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Pepperdine University

Graduate School of Education and Psychology

EVALUATION OF ADMISSIONS CRITERIA AND PRACTICES WITH REGARDS TO SUCCESSFUL ONLINE LEARNING STYLES AND CHARACTERISTICS

A dissertation submitted in partial satisfaction

of the requirements for the degree of

Doctor of Education in Educational Technology

by

Karen A. Magner

December, 2010

Kay Davis, Ed.D. – Dissertation Chairperson

This dissertation, written by

Karen A. Magner

under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

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DEDICATION

This document is dedicated to Karma

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First, I would like to seize this opportunity to personally thank my chairperson. I cannot express the extent to which her support and understanding allowed me to reach this milestone. Her encouragement, support, understanding and, above all, her prompt, constructive and greatly appreciated criticism and feedback, were invaluable to the research, writing and completion of this study. Kay Davis is often an unsung hero in terms of mentorship, intelligence, research expertise, and kindness. Her tenacity, talent, and generosity are gifts I have treasured. It was a privilege to work with her throughout the course of this study.

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VITA

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ABSTRACT

This study evaluated admissions criteria and practices with regards to characteristics that lead to success in an online learning environment. The study had three main objectives: (a) to examine successful online learning styles and characteristics, (b) to examine current admissions practices of graduate, four-year, degree-granting academic programs that are nearly fully online and delivered in a hybrid mode of delivery, combing synchronous and asynchronous course activities, and (c) to examine whether there was any evidence that schools offering online graduate programs are considering the characteristics of successful online learning when assessing students for admission. The study sample consisted of 50 online graduate programs offered at public, four-year institutions; 40 online graduate programs offered at private, not for profit, four-year institutions; and 15 online graduate programs offered at private, for profit, four-year institutions. An exploratory method was used to conduct a thorough review of secondary research that addressed characteristics of the online learning style and those characteristics that lead to success within an online program. Secondary research was also reviewed for a deeper understanding of current admissions practices and criteria for online, degree-granting, graduate programs. An investigation of existing literature as well as publicly available information via the web underwent subsequent synthesis, which led to examination of the connection, if any, between online learning characteristics and admission practices for online programs. The study identified sixteen characteristics of successful online learning within four main categories including Learning and/or Leadership Style; Technology Requirements and Skills; Academic and Business Acumen; and Lifestyle. The study also found that current admissions practices commonly utilize tools such as online applications, standardized test scores, and GPA when assessing students for admission. While other tools (letters of recommendation, interviews, and personal statements) were also used, the descriptive statistical results

indicated less than half of the current admission practices within the total sample population consider nine of the sixteen characteristics of successful online learners when assessing students for admission to online graduate programs. Recommendations would be that further research examines admission practices prior to programs moving online for comparison of both processes and criteria used in assessing students for admission.

Chapter One: Introduction

Many academic programs are moving online. A report prepared by the Institute for Higher Education Policy found that during the academic years from 1994-95 to 1997-98 the number of distance education programs increased by 72% (Phipps & Merisotis, 2000). The authors also estimated that more than 1.6 million students were enrolled in distance education courses in 1997-98, an estimated 113 percentage increase from 1994-95 when there were an estimated 753,640 students enrolled. (National Center for Education Statistics, 1999).

Likewise, many students are continuing to move online. Roughly one in six students enrolled in higher education — about 3.2 million people — take at least one online course last fall, a sharp increase defying predictions that online learning growth is leveling off. A new report by The Sloan Consortium, a group of colleges pursuing online programs, estimates that 850,000 more students took online courses in the fall of 2005 than the year before, an increase of nearly 40%. Last year, the group had reported slowing growth, prompting speculation the trend had hit a ceiling (Pope, 2006). About 80% of online students are undergraduates, and they are generally older and more likely to be working and have families. But only about half are pursuing online degrees, according to Eduventures (Pope, 2006).

The U.S. Department of Education Institute for Education Sciences (IES) National Center for Education Statistics reports even greater trends to programs being offered online in its findings from "Distance Education at Postsecondary Institutions: 2006-07", a survey that was designed to provide national estimates on distance education at 2-year and 4-year Title IV eligible, degree-granting institutions. Distance education was defined as a formal education process in which the student and instructor are not in the same place. Thus, instruction may be synchronous or asynchronous, and it may involve communication through the use of video, audio, or computer technologies, or by correspondence (which

may include both written correspondence and the use of technology such as CD-ROM). The questionnaire instructed institutions to include distance education courses and programs that were formally designated as online, hybrid/blended online and other distance education courses and programs. Hybrid/blended online courses were defined as a combination of online and in-class instruction with reduced in-class seat time for students.

The 2006-07 study on distance education collected information on the prevalence, types, delivery, policies, and acquisition or development of distance education courses and programs. Findings indicate that during the 2006-07 academic year, two-thirds (66 %) of 2-year and 4-year Title IV degree-granting postsecondary institutions reported offering online, hybrid/blended online, or other distance education courses for any level or audience. Sixty-five percent of the institutions reported college-level credit-granting distance education courses, and 23 % of the institutions reported noncredit distance education courses. Sixty-one percent of 2-year and 4-year institutions reported offering online courses, 35 % reported hybrid/blended courses, and 26 % reported other types of college-level credit-granting distance education courses. Together, distance education courses accounted for an estimated 12.2 million enrollments (or registrations). Asynchronous (not simultaneous or real-time) Internet-based technologies were cited as the most widely used technology for the instructional delivery of distance education courses; they were used to a large extent in 75 % and to a moderate extent in 17 % of the institutions that offered college-level credit-granting distance education courses. The most common factors cited as affecting distance education decisions to a major extent were: (a) meeting student demand for flexible schedules, (b) providing access to college for students who would otherwise not have access, (c) making more courses available, and (d) seeking to increase student enrollment.

Distance education includes both courses which are “fully online”, with no “face to face time”, or a hybrid, defined as a mix of face-to-face time as well as time spent online. Both the delivery of content using various instructional strategies as well as the learning

achieved by the students are quite different from practices common in academic courses of the past. As education institutions continue to move forward and adapt their curricula to meet demands of today's learners, changes have occurred or need to occur which have potential for making tremendous and significant impact on the organization's procedures spanning the screening of potential students to the evaluation and awarding of degrees or completion verification. These changes of course impact the entire system including the selection of faculty to deliver instruction using technological advances and web-based instructional strategies as well as the development of curricular content. This research however will focus on the "student" side of the teaching/learning process and specifically regarding the assessment of potential students for the skills and knowledge required for their success in these very different learning environments from the past.

The development of and migration to online delivery is already very much in progress in increasing numbers of higher education institutions. Recent statistics reveals that a high percentage of regionally accredited US institutions claim to have at least some use of on-line instruction. In 2002, the Sloan Consortium reported that 81 % of all institutions of higher education were offering at least one fully online or blended course and 34 % were offering a complete online degree program (Pope, 2006). Among public institutions, the numbers were much higher with 97 % offering at least one online or blended course and 49 % offering an online degree program. According to the Sloan report, 1.6 million students took at least one online course during the Fall of 2002. Sixty seven percent of institutions reported that online education was a critical long-term strategy for their institutions (Allen & Seaman, 2003).

By the fall of 2006, the number of students enrolled in at least one online course reached close to 3.5 million. The majority of academic leaders surveyed believed that demand for online learning was still growing. All types of institutions cited improving student access as the top reason for offering online courses and programs (Allen & Seaman, 2007)

With more and more of adult learners becoming technologically literate due to so many regular daily activities requiring an understanding of basic technological literacy, educational institutions certainly need to understand the different experiences and skills required for learning online and the learning style of the learner as well as the skills either known or acquired which impact the success of the learner. Yet, the learning style of the individual may promote greater or lesser success with certain tools and instructors. And, in the end it is the outcome that is examined as a means to gauge just how effective this new learning environment is. Although Internet-based distance learning is a relatively new phenomenon, there is a small but growing body of research regarding student achievement that are similar to non—Internet based distance learning studies (e.g., Davies & Mendenhall, 1998; Huff, 2000; Thirunarayanan & Perez-Prado, 2001-2002; White, 1999). While surface outcomes appear to be similar in both non-Internet based and Internet-based environments, there is consensus in the literature that "quality learning will result in intellectual development of students and move them toward a state of metacognition whereby they take control of their own learning" (Dean & Webster, 2000, p.346). Further, high quality outcomes from learning in the online environment should be readily achievable as this learning environment is based on interactivity which is seen to extend thinking, and is considered to lead to deep learning rather than surface outcomes (Ramsden & Dodds, 1989). Considering the nature and outcomes of Internet-based learning environments, the purpose of this research is to focus on the online learning style. Further, by examining and identifying the online learning style, style characteristics and traits associated with this learning style may then be used in determining students most likely to succeed or best suited for online learning. By studying and identifying characteristics of successful online learners, this research can then evaluate current admissions criteria and practices in relationship to characteristics of online learners. This may result in more targeted strategy or new practices in admissions for online programs

It is clear that a unique culture develops and exists in online environments. While many studies have indicated little or no difference in learning (Lanza & Roselli, 1991), most studies reveal a distinct difference in the dynamics of online courses, including collaboration, participation, and interaction (Alavi, Wheeler, & Valacich, 1995; Arbaugh 2001; Catchpole, 1993; Dean & Webster 2000; Leidner & Jarvenpaa, 1993; Webster & Hackley, 1997). Additonally, "unlike other distance education media, Internet-based courses can provide archival records of student and instructor participation that can be triangulated with student perceptions to create richer measures of student participation and involvement" (Arbaugh, 2001, p. 44). This archival evidence (such as transcripts on online discussions, participation in newsgroups) along with other factors (such as students' grasp of content and learning) may indicate a student's success in this online environment. It would then stand to reason that you could use these factors as indicators as to the skills and criteria a student must possess for success before entering an online program and learning environment. Thus, developing new admissions screening methods or criteria or better utilizing existing methods or criteria based on these indicators may be an option for assessing online students prior to admission.

