course to evaluate the student's learning. With regard to our four educational quality metrics, it appears that the Buffet Model is moderate on access. This rating is due to the requirement to test, sign, and develop contracts for each course in an educational program. This process can also impact flexibility depending upon each student's selection of computer or traditional classroom educational components

This assessment suggests a rating of moderate for flexibility. Dialogue appears to be moderate in this model since dialogue is a function of the number of faculty members assigned to each activity and the mode that the student selects for each activity. Dialogue can be increased by additional student-to-student group interaction but the large numbers of students in each class could reduce the interaction between faculty and students. Structure is low in this model since each student picks exactly what and how s/he approaches her/his program of study. With regard to the applicability of this model to graduate management classes, we rate this model *moderate* primarily due to its middle-of-the-road ability to consistently deal with access, flexibility, and dialogue, in addition to the potential to limit the exercising of communication and interaction skills by students.

Fully Online Model

The *Fully Online Model,* as depicted by Twigg (2003) concentrates large numbers of students under one faculty member, with extensive reliance on software. This situation can lead to impersonal student feedback and monitoring. Therefore, we differentiate Twigg's (2003) fully online model with its large class sizes and impersonal approaches from our depiction of an online educational model, which is described in a subsequent paragraph.

The fully online model described here is structured so that each course involves approximately 100 students and a nonacademic course assistant. The management of courses such as these can be facilitated by readily available software packages. Often, a nonacademic assistant responds to approximately 90% of student inquiries while the faculty member addresses the academic rather than logistical concerns. This model is a "one size fits all" approach since the goal is economy of scale for faculty and assistants, and all students are exposed to the same "virtual classroom" experience. Exams are given online. Faculty can offer attendance-optional, live lectures by using web-integrated media and resource-enhanced presentations. We give this particular implementation of the fully online educational model high marks for access and flexibility other than the optional live lectures which some may want to or need to attend for clarification. But, this model falls quite high with regard to structure, which suggests too much structure, since one size needs to fit all. Also, this model's rating relative to dialogue is between low and moderate, which depends on the nonacademic assistant's ability to field most of the students' inquiries. Our overall rating of this perspective of the fully online model as described by Twigg (2003) is *moderate*. The fully online model depicted here has major deficiencies regarding dialogue and the students' ability to practice their communication and interaction

skills. Both of these deficiencies are exceptionally important to graduate management education.

We suggest a modification of the fully online model described by Twigg (2003) to implement an enhanced online educational paradigm. To achieve this, it is necessary to improve the factors of the Twigg (2003) online model that are rated low or moderate. To increase dialogue one needs to assure that class sizes are reasonable which means approximately 20 or fewer. Next, there is a need to implement a pedagogy that provides a high degree of integration among students. In terms of our thesis, this means decreasing structure and providing more options for student learning. With access and flexibility both high, this will lead to a high rating for this modification of the fully online model relative to graduate management education.

Replacement Model

The *Replacement Model* (often known as a hybrid model) is one in which a small number of educational sessions are conducted in the traditional on-campus format and the remaining class sessions are delivered via network technologies (Twigg 2003). The number of on-campus sessions is most often limited to less than half and can be as few as one session, in which the faculty member meets the students, often on the first day of class. The course moves fully on-line from that point on. This model received a moderate rating with regard to access as well as flexibility. The students need to be able to easily travel to the class meetings which can reduce access to the program. And students need to be available on the days and at the times that the on-campus sessions are held, which can limit flexibility. Both access and flexibility decrease as the number of traditional on-campus class sessions increase. Dialogue can be higher than the traditional on-campus model since on-line communications can occur at any time. And, structure can be lower than the on-campus model since faculty can provide more individual instruction in the on-line mode as long as the number of students is not excessive. We rate the replacement (hybrid) model *moderate* since it can provide moderate to high degrees of access and flexibility while offering the potential for moderate to high dialogue and low to moderate structure. The ability for students to demonstrate management skills in-person as well as with technology support can also be facilitated by this model.

Summary

Based on our discussion of the eight distance models (Davis 1998; Twigg 2003), the traditional on-campus model, and what we have described as an online educational paradigm, we suggest that the online paradigm and

replacement (hybrid) models, with enhanced Internet and web-based communication facilities, can help ameliorate students' typical distance-learning concerns about access and flexibility, as well as provide high levels of dialogue and measured levels of structure to assure quality in graduate management courses. We defined four major concepts—*dialogue*, *structure*, *access*, and *flexibility*—important to evaluating educational models that might be employed to deliver management courses. Eight educational models associated with distance education were examined as well as their relationship with our four major study variables. We also explored all of these models regarding their applicability to delivering management courses. A number of benefits and opportunities associated with online and hybrid implementations are identified that make them options for delivering management courses worthy of serious consideration.

While several benefits are associated with these online and hybrid graduate education models, we realize that there are concerns that need further exploration. Many of these concerns revolve around the execution and implementation of the various models. Whichever models are employed, faculty will need to gain experience and confidence to fully attain the results that these models promise.

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