Background of Problem

New learning environments and styles have emerged with online education. Additionally, the society we live in has created the need for new learning environments. Today's student seeks a more convenient way to learn. Today's student also desires to utilize and advance their technology proficiency as part of the learning experience. Current job markets require skills which also have necessitated a change in learning environments. Technology skills and use of online collaboration and communication tools are becoming more commonplace in today's workplace. Admission standards and processes, however, have remained fairly constant. These traditional admission processes and tools may not be adequate or appropriate for evaluating candidates for online learning programs. As online

education continues, and learning environments change, schools need to rethink their traditional screening and admission criteria. While schools may move their academic programs and education online for a variety of reasons, it is vital to also consider the impact on the learning process and students. And, considering the impact, it is necessary if not critical for schools to also consider their admissions criteria and practices in relationship to characteristics of successful online learning.

Purpose and Importance of Study

The purpose of this study is to evaluate admissions standards and criteria of online, degree-granting institutions with regards to successful online learning characteristics and styles. Much research has been done on online and distance education in terms of the numbers of programs being offered, the trends of programs moving online, learning outcomes of online learning, learning styles of the online learning environment, characteristics of online learning, traits of successful online learning, and perceptions of online degree programs and learning. However, little research has been done on admissions criteria and practices in relationship to online learning.

The research will examine characteristics of successful online learning. To ascertain a thorough understanding of the skills and behaviors required for on-line learning, exploratory research of current literature and studies will be used to identify specific constructs and characteristics of successful online learning. The research will then consider admission criteria and assessment tools which are best suited for assessing fit for success in online learning programs in higher education. Thus, this study will also include an exploratory approach to review current admission practices and materials to compare admission criteria to the characteristics of successful online learners. Through a thorough investigation of both characteristics of online learning and admissions practices, the study will assess the relationship, if any, between the two.

This research could lead to a model for assessing potential students for online education. Because online learning is a relatively new phenomenon, a new learning style may be emerging. This study will attempt to understand and define the learning style, the attributes of the learning style, and how these attributes may be indicators used for admissions to online programs. Currently, there is limited evidence of research which has focused specifically on an online learning style in connection with admission criteria and practices.

Research Questions

In order to describe the phenomenon of online learning and clarify characteristics and behaviors of a successful online learning style, this research focuses on the connection and possible interactions among online learning characteristics and admission criteria and practices for online programs. From existing literature and studies, the characteristics of online learners and successful participation or learning will be examined to better understand the phenomenon of online learning and establish conceptual components of successful online learning styles and characteristics. Admission practices and criteria will be examined to determine the connection, if any, of current admission practices for online learning.

Research questions guiding this study are:

1. What are the specific characteristics of an online learner? And, are there specific characteristics for successful online learners, or those that thrive in an online environment?
2. What are the admissions criteria required for online programs?
3. Is there any evidence that schools offering online programs are considering the characteristics of successful online learning in evaluating students?

Chapter Two: Overview

In order to meet the objectives of this study, three frameworks are being reviewed. (a) Standardized testing and admission in traditional university education, (b) Online learning, (c) Admissions practices of online programs

Standardized Testing and Admission in Traditional University Education

There is a lot of attention on assessment and standardized tests in education. Current college admission practices utilize standardized tests, such as the SAT, ACT, and PSAT at the undergraduate level and the GRE and MAT at the graduate level, as part of their admission criteria. According to a national report*, Trends in College Admission 2000: A Report of National Survey of Undergraduate Admission Policies, Practices and Procedures*, the percentage of institutions reporting they required admission test scores remained constant at over 90 % of institutions between 1979 to 2000.

For undergraduate admission in traditional university education, there are two major national college entrance tests: the SAT and the ACT. The majority of colleges allow a student to submit scores from either test. The SAT is a three-hour and forty-five-minute test measuring the critical thinking, mathematical reasoning, and writing skills necessary for college-level work. The test's three sections--Critical Reading, Math, and Writing—are divided into nine subsections, including a required 25-minute essay. The ACT assesses students' general educational development and ability to complete college-level work. The multiple-choice tests cover four skill areas: English, mathematics, reading, and science. The Writing Test, which is optional, measures skill in planning and writing a short essay.

For graduate admission in traditional university education, there are several national college entrance tests depending on the area of discipline The Graduate Record Examination (GRE), which tests verbal, quantitative, and analytical abilities, is generally accepted across disciplines. The Graduate Management Admission Test (GMAT) if often required among prospective business school and also measures verbal, quantitative, and

analytical reasoning. Prospective law students take the Law School Admission Test (LSAT), which measures reading, writing, and logical reasoning. Finally, students who hope to attend medical school take the Medical College Admissions Test (MCAT).

Typically, if a student is applying to an undergraduate, graduate, law, medical, or business school they are required to take a standard examination. It is believed that a standardized test will help admissions personnel determine who is capable of withstanding the rigors of college. Standardized tests permit students from a variety of schools and colleges with differing grading standards to be compared. For example, consider two applicants with GPAs of 4.0, but from different colleges. It may not be valid to assume the 4.0 from the state university is similar to the 4.0 from the Ivy League college. A standardized test, then, permits the two applicants' abilities to be compared fairly and consistently.

However, there is a shift in the assumption that standardized tests are the panacea for college admissions. California and possibly North Carolina may reduce their reliance on standardized admissions test scores for state colleges and universities (Snider, 2001). Parents in New York kept their children home on a test day, protesting that standardized tests impede creative and innovative instruction. Errors have been discovered in high school exit exams in Minnesota and other states. Errors have also been discovered in professional school admission tests, such as the GMAT (Snider, 2001). President Bush, however, made testing a significant part of his "No Child Left Behind" education policy. As a result, there is growing concern that teaching to the test standards will take precedence over learning. And, entrance examinations for college and professional schools will be required or at least part of the admissions mixes for the foreseeable future.

Grade point average (GPA) will also be required in traditional university education for the foreseeable future. In previous studies, grade point average was found to have a strong connection with student success. For example, Cheung and Kan (2002) found that previous

academic achievement was positively and significantly related to student performance. Anderson and Benjamin (1994), indicated the higher the academic qualification obtained, the better the course result that students attained in a course. Moore and Kearsley (1996) found that distance learning students in general tend to have high grade point averages.

Generally GPA is a measure of a student's academic achievement at a college or university and is calculated by dividing the total number of grade points received by the total number attempted. In some cases GPA reflects a 4.0 scale or 5.0 scale, and can be weighted scores for Honors/AP classes, etc. Because it is a standard measure of a student's academic achievement, GPA has remained a constant in college admission requirements in traditional university education.

Formulation of admission criteria and practices, however, may not remain constant in the future. The role of the state legislature, the State Higher Education Commission, accreditation boards, and other bodies for establishing broad admissions guidelines among public institutions has increased significantly since 1979. (Breland, Maxey, Gernand, Cumming, & Trapani, 2002). Admissions practices have expanded beyond admissions offices and officers setting standards. The responsibility for setting policy for admissions is now distributed among admissions committees, chief enrollment management, executive councils, deans, chief executive officers, board of trustees, and governing boards. (Breland et al., 2002). In addition to those involved in developing admission practices, the criteria for college admissions measured or considered is also evolving. According to the Trends in College Admission 2000 report (Breland et al., 2002), the most important factor for admissions is still GPA, followed by test scores. However, many schools are now considering other factors such as letters of recommendation, essays, interviews, and past coursework with much more weight. In fact, some consider these factors equally with GPA and test scores.

These trends and shifts are present for traditional courses as well as online. In fact, most schools have not altered admission practices or criteria even though they have altered the mode of delivery for courses. In a personal, cursory review of 10 colleges offering online courses or programs, it was determined none of the schools either changed or had different admissions policies for online programs. Currently, there is no research or empirical data regarding admission criteria or practices for online learning environments or programs.

A difference in the learning environment is evident, however. Further, online learning environments may have an impact on other admissions issues, such as gender or minority equality, access for handicapped students, and global access to courses. Based on the nature of the learning environment being different online than in a traditional setting as well as the possibility that online environments may provide greater access to a much more diverse and larger population, further study of admissions practices for online environments is warranted and, perhaps, critical as distance learning seems to be a potential wave of the future.

Online Learning Style

Educational approaches based on constructivist principles and findings from cognitive psychology have introduced new concepts of learning, instruction, and classroom environments (Brooks & Brooks, 1993; Krajcik, Soloway, Blumenfield, & Marx, 1998; Marshall, 1996). Cognitive tools are considered social mediators of learning in these learner-directed environments, with computer technologies given particular attention today as tools for enabling the objectives of constructivist principles (Jonassen & Reeves, 1996).

The basic tenet of constructivism is that the individual learner is an active constructor of knowledge (Dewey, 1916; Piaget, 1952; Prawat, 1996). Primary importance is assigned to the way learners make sense of what they are learning (Luria, 1981; Saloman & Perkins, 1998; Vygotsky, 1978). As all participants bring in their own experiences and perceptions to community, learners are enriched with multiple perspectives to review in light of their own.

As members of the community, individuals participate in the group process to resolve differences (Brown et al., 1993).

Application of constructivist principles evokes a shift from traditional view of learning as an act of individual cognition to an act of enculturation as individual begin to conduct their thinking as part of a community in mediated social contexts (Becker & Riel, 1999; Brown, Collins, & Duguid, 1989; Gallini & Zhang, 1997; Lave & Wenger, 1991). The former model represents a teacher-directed view of learning, and the new model is one of a student-centered view. This represents a shift in the locus of control. This new, student-centered model portrays "characteristics of a constructivist classroom structured around the active involvement of the learner and the learners' making contributions to a collective body of knowledge as members of a community" (Gallini & Barron, 2001, p. 139). Participation in a learner-centered class is now a sophisticated exchange among instructors and peers. A leaner-centered model can now be realistically supported by online learning environments. Diverse technological tools (such as electronic whiteboards and chat rooms) are conducive to supporting new forms of social interaction and productivity (Schrage, 1990). Learning is designed for collaboration, and with the advancement of technology, the opportunities are expanding.

Yet, it is not a simple case of opportunities and technologies expanding. And, it is not simply the growth of an existing learning style. There is a new, unique learning style developing online. It is not just a matter of effectively integrating technology into a constructivist model of learning, but creating a whole way to learn. And, the new nature of learning requires utilization of tools and skills distinct to that learning environment. According to a study conducted by Gallini and Barron among 27 faculty members and 153 students participating in online programs in various disciplines, online networks foster new culturally diverse communities with distant peers for discourse and knowledge exchange, with networks representing possibilities of cooperative learning and student interactions

involving construction of knowledge, shared meaning, negotiation of knowledge conflicts, and other leaner-centered practices (Gallini & Barron, 2002). The manner in which this is accomplished is unique online. Participants and instructors report positive, more interactive experiences learning in an online environment.

Participants in online education, faculty and students alike, consistently report greater interaction and engagement (Gallini & Barron, 2001; Arbaugh, 2001). Online interaction and communication have been regarded as important factors for successful online learning (Haythornwaite, 1999; Sims, 1997; Wegerif, 1998). In a study by Arbaugh (2001) among 33 students enrolled in a traditional MBA class and 29 students enrolled in the same MBA class conducted online, participation in the online class accounted for just more than 70% of the participation. Unlike synchronous formats, which require all class participants to be together (either physically or on-line) at the same time, asynchronous course formats do not require students and instructors to be online at the same time. This allows students to have more flexible schedules, have more time to observe and reflect on participation, and more comfortable with varied levels of participation due to the anonymity of the online environment. This type of participation hints at characteristics or behaviors that emerge in the online environment, leading to a distinct learning style online.

While the technology can make a difference and can be burdensome, the technology itself impacts the learning style online. Participants need to be able to read and type simultaneously. Students learning online must be taught or know how to use the technologies that enable them to interact in the classroom. Online students may be required to use email, research topics on the Internet, and synthesize information quickly during synchronous group discussions. All these activities indicate characteristics associated with the online learning environment.

Keefe (1979) has defined learning style as “the characteristic behaviors of learners that serve as relatively stable indicators of how they perceive, interact with, and respond to

the learning environment" (p.12). Researchers have faulted studies from not looking more closely at how different learning styles relate to online courses. Many researchers have approached the subject as if there are varied learning styles of learners engaged online, and the learning environment is the unique factor. In a study among 31 students with varied learning styles enrolled in a computer-supported collaborative learning (CSCL) program, no significant interaction was found between learning style and the CSCL environment (Wang, Hinn, & Kanfer, 2001). However, there are behaviors to learners online that may indicate a separate learning style. It could be argued that the unique environment cultivates a unique learning style, one which can be described by behaviors of how the learning environment is perceived, interacted with, and responded to. In fact, Coggins (1998) and Ehrman (1990) point out the scarcity of research related to learning style and learning style diagnosis in distance education settings. The purpose of this research is to delve more deeply into the online environment, the characteristic behaviors of online learners, and the learning style unique to online learning.

As classes and entire degree programs shift from face-to-face, traditional modes of delivery to online instruction, issues related to student learning become more important to the design of online environments. However, with the absence of sufficient research to document the effects of the new experiences on student patterns of learning and communication, many hypotheses about its effects have yet to be tested (Gallini & Barron, 2001).

Learning is not guaranteed, but the online environment might provide the learner with a rich learning environment and greater scope for self-directed learning. And, it appears learning in the online environment happens at a rate similar to that of a traditional classroom setting. But, because there may be no difference in what is learned, it does not mean there is no difference in the depth of the learning or the way in which it is learned. In a comparison study of live instruction versus online instruction among master's level students

in a social work course, 38 enrolled in the course online and 24 completing the course in a live classroom setting, critical thinking skills and knowledge transfer were high among the online students and interaction was significantly higher among online students. Using pre and post test scores and then conducting an ANOVA, differences in the learning were compared. Again, while no significant differences were found in the learning outcomes, there were distinct differences in the manner in which the students learned. Interaction in the class and access to faculty were much greater among online students (Huff, 2000).

If outcomes are to be used as indicators of success or learning, a greater understanding of learning styles online and their impact on outcomes must be investigated further. In terms of online learning, scales for evaluation have considered factors ranging from learner control, interface design, sequencing of instruction, learner support, to motivation and transfer (Hannafin, Hannafin, & Hooper, 1996). In a study among 150 students, age 25-44, enrolled in online programs conducted by Webster and Dean, an instrument to evaluate the impact of "computer package", "motivation to study", and "transfer of learning" was developed. In this study reliability and face validity was established. The study was conducted using a questionnaire using a Likert-type scale, rating the three areas above. In this study, it was established that students do, in fact, develop a high motivation to learn and high level of knowledge transfer in an online environment (Dean & Webster, 2000). However, the relationship between learning styles or the culture formed in an online environment, and the outcome was not examined.

Learners and instructors take on roles as part of a community structure that values both the individual's contributions to the community and the knowledge construction of the collective. It is the "interaction between the two and the cognitive and dialogic processes underlying those interactions that emerge as critical themes for researchers to consider in their assessment of technology-mediated learning contexts" (Gallini & Barron, 2001 p.149).

Further study is needed to target detailed descriptions and valid evidence of classroom features, instructional processes, dialogic processes and interactions, learning styles and learning outcomes that distinguish online environments from traditional classrooms.

Additionally, while interesting to examine outcomes, a single measure of learning may not completely capture the content and quality of the online learning experience, particularly because it has been suggested that learning experiences with online courses are different than those of traditional courses (Dumont, 1996). Online courses "focus less on dispensing information and more on creating virtual contexts where students can learn collectively and collaboratively" (Arbaugh, 2001, p. 229).

Kearsley (2000), asserts that the virtual classroom is a unique social context, much different from that of a regular classroom. Within this social context lie unique social behaviors and characteristics. These indicate a unique learning environment and style as well as behaviors that serve as indicators for success within this new, growing learning environment. These behaviors may very well lead the way to new or modified admission criteria for online learners.

Research indicates that interpersonal and communication skills and fluency in the use of collaborative online learning technologies are critical competencies for the online learner (Dabbagh & Bannan-Ritland, 2005). Powell (2000) described the online learner as someone who is “very comfortable with written communications, somewhat savvy with Web technologies, and proficient with computers” (p.1). Further, Cheurprakobkit, Hale, and Olson (2002) reported that lack of knowledge and skill in the use of online learning technologies, particularly communication and collaborative technologies, could present barriers for students learning in online settings. Williams (2003) found that interpersonal and communication skills (which include writing skills) dominated the top ten general

competencies across distance education programs supported by the Internet (Dabbagh, 2007).

Another important characteristic of the online learner is self-directed learning. Self-directed learning is described as the skill of "learning how to learn," or being metacognitively aware of one's own learning (Olgren, 1998, p. 82). Cheurprakobkit et al. (2002) reported that students in online learning environments must possess "self" behaviors such as self-discipline, self-monitoring, self-initiative, and self-management, which are characteristics of self-regulated or self-directed learning. In online learning environments, the ability of learners to monitor and regulate their own learning is critical because of the physical absence of an instructor.

Online learners must also understand and value the learning opportunities made possible by collaborative and communication technologies in order to engage actively and constructively in learning. Some learners are inherently drawn to peer interaction or collaboration, while others need to understand the educational value of these pedagogical constructs (Dabbagh, 2007). Being inherently drawn to interaction can be characterized as an individual difference referred to in the literature as the need for affiliation. In online learning environments the need for affiliation can be interpreted as the need to be connected or to belong to supportive groups (MacKeracher, 1996).

A community of practice (COP) is an example of how the need for affiliation can manifest itself in online learning environments. Members of a COP understand that knowledge is shared intellectual capital. COP is a pedagogical model grounded in a theory of learning as a social process and implemented in an online context through knowledge networks, asynchronous learning networks, and other Internet and Web-based collaborative and communication technologies (Wenger & Snyder, 2000). Although online learners still need to (a) act competently on their own; (b) have confidence in their knowledge, skills, and performance; and (c) learn how to create and manage a personal presence; sensing or

exhibiting a need for affiliation is key to a successful and meaningful online learning experience (Dabbagh & Bannan-Ritland, 2005).

Based on the research, the following characteristics and learning styles are perceived as critical to a student in an online learning environment:

- Having a strong academic self-concept.
- Exhibiting fluency in the use of online learning technologies.
- Possessing interpersonal and communication skills.
- Understanding and valuing interaction and collaborative learning.
- Possessing an internal locus of control.
- Exhibiting self-directed learning skills.
- Exhibiting a need for affiliation.

Competency in the use of online learning technologies does not guarantee meaningful interaction, collaboration, and knowledge building in online learning environments (Lindblom-Ylanne & Pihlajamaki, 2003). Thus, in addition to the listed characteristics and skills, students in online learning environments should possess or develop collaborative learning skills independent on these technologies (Drabbagh, 2007). These skills include social learning skills, discursive or dialogical skills, self and group evaluation skills, and reflection skills (Comeaux, Huber, Kasprzak, & Nixon, 1998; Spector, 1999).

Given the identification of online characteristics, this study next examines admissions practices in connection to the evolution of learning in an online environment.

Admission Criteria and Practices of Schools Offering Online Programs

"As the fastest-adopted medium in the history of education, the Internet lends itself to education reform" (Roberts, 1998, p. 33). If we are to believe that the Internet and distance education lend itself to reform of education, why would it not also lend itself to reform of the administration associated with that education?

As the nature of the delivery of academic programs changes, so too do the expectations of students and student services change. These expectations impact services well before the student even registers for classes. Increasingly, students rely on the Internet as part of their college selection process. Students' expect admissions services and applications to be available online. The FAFSA (Free Application for Federal Student Aid) is now completed and processed electronically. These represent just a few of the enrollment management processes, which have had to be adapted to accommodate new innovations in technology and student services. And, these are just services pre-admission.

However, it is not simply the advancement of the delivery of academic programs that is prompting a shift in expectations of prospective students. In general, society's exposure to and utilization of technology and web-based tools is on the rise. As a result, the demand for web-based admissions services has increased and educational institutions face important choices regarding how to manage web-based admissions applications and other services. One of the key issues is ensuring data privacy and security. While the Family Education Rights and Privacy Act (FERPA) places the onus on colleges and universities to protect student records, data processed through an admissions application is not deemed to be a "student record" until the applicant is enrolled. In the absence of definitive legislation, practices surrounding usage of student admissions information have a wide range.

Another key issue related to web-based admission services is the technology infrastructure to support the processes. Providing a web-based application process, the ability to upload essays or pertinent admissions documents, and potentially conducting an interview via a webcam or similar technology all require colleges and universities to be able to host these services as well as process and store the information gathered using online processes. However, use of these tools may not just be a way for the school to demonstrate technological know-how and improve processes, the tools may also be a way in which to screen for technology ability on behalf of the applicant. So, it is not simply the

efficiency of the process that is a result of new technology integrated into the admissions processes, but the effectiveness of the screening processes as well.

Integration of technology into the admission process may be particularly relevant and beneficial for online programs. Traits of successful online learners may have some commonalities with the traits of students who would be drawn to a more dynamic online admissions process. Using online technology as part of the admission process may also provide a college or university the opportunity to evaluate the candidate's fit or proficiency with regard to successful online learning characteristics.

It appears a few colleges and universities may be engaging in some admission practices that integrate online technologies into their screening process, Some schools have begun introducing new and innovative admissions practices such as tapping into social networking sites such as FaceBook and Twitter as an added review of a candidate, having students post virtual resumes or essays, and/or offering live, online chat with an admissions committee or faculty member.

While the tools themselves may provide some insight into the candidate's fit for the program, the fit is determined based on the candidate's qualifications matched against the characteristics sought. This study will evaluate admissions criteria and practices with regard to characteristics of successful online learners. For example, according to US News & World Report magazine, some online universities, such as Capella, are trying to reduce frustration with online collaboration by accepting only more mature students (May, 2009). In essence, Capella has adapted their admissions criteria and practices to screen for maturity, a trait they recognize as important to successful online learning. The article does not reveal how Capella determines or establishes levels of maturity, however.

A primary focus for admissions may be in determining the differences in learning online, both in the learning style and success of the learner. The success of the learner, however, cannot be attributed solely to the learner but also to the tools used in the online

learning environment as well as the instructor. Yet, the learning style of the individual may promote greater or lesser success with certain tools and instructors. And, in the end, it is the outcome that is examined as a means to gauge the effectiveness of the learning environment.

Considering all the factors, admissions could benefit from a focus on the online learning style. By examining and identifying the online learning style, style characteristics and traits associated with this style can then be used in determining students most likely to succeed or best suited for online learning. This may result in more targeted strategy or new practices in admissions for online programs. It may also lead to greater insights into appropriate adaptations for student services and effective integration of technology in all aspects of the student experience.

Summary

Traditional entrance examinations for college and professional schools, such as the SAT, GRE, MAT, and GMAT, will be required or at least part of the admissions mixes for the foreseeable future. And, GPA continues to be a prevalent measure used as part of the admissions evaluation schema. Many schools are also now considering other factors such as letters of recommendation, essays, interviews, and past coursework with much more weight. In fact, some consider these factors equally with GPA and test scores. Additionally, there are changes in the way admissions practices are developed and who is involved. An expanded group of departments and colleagues work collaboratively to shape admissions practices.

However, it remains to be seen if admissions practices have evolved in relationship to the evolution of online learning. While GPA, test scores and other factors may be constant, reliable indicators of academic acumen, there may be other considerations for academic success in an online learning environment.

Learners and instructors take on roles as part of a community structure that values both the individual's contributions to the community and the knowledge construction of the collective. It is the "interaction between the two and the cognitive and dialogic processes underlying those interactions that emerge as critical themes for researchers to consider in their assessment of technology-mediated learning contexts" (Gallini & Barron, 2001 p.149).

Further study may be needed to target detailed descriptions and valid evidence of classroom features, instructional processes, dialogic processes and interactions, learning styles and learning outcomes that distinguish online environments from traditional classrooms to more fully understand the characteristics and traits of online learning.

And, while interesting to examine outcomes, a single measure of learning may not completely capture the content and quality of the online learning experience, particularly because it has been suggested that learning experiences with online courses are different than those of traditional courses (Dumont, 1996).

Kearsley (2000), asserts that the virtual classroom is a unique social context, much different from that of a regular classroom. Within this social context lie unique social behaviors and characteristics. These indicate a unique learning environment and style as well as behaviors that serve as indicators for success within this new, growing learning environment. These behaviors may very well lead the way to new or modified admission criteria for online learners.

However, while the online learning environment may be different than the traditional classroom and learning environment, admissions standards and practices may not be changing. "To ignore the dignity of work and the elegance of simplicity, and the essential responsibility of serving each other, is to be on the dying edge" (Depree, 1979, p. 22). While admission practices for online programs may not be on the dying edge, but more of a traditional or non-evolving edge, the purpose of the study is to see if current admissions

practices of online programs truly serve the students and schools by screening for characteristics of successful online learners.

Chapter Three: Methodology

This chapter discusses the methodological choices that have been made to support this study of admissions criteria and practices with regard to successful online learning styles and characteristics. Specifically, it describes how an exploratory study will be used to examine online learning styles and characteristics as well as admission criteria and practices for online programs within a targeted population of academic institutions and programs.

As previously stated, the primary objectives of this research are to:

1. Identify the specific characteristics of an online learner, and determine whether there are specific characteristics for successful online learners, or those that thrive in an online environment.
2. Examine current admission practices of online programs and identify the admissions criteria required for online programs.
3. Evaluate if there is any evidence that schools offering online programs are considering the characteristics of successful online learning when assessing potential students for admission.

To some extent this study may be breaking new ground in a poorly understood area of practice. While much research has been done to understand characteristics of online learning and there are many tangible artifacts regarding admission practices which can be reviewed, there is minimal study of the connection, if any, between the characteristics of successful online learning and admission practices for online programs. To a certain extent the research design itself evolved from the findings encountered during the course of the study. The next sections discuss the guiding strategy for research design, data collection, and analysis.

Research Design

In order to identify the characteristics of successful online learning, an exploratory research design was used. Exploratory research was also used to identify the admissions criteria and practices for specific, targeted online programs. A thorough review of secondary research allowed for a more efficient and comprehensive evaluation of each area of study. It also capitalized on the expertise of previous studies and researchers. An investigation of existing literature and research prevented reinvention of the wheel, or unnecessary duplication of research efforts, and enabled this study to expand on the less examined issue of the whether schools are considering the characteristics of successful online learning in assessing potential students for admission By evaluating secondary research on online learning styles and admissions practices, an exploratory design then leads to an examination of whether there is a connection between them in terms of screening for admissions to online programs. Further definition of online learning, online learning styles, online programs, admission practices, and terminology of each is provided in the subsequent sections.

The results of exploratory research are not usually useful for decision-making by themselves, but they can provide significant insight into a given situation. Exploratory research can also be used to identify variable o study. Early indications are that the study of admission practices for online programs with regards to consideration of the characteristics of successful online learning is relatively new or lean. Thus, it may be a poorly understood area of practice. An exploratory study is a solid place to start in terms of exploration and potential insight. “The objective of exploratory research is to gather preliminary information that will help define problems and suggest hypotheses.” (Kotler, Adam, Brown, & Armstrong, 2006, p. 122). Exploratory research may also lead to a more refined definition of a problem, a suggested hypothesis, or valuable, even critical, information for designing larger scale descriptive or explanatory studies.

Data Sources

Exploratory research often relies on secondary research such as reviewing available literature and/or data, or qualitative approaches such as informal discussions with consumers, employees, management or competitors, and more formal approaches through in-depth interviews, focus groups, projective methods, case studies or pilot studies. Secondary research involves the summary, collation and/or synthesis of existing research rather than primary research, where data is collected from, for example, research subjects or experiments.

For the purposes of this study, the primary sources of data were secondary research. There is a significant amount of literature that addresses online learning, characteristics of the online learning style, and learning outcomes within online environments. Likewise, there is a significant amount of media and materials available electronically from the academic institutions that provide insight into current admissions practices and criteria for academic programs. An investigation of existing literature as well as publicly available information via the web underwent subsequent synthesis, which led to examination of the connection, if any, between online learning characteristics and admission practices for online programs.

Online Learning Characteristics. It is important to gain a better understanding in each of the areas such as online learning, online learning styles, and successful characteristics of online learning. Fortunately, secondary research provides insight and information in each of these areas. Additionally, there is substantial secondary research available in each of these areas. Information available regarding online learning is primarily reflected in literature and/or data. In order to gain a more in-depth understanding of online learning, online learning styles, and successful characteristics of online learning, literature and data served as the secondary research for this study. The secondary research, or specific sources of data for online learning-related areas of study, included books,

magazines articles, research studies, journal articles, websites, and data and literature from national associations and organizations.

To ensure credibility and verifiability, any material that is challenged or likely to be challenged must have been accompanied by a reliable source. In general, the reliable sources included (a) peer-reviewed journals and books published in university presses, (b) university-level textbooks; (c) magazines, journals, and books published by respected publishing houses; (d) data provided by national associations and organizations; (e) websites of respected and verified sources; and (f) mainstream newspapers. The intent was for all sources of data to be reliable, third-party published sources with a reputation for fact-checking and accuracy. The sources of data were also publicly available secondary data sources. The credibility of the secondary research is an important factor in this study in order to strengthen the studies validity.

Admission Practices. In order to examine admissions practices of universities, academic programs, and online programs, a similar approach for sources of data was used in terms of verifiability and reliability. However, most secondary research in this area was conducted directly though examining admissions materials of the universities, academic programs, and online programs. A deeper examination and review was taken for admissions criteria and practices of online programs within our targeted population. Colleges and universities use media and materials to document their admissions criteria and practices. The artifacts of these practices, such as admission forms and materials, are publicly available and serve as good sources of data. There is also existing research and literature on admission practices of universities, standardized testing, and other issues related to the selection process for admission to university academic programs.

The secondary research, or specific sources of data for admission-related areas of study, included books, magazines articles, research studies, journal articles, websites, data and literature from national associations and organizations, application forms, marketing

collateral, recruitment materials, and university online application processes, and university websites.

The reliable sources of data included (a) peer-reviewed journals and books published in university presses, (b) university-level textbooks; (c) magazines, journals, and books published by respected publishing houses; (d) data provided by national associations and organizations; (e) websites of respected and verified sources; (f) mainstream newspapers; (g) application forms, both hardcopy and online, of national colleges and universities; (h) marketing and recruitment materials of national colleges and universities; and (i) websites of national colleges and universities as they relate to admission practices. Additionally, the overall admission practices of a college or university were examined for a more thorough understanding of the criteria used in assessing a student for admission. For example, a university may include an interview as part of the admissions process. It may be unclear, however, what criteria are sought or assessed via an interview for a given university. As a result, phone calls were sometimes required to obtain clarification of information available to the general public as to the specific admission practices of a given university or program.

Given that this study focuses on online learning and admissions for online programs, internet activity and trends were also used as a resource. The Internet allows for research methods that are more interactive in nature: i.e., RSS feeds efficiently supply researchers with up-to-date information; major search engine search results may be sent by email to researchers by services such as Google Alerts; comprehensive search results are tracked over lengthy periods of time by services such as Google Trends; and Web sites may be created to attract worldwide feedback on any subject. These interactive features were utilized for a fuller understanding of online learning and admissions.

The intent is for all sources of data to be reliable. The sources of data are publicly available secondary data sources. Again, the credibility of secondary research is an important factor in this study in order to strengthen the studies validity.

Sources of data were selected based on their relevance to both the specific areas of study, such as online learning and admissions practices of online programs, as well as the specific target population. The next section further specifies the target population of this study. This will serve as a guideline for the type of online learning, universities, and online academic programs more closely examined in the course of this study.

Definition of Terms

This study addresses issues directly related to online learning, and admissions practices for graduate-level online programs at accredited, degree-granting, four-year institutions. Both theoretical and operational definitions are provided for clarity of terms used within the study, and within secondary research used and/or cited in the study. Terms are grouped into those related to the institutions and their admission practices and those terms associated with online learning.

Table 1

Definition of Terms for Institutions and Admission Practices

Term	Defintion
Academic Program	An instructional program leading toward an associate's, bachelor's, master's, doctor's, or first-professional degree or resulting in credits that can be applied to one of these degrees.
Accrediting agencies	Organizations (or bodies) that establish operating standards for educational or professional institutions and programs, determine the extent to which the standards are met, and publicly announce their findings.
Admissions (students admitted)	Applicants that have been granted an official offer to enroll in a postsecondary institution.

(continued)

Term	Defintion
Admissions test scores	Scores on standardized admissions tests or special admissions tests.
Applicant	An individual who has fulfilled the institution's requirements to be considered for admission (including payment or waiving of the application fee, if any) and who has been notified of one of the following actions: admission, no admission, placement on waiting list, or application withdrawn by applicant or institution.
Degree	An award conferred by a college, university, or other postsecondary education institution as official recognition for the successful completion of a program of studies.
Degree/certificate-seeking students	Students enrolled in courses for credit and recognized by the institution as seeking a degree, certificate, or other formal award. High school students also enrolled in postsecondary courses for credit are not considered degree/certificate-seeking.
Four-year institution	A postsecondary institution that offers programs of at least 4 years duration or one that offers programs at or above the baccalaureate level. Includes schools that offer post baccalaureate certificates only or those that offer graduate programs only. Also includes free-standing medical or other first-professional schools.
Title IV Institution	Institutions with federal student financial assistance, programs authorized by the Higher Education Act of 1965. Must be licensed or otherwise authorized by the state where It operates to offer a postsecondary education program, and must be accredited by a nationally recognized accrediting agency.

Table 2

Definition of Terms for Online Learning

Term	Definition
Asynchronous	Communication in which interaction between parties does not take place simultaneously.
Distance Education	The process of providing instruction when students and instructors are separated by physical distance and technology, often in tandem with face-to-face communication, is used to bridge the gap.

(continued)

Term	Definition
Distance learning	An option for earning course credit at off-campus locations via cable television, internet, satellite classes, videotapes, correspondence courses, or other means.
F2F	Face-to-face. This term is used to describe the traditional classroom environment.
Hybrid/Blended	Course that blends online and face-to-face delivery. Substantial proportion of the content is delivered online, typically uses online discussions, and typically has a reduced number of face-to-face meetings
Online Environment	Courses, discussions, or other communication occurring in an electronic format via the Internet.
Synchronous	Communication in which interaction between participants is simultaneous.
Traditional	Course with no online technology used — Content is delivered in writing or orally.
Web Facilitated	Course that uses web-based technology to facilitate what is essentially a face-to-face course. May use a course management system (CMS) or web pages to post the syllabus and assignments.

Target Population

For the purposes of this study, the target population included a specific type of online learning and online program. Further, the target population was more narrowly defined to be a specific type of online program within a specified type of institution. Specifically, the target population for this study included graduate-level online programs at accredited, degree-granting, Title IV, four-year institutions. Specific academic programs at the graduate level included in the target population were online, degree-granting hybrid programs where at least 40% of the course work is completed online or using online technologies. Hybrid programs are defined as those combining both synchronous and asynchronous

technologies in the course of delivery. Specific definitions can be found in the definition of terms.

The online learning and learning characteristics more closely examined are, then, those relevant to a specific type of online program and target population. For example, this study examined academic programs at the graduate school level only. Additionally, the graduate schools examined were within institutions which are four year, degree-granting, and accredited. Details and further explanation of the target population for this study are presented within this section.

There is a difference in many aspects of undergraduate and graduate education. Undergraduate programs generally serve younger students and provide degree programs for those entering the work force. As student learning objectives may be more foundational or basic at the undergraduate level, characteristics of successful online learning at the undergraduate level may be more subjective and complex to categorize. Graduate schools generally serve students ranging from 21-70 years of age and serve students looking to advance their education or career. Student learning outcomes at the graduate level may be more refined and, as a result, be somewhat easier to assess in terms of success. This may be helpful as the study examines characteristics of successful online learning.

Institutions which are four-year, degree-granting schools and are accredited add reliability to the study. Standards are in place and reviewed on a systematic basis for schools which are degree-granting and accredited. Accreditation bodies review academic programs, including student learning outcomes and the schools' assessment strategies for those outcomes, for academic quality. A consistent measure and evaluation of academic factors among all schools in the target population, by virtue of them being accredited, serves as a foundational similarity across institutions. It also establishes the academic integrity of the programs included in the study. Accreditation, then, ensures cohesion among the institutions included in the target population.

Much of the research and data available for accredited colleges and universities is specific to Title IV institutions. According to the Integrated Post Secondary Education Data System (IPEDS), a Title IV institution is an institution that has a written agreement, known as the Program Participation Agreement (PPA), with the Secretary of Education that allows the institution to participate in any of the Title IV federal student financial assistance programs (other than the State Student Incentive Grant (SSIG) and the National Early Intervention Scholarship and Partnership (NEISP) programs). The PPA conditions the initial and continued participation of an eligible institution in any Title IV program upon compliance with the General Provisions regulations, the individual program regulations, and any additional conditions specified in the program participation agreement that the Department of Education requires the institution to meet. Institutions with such an agreement are referred to as Title IV institutions. (US Department of Education, 2009).

Postsecondary institutions that receive Title IV student financial aid are required to meet very specific standards based upon federal guidelines overseen by the United States Department of Education. Further, to participate in this federal assistance, the institution must meet the general provisions set forth for the general definition of institutions of higher education.

According to the U.S. Department of Education, compliance with the General Provisions includes:

1. Admits as regular students only persons having a certificate of graduation from a school providing secondary education, or the recognized equivalent of such a certificate;
2. Is legally authorized within such State to provide a program of education beyond secondary education;
3. Provides an educational program for which the institution awards a bachelor's degree or provides not less than a 2-year program that is acceptable for full credit toward such a degree;

4. Is a public or other nonprofit institution; and
5. is accredited by a nationally recognized accrediting agency or association, or if not so accredited, is an institution that has been granted preaccreditation status by such an agency or association that has been recognized by the Secretary for the granting of preaccreditation status, and the Secretary has determined that there is satisfactory assurance that the institution will meet the accreditation standards of such an agency or association within a reasonable time. (US Department of Education, 2009)

The Library of Congress states that Title IV of the Higher Education Act (HEA) authorizes programs that provide student financial aid to support attendance at a variety of institutions of higher education (IHEs). These institutions include public institutions, private non-profit institutions, and private for-profit (proprietary) institutions. In order for students attending a school to receive federal Title IV assistance, the school must:

- Be licensed or otherwise legally authorized to provide postsecondary education in the state in which it is located,
- Be accredited by an agency recognized for that purpose by the Secretary of the U.S. Department of Education (ED), and
- Be deemed eligible and certified to participate in federal student aid programs by ED.
- The most recent reauthorization of the Higher Education Act in 1998 resulted in several key changes to provisions affecting institutional eligibility, including:
- The requirement that proprietary institutions derive at least 10% of their revenues from non-Title IV sources (also known as the 90/10 rule),
- Modification of refund policy requirements to apply only to Title IV funds and to require pro-rata refunds for all Title IV recipients who withdraw before the completion of 60% of the payment period or period of enrollment, and
- Establishment of a distance learning demonstration program. (Library of Congress, March, 2007)

The standards ascribed to Title IV institutions will be sufficient to provide reliability and cohesion to the target population. Additionally, the Title IV category will provide greater access to information and data for the purposes of this study. Because this study relied on secondary research and publicly available information as a data source, the Title IV designation and related access to data was critical. Thus, the institutions targeted for this study included Title IV, four-year, degree-granting, graduate schools. By virtue of the Title IV designation, accreditation among this population is also assured and established.

Specific accredited, Title IV, four-year degree-granting academic programs at the graduate level included in the target population were also hybrid programs. Hybrid programs were included in the target population because they combine both synchronous and asynchronous technologies in the course of delivery. This combination of technologies results in a blended learning model that includes a variety of online formats and technologies and further increases the level of integration of online learning in an academic program. The heightened integration of technologies and online formats in a hybrid program makes these programs of particular relevance for successful online learning characteristics as they require a greater variety of and reliance on online learning within the online learning environment.

Additionally, the online programs included in the target population required at least 40% of the course work to be completed online or using online technologies. Having a minimum of 40% of the course work completed online provided a baseline for programs where nearly half of the coursework was competed online and, therefore, successful online characteristics would be particularly relevant. A program offering a few classes online, providing lectures on CD, or using email or web-based tools to support learning are not considered online for the purposes of this study. In order to be truly relevant for secondary research related to online learning, online learning styles, and characteristics of successful online learning, a significant amount of the coursework and learning must have taken place

in an online environment. Additionally, scrutiny was used to review secondary research related to successful characteristics of online learning based on the nature of engagement, mode of delivery, and type of online learning taking place within the curriculum.

Sampling

The target population for this study includes online hybrid programs at Title IV, degree-granting, graduate schools. The sampling process used to properly identify and select a sample population for the study, is outlined below.

This study used a probability sampling design, specifically, random sampling. First, Title IV institutions were stratified into groups by type of institution. These groups included public 4-year, private non-profit 4-year, and private for profit 4-year institutions. Next, within each group of institutions, multi-stage sampling was used to identify specific schools within each group, and then specific eligible programs within each school. For the population of eligible programs within a given school, the sample was drawn at random by program. Finally, programs were included in the study based on a proportional quota sampling in order to have representation within each Title IV institution type that matches the broader population.

There are three types of Title IV institutions from which samples were drawn, which included public 4-year, private non-profit 4-year, and private for profit 4-year. Data was readily available for Title IV institutions broken out based on these types or groups. Additionally, data was available for each group with specific data on graduate schools and online programs within the graduate schools. For example, an individual school may offer several academic programs in an online format. The table below is an example of data available for Title IV institutions from the United States Department of Education (2007).

Table 3

Distance Education at Degree-Granting Postsecondary Institutions: 2006-2007

Institution Type	*Schools* Online	Graduate *Schools* Online	Graduate *Schools* Nearly Fully Online	Graduate Programs Online	Graduate Programs Nearly Fully Online
Public 4-Year	600	492	312	3550	1420
Private 4-Year (non profit)	1500	690	315	3230	1098
Private 4-Year (for profit)	300	NS	NS	710	248
Total	2400	1182+	627+	7490	2766

Based on this data, it was efficient and effective to use multi-stage sampling to ultimately identify graduate online programs within each of the Title IV groups. Multi-stage sampling was carried out in stages to narrow the units at each stage, first by institution type, then by graduate schools within those types, and then by online programs within those graduate schools.

A random sample of online programs within graduate schools was then used to meet a quota, representing the minimum percentage of a representative sample in order to have representation that matches the broader population. In proportional quota sampling you want to represent the major characteristics of the population by sampling a proportional amount of each. Given that the data indicates 2,766 graduate programs are nearly fully online among the three Title IV institution types, it is possible to determine, with ease, the proportional quotas within each institution type. Using a sample size of 100 programs, the proportional sample size for each groups were 50 public 4-year, 40 private 4-year (non profit), and 10-15 private for profit 4-year. While 10 would have been a proportional sample for private for profit 4-year institutions, the actual sample number was increased slightly as a purposive sample to ensure sufficient programs are included in this group and research. Given the sample size of 100 programs, the table below reflects the quota and proportional sampling numbers based on the initial data of all available online programs within each graduate school by type of Title IV institution.

Table 4

Quota and Proportional Sampling Numbers for Target Population

Institution Type	Graduate Programs Nearly Fully Online	% of Total (Proportional %)	Title IV Graduate Programs Nearly Fully Online	% of Total (Proportional %)	Representative of Sample Size of 100	Potential Proportional, Purposive Sampling/Quota
Public 4-Year	3550	47	1420	51	47-51	50
Private 4-Year (non profit)	3230	43	1098	40	40-43	40
Private 4-Year (for profit)	710	10	248	9	9-10	15
Total	7490		2766		100	105

Multi-stage sampling is a kind of complex sample design in which two or more levels of units are imbedded one in the other. For example: institutions (primary units), schools (secondary units), and academic programs (tertiary units). At each stage, a sample of the corresponding units is selected. At first, a sample of primary units is selected, then, in each of those selected, a sample of secondary units is selected, and so on. All ultimate units (programs, for instance) selected at the last step of this procedure are then surveyed. In this study, the analysis unit will be the academic program. The advantages of multi-stage sampling are convenience, economy and efficiency. Multi-stage sampling does not require a complete list of members in the target population, which greatly reduces sample preparation cost. The list of members is required only for those clusters used in the final stage. The main disadvantage of multi-stage sampling is the same as for cluster sampling: lower accuracy due to higher sampling error. For example, you might expect to get more accurate estimates from randomly selecting programs across all schools than from randomly selecting 100 schools and taking every program in those chosen. More detail regarding the specific steps used in the multistage sampling are provide in the next section.

First, directories were used to identify accredited schools offering graduate-level, online courses or programs. Directories include resources such as Peterson's Guide to Graduate Studies, US News and World Report Online Programs Guide and Ranking, APA Guide to Graduate Studies, national education websites such as ERIC (Education Resources Information Center, US Department of Education), and other graduate a school and online guides.

Many directories offered listings of general college and universities in a specific geographic area or offering programs in specific academic fields. However, few provided the level of detail needed for this study such as percentage of the program offered online, format of online delivery, or specific type of institution (i.e. public, private, Title IV). Only one, NCES, provided the data and detail required for the study. Further NCES had tools available to conduct searches online within the same targeted population for effective, reliable multi-stage sampling. According to NCES, approximately 2,400 schools offering graduate-level, online courses or programs (US Department of Education, 2007).

Next, schools were screened to determine eligibility of academic programs. Again, to be eligible the school must be accredited and offer degree-granting, online programs. According to NCES, roughly 1,182 graduate schools fulfill these requirements (US Department of Education, 2007). For the program to have been eligible, the academic program must have been at least 40% online and, preferably, offer a combination of synchronous and asynchronous learning environments in the mode of delivery. Using the same NCES data table for consistency within the target population, it appears that approximately 627 colleges or universities of the 1,182 qualifying schools offer online academic programs that are conducted at least 40% online. The approximate number of academic programs offered by these 627 institutions is 2,766, with each graduate academic program designed to be predominately completed online.

Finally, programs that were appropriate for the target population were screened for availability of secondary research related to admissions. For example, of the approximate 1,182 accredited, online, graduate-level colleges or universities, approximately 565 schools had vital contact information available via the IPEDS Data Center such as general contact phone number, website URL, and academic programs listings (US Department of Education, 2009). While only 49% of 1,182 eligible institutions had directory information available via IPEDS, nearly all schools had similar information available using the publicly available College Navigator service provided by NCES (US Department of Education, 2010). Of the 627 institutions that offered programs nearly fully online, 622 of them had publicly available vital contact information. Of the 622 institutions with publicly available contact information, 81 were four-year private for profit, 312 were four-year private not for profit, and 229 were four-year public. These schools and their corresponding contact information served as the lists used in order to obtain the targeted sample size of 100 schools and online academic programs to include in the study.[1]

In addition to contact information, artifacts related to admissions such as admission forms, admission criteria and practices, marketing and recruitment materials and websites were also required to be readily available for review. Using the targeted sample size of 100 programs, and the corresponding proportional sample size within each institution type, only fourteen of the first 114 randomly selected schools and programs within the eligible 622 institutions list with contact information did not have admissions artifacts readily available. One of the private for profit, two of the public, and eleven of the private not for profit schools selected as part of the random sample did not have admissions artifacts readily available. When this was encountered, the materials were either requested or another school was randomly selected it its place for inclusion in the study. Access via hardcopy, electronic

[1] Actual names of schools used in the sample for the study are not cited because of confidentiality of data.

access, and clarification via telephone were all considered in the sampling. Since the secondary research was the review of these artifacts, it was vital that the artifacts themselves existed and were publicly available. Of the 14, only three did not have them publicly available without further qualification of a candidate. The remaining eleven institutions had supplemental materials or steps available to a candidate after satisfaction of initial admission processes. For example, one school required a four-part survey related to online readiness only after the candidate submitted a qualified application, submitted the application fee, and passed an initial phone screen or interview. If an application fee or similar commitment to the program was required prior to granting access to the additional application materials, the school was skipped and another school was included in the random sample. In a few cases, the school shared the information understanding the information was sought for research purposes only.

Data Collection Procedures

There were two areas of data needed, first, characteristics of successful online learning, and, second, the admission practices for online programs.

Literature and websites were scoured for any formalized list of characteristics. Specific lists of successful online characteristics, were gathered, labeled, and saved. The labeling process included the source of the list along with the date the list was formulated. From a review and synthesis of the gathered lists, a predetermined list of characteristics was generated through secondary research. Additionally, as anticipated, a few additional characteristics emerged through the course of the study. However, these characteristics so closely related to characteristics on the predetermined list and were referenced so sparingly that they are simply mentioned in the findings rather than formally included in the final list of characteristics. During the course of the study, categories of characteristics also emerged making it possible to group characteristics by common criteria and attributes. Four

categories were identified and the related characteristics were grouped into the appropriate category accordingly.

Artifacts related to admission practices for online programs were also gathered, labeled, and saved. Each academic program included in the study was contacted for a copy of their admission materials. Artifacts were requested online, or downloaded online. Initially, the website of each school and/or specific academic program was accessed for review of the application materials and process. During the review of the application process, a copy of the materials was either printed, downloaded or requested. Data collection also included some, minimal phone contact to clarify the artifact information such as the purpose of the interview if an interview was required. Field notes were also kept to track any additional or exceptional information gathered as well as to provide clarification when necessary.

Human Subjects Concerns

This is a non-human subject study. There are not ethical considerations as there are no human subjects. The source of data involves artifacts that are available to the public. The study is designed to exclusively use publicly available secondary data sources. Because of this, under the U.S. Code of Federal Regulations, DHHS (CFR), Title 45 Part 46 (45 CFR 46), entitled Protection of Human Subjects, and Parts 160 and 164, entitled *Standards for Privacy of Individually Identifiable Health* and the California Protection of Human Subjects in Medical Experimentation Act, this study does not require the submission of an application to Pepperdine's GPS-IRB (Pepperdine University, 2007). This is because research involving human participants must be conducted in accordance with accepted ethical, federal, and professional standards for research and that all such research must be approved by one of the university's Institutional Review Boards (IRBs).

Where applicable, FDA regulations on human subjects' research were followed (CFR Title 21 Parts 50 and 56, *Protection of Human Subjects and Institutional Review Boards*). In

addition, research conducted with human subjects must be performed in accordance with the accepted ethical principles established by professional organizations or societies that are applicable to the area of investigation. The actions of Pepperdine University will also conform to all other applicable federal, state, and local laws and regulations. Pepperdine University has assured the Office of Human Research Protections (OHRP) of the DHHS that all human subjects' research will be conducted in accordance with 45 CFR 46 and has been issued Federal Wide Assurance by the OHRP.

In general, if data collection involves humans, including but not limited to, interviews, surveys, test scores, observations, and archival data involving individuals, the research is subject to IRB review. As stated, this study does not involve human subjects and, thus, is not subject to IRB review. Agreement and approval was received on November 16, 2009. A copy of the approval is included in the Appendix (see Appendix A).

Data Capture Tool

Following the collection of the artifacts, data was captured using a rubric. A rubric is a scoring tool for subjective assessments. Rubrics allow for standardized evaluation according to specified criteria, making evaluation simpler and more transparent. In this case, the rubric was used to standardize evaluation of specified criteria (successful learning characteristics) in current admission practices of online programs across the targeted population. A rubric is usually in the form of a matrix with a mutually agreed upon negotiated contract or criteria for success. In this case, the rubric reflects mutually agreed on characteristics based on a thorough review of secondary research from various sources. The rubric focuses on stated objectives, which should be tied to the educational standards as established by the community. Again, the rubric focuses on character tics of successful online learners and is tied to admission practices which are standard and required within the higher education community for admission to a degree-granting academic program.

The rubric is an attempt to delineate consistent assessment criteria. The characteristics of successful online learning served as the consistent assessment criteria. The characteristics were reflected in the rows of the rubric. The rows reflected individual characteristics, and were organized into categories or groups of characteristics when multiple characteristics were similar or screened during admissions as a group. The admissions practices comprised the columns of the rubric. The particular admission requirements (i.e. test scores, GPA, essay) were used to assess an institution's screening of specific online learning characteristics. Each academic program and corresponding institution had an individual rubric. The predetermined characteristics and categories were assigned a fixed row consistently across all rubrics. Likewise, particular admission requirements were assigned a fixed column within each rubric so that analysis would be consistent across programs. For example, if a given program only used four admission requirements in their practice and another used six different ones, the second rubric would contain ten columns, four of which would be blank as they did not use those admission requirements that have a fixed column within the rubric. The individual rubrics were then combined by institution type for a grand summary rubric with all characteristics and all admission practices used within a given institution type.

There was ample evidence in the literature to indicate characteristics of successful online learning. There are also common assumptions of characteristics needed for successful online learning. The literature review also identified themes or criteria that prompted a look at additional artifacts. In this sense, there was some emergent discovery during this process.

Once the instrument construction was reviewed by colleagues, who served as the content experts, the rubric was piloted against one program to test its applicability and practical use. The instrument was adjusted slightly, seemed to be reliable, and the rubric was then used for all programs within the sample.

Analysis

This study, the evaluation of admission criteria and practices with regard to successful online learning styles and characteristics involved the capture of some qualitative data which I required a textual analysis process. Content and secondary data analysis was used to identify common characteristics in successful online learning, common admission practices for online programs, and evidence within admission programs for screening of successful characteristics of online learning. The content validated rubric assisted with the intended analysis.

Content analysis has been described as "the study of recorded human communications, such as books, websites, paintings and laws." (Babbie, 1975, p.22). Content analysis is a research tool used to determine the presence of certain words or concepts within texts or sets of texts. Researchers quantify and analyze the presence, meanings and relationships of words and concepts, then make inferences about the messages within the texts, the writer(s), the audience, and even the culture and time of which these are a part. (Glaser & Strauss, 1967) Texts can be defined broadly as books, book chapters, essays, interviews, discussions, newspaper headlines and articles, historical documents, speeches, conversations, advertising, informal conversation, or really any occurrence of communicative language. To conduct a content analysis on any text, the text is coded or broken down, into manageable categories on a variety of levels--word, word sense, phrase, sentence, or theme--and then examined using one of content analysis' basic methods: conceptual analysis or relational analysis.

Concepts related to admission practices of online programs for screening of successful characteristics of online learning were identified and became the criteria contained within the rubric. Data was then coded that was part of the admissions process merely for existence of certain words and concepts as they relate to successful online learning characteristics.

The researcher began with the most basic level of analysis by compressing and linking the data into a narrative that conveys meaning. The researcher then looked for emerging themes and categories through comparison of admission requirements.

The analysis for this study is descriptive in nature. Descriptive statistics are used throughout data analysis in a number of different ways. Simply stated, they refer to means, ranges, and numbers of valid cases of one variable. For the purpose of this study, descriptive statistics were used to determine means, ranges, and numbers of valid cases that the characteristics of successful online learning were integrated in the admission requirements or practices.

The researcher also coded based on frequency within the text or artifact. In essence, the researcher presents a summary of the values obtained and the frequencies with which these values have occurred. The term “frequency” was first used by Karl Pearson in 1895.

The purpose of a frequency distribution is to summarize and organize a set of data. Presenting data in a frequency distribution makes inspection of the data set much more manageable than presenting the entire set of raw data. A frequency distribution can be considered a type of descriptive statistic. Qualitative data can be organized using the same basic idea, with categories instead of scores. In this study, qualitative data is organized into categories or characteristics of successful online learning. Computing the frequency of a characteristic is simply a matter of counting the number of times that characteristic appears in the set of data or is included in the screening process for admission to an online program. In some cases, the frequency distribution is presented as a histogram which was used to make the pictorial presentation easier to understand.

Chapter Four: Results

This chapter reviews the findings in this study of admissions criteria and practices with regard to successful online learning styles and characteristics. Specifically, it outlines the list of characteristics commonly ascribed to successful online learning as well as current admissions criteria and practices among Title IV graduate-level, online academic programs in relationship to characteristics of online learning. Through a thorough overview of both characteristics of online learning and admissions practices, this chapter presents the relationship, if any, between the two. The findings provide insight into the overall relationship between characteristics and current admissions practices as well as the frequency of screening for specific characteristics within current admissions criteria.

As stated earlier in this research, it would stand to reason that you could use characteristics of successful online learning as indicators for the skills a student must possess for success before entering an online program and learning environment. Thus, developing admissions practices based on or integrating these indicators may be an option for assessing online students prior to admission. This study examined admission practices with regard to whether there was evidence that successful online learning styles and characteristics were being considered.

Characteristics of Successful Online Learners

The concept of the independent, home-bound, adult, self-motivated, disciplined self-starter, and goal-oriented learner, which largely characterized the classic distance education learner, is now being challenged with socially mediated online learning activities that de-emphasize independent learning and emphasize social interaction and collaboration. This is especially relevant for hybrid programs and academic programs that are nearly fully online. As stated by Anderson and Garrison (1998), “The independence and isolation characteristic of the industrial era of distance education is being challenged by the collaborative approaches to learning made possible by learning networks” (p. 100). Thus, online learners

must be ready to share their work, interact within small and large groups in virtual settings, and collaborate on projects online or otherwise risk isolation in a community growing increasingly dependent on connectivity and interaction. Given this new context and considering basic tenants of online learning, what are the perceived characteristics and skills of the successful online learner?

Based on a thorough review of secondary research and existing expertise, four categories of characteristics were identified: Learning and/or Leadership Style; Technology Requirements and Skills; Academic and Business Acumen; and Lifestyle. For each, several measureable characteristics were identified which resulted in a total of sixteen online learning characteristics.

Table 5

Characteristics of Successful Online Learners, Grouped by Category

Learning and/or Leadership Style	Technology Requirements and Skills	Academic and Business Acumen	Lifestyle
Manages and allocates time appropriately	Displays technology skills (computer and email)	Has appropriate writing and reading skills for online learning	Time to devote for online requirements
Prefers linear learning style	Access to a current computer and the Internet	Business acumen	Parental, spousal, and family support
Is an active learner (Motivation to read, write, and participate fully in class activities)	Flexibility in dealing with technology problems	Academic acumen (test scores, GPA)	
Highly motivated, self-directed, and self-starting		Minimum requirements of the program (i.e. work exp., prior degrees)	
Is organized			
Ask questions when they do not understand			
Ability to work independently and in teams			

There was a myriad of research available on successful online characteristics. While some of the characteristics varied, conceptually there were commonalties within the research. The final list of sixteen characteristics were the most commonly cited

characteristics, and were included on more than half of all lists of characteristics of successful online learners in the secondary research.

It was thought, at one point, that more students are learning how to excel as online learners because they want the flexibility and convenience an online course offers. However, the nature of the learning that occurs in an online learning environment can be very different than of a traditional classroom. Further, whatever the motivation for pursuing an online education, research indicates there are characteristics that can be predictors of success in online environments,

Most experts agree that successful online learners need to be self directed, self motivated, and well organized. According to a faculty committee dedicated to independent faculty resources at Colorado University the type of learners best suited for an online environment (a) like to read. learn on their own, (b) ask questions, and (c) seek help on their own (2010) In a paper titled *What Are the Essential Characteristics of the Successful Online Teacher and Learner,* the characteristics of a successful online student included (a) Manages and allocates time appropriately, (b) Prefers linear learning style, (c) Displays technology skills, (d) Can deal with technology and its frustrations, (e) Is an active learner, (f) Highly motivated, self-directed, and self-starting, (g) Depends on nature of instructional methods (group vs. individual tasks), (h) Has appropriate writing and reading skills for online learning (Kircher**,** 2001).

In another article, *Online learner: Characteristics and pedagogical implications*, research showed that a successful online learner should (a) Be skilled in the use of online learning technologies, particularly communication and collaborative technologies, (b) Have a strong academic self-concept and good interpersonal and communication skills, (c) Have a basic understanding and appreciation of collaborative learning and develop competencies in related skills, and (d) Acquire self-directed learning skills through the deployment of time management and cognitive learning strategies (Dabbagh, 2007). Others believe learners

should be directed to be self-regulated learners (metacognitively, motivationally, behaviorally active participants), and self-regulated learning strategies could be provided to enhance students' achievement of intended learning outcomes (King, Harner & Brown, 2000; Pintrich & DeGroot, 1990; Whipp & Chiarelli, 2004; Zimmerman, 2002; Zimmerman & Martinez-Pons, 1990).

Operational Definitions for On-line Learning Characteristics

Now that the characteristics of successful online learning have been identified, admission processes can be reviewed with regard to these characteristics. However, before we can measure a variable, we need to know exactly what it is. (Robinson, 2001). An operational definition identifies one or more specific observable conditions or events which enables a researcher to measure that event. For each characteristic identified, a conceptual definition and an explanation of how the characteristics are to be measured/reported is provided. For all characteristics, the instrument used to measure the variable was direct observation of application materials and admission processes. Additionally, for all characteristics, the decision criteria used to determine if characteristic of interest is measured/reported was that any evidence that the characteristic was addressed within the application process was indicated with a check mark, indicating "yes" for the appropriate characteristic.

Additionally, the operations definitions have been grouped based on the categories or commonalities of the characteristics and conceptual definitions. For example, characteristics of successful online learners and their corresponding operational definitions related to technical skills were grouped together. The groupings allow the study to examine broader categories of characteristics as well as individual characteristics.

Category 1: Learning and/or Leadership Style. Among the secondary research, it was evident that several characteristics related to a student's learning style and leadership style may impact the student's likelihood for success in an online learning environment. The

research commonly stated that a student who was highly motivated, self-directed, preferred linear learning, and was organized may be more successful in an online environment because of the initiative and time management required for participation in an online program. Online programs that are completed predominantly online often require additional methods of participation such as chat, electronic bulletin boards, and group synchronous work. Managing these modes of participation in additional to completion of course requirements may require a student to demonstrate more initiative and organization than a student in a traditional face-to face program. It was widely held that high motivation for and ownership of one's education was beneficial for a student to be successful in an online learning environment.

Table 6

Operational Definition of Manages and Allocates Time Appropriately

Characteristic of Interest	Manages and allocates time appropriately
Conceptual Definition	Ability to manage and allocate time appropriately in order to complete requirements of courses, projects, and online participation in classes
How Measured/Reported	This characteristic could be measured in several ways: 1) Respondent is asked to rate time management skills, 2) respondent is asked about time management skills during an interview, or 3) a test is given to respondent to assess time management skills

Table 7

Operational Definition of Prefers Linear Learning Style

Characteristic of Interest	Prefers linear learning style
Conceptual Definition	Preference for a process of thought following known cycles or step-by-step progression where a response to a step must be elicited before another step is taken, easiest to learn material when presented in an ordered, logical progression
How Measured/Reported	This characteristic could be measured in several ways: 1) Respondent is asked to select preferred learning style on a questionnaire, 2) respondent is asked about time learning style during an interview, or 3) a test is given to respondent to assess learning style

Table 8

Operational Definition of Is an Active Leaner

Characteristic of Interest	Is an active learner (Motivation to read, write, and participate fully in class activities)
Conceptual Definition	Respondent is a learner who is behaviorally active in learning, takes responsibility for learning, or puts learning into practice
How Measured/Reported	This characteristic could be measured in several ways: 1) Direct evidence exists via recommendations as part of the admission process, 2)respondent is asked to rate own level of active learning, 3) respondent is asked about active learning, motivation, or participation during an interview, 4) respondent is asked for examples of putting learning into practice during the admissions process, or 5) a test is given to respondent to assess active learning

Table 9

Operational Definition of Highly Motivated, Self-directed, and Self-starting

Characteristic of Interest	Highly motivated, self-directed, and self-starting
Conceptual Definition	Demonstrates initiative and takes ownership of work, learning, and/or activities. exercises great independence in initiating and maintaining tasks that sustains to completion of project
How Measured/Reported	This characteristic could be measured in several ways: 1) Direct evidence exists via recommendations as part of the admission process, 2)respondent is asked to rate own level of initiative, 3) respondent is asked about initiative during an interview, or 4) a test is given to respondent to assess initiative or self-directed learning

Table 10

Operational Definition of Is Organized

Characteristic of Interest	Is organized
Conceptual Definition	Has the ability to organize the work required for completion of the degree program, including reading, tasks, assignments, synchronous and asynchronous activities. Organization may be demonstrated in the ability to complete tasks simultaneously.
How Measured/Reported	This characteristic could be measured in several ways: 1) Direct evidence exists via online application in admission process, 2), respondent is asked to participate in a current class as a guest, 3) respondent is asked to rate own level of organizational skills, 4) respondent is asked about organizational skills during an interview, 5) organizational skills of respondent is specifically addressed as part of the recommendation process

Table 11

Operational Definition of Asks Questions When They Do Not Understand

Characteristic of Interest	Asks questions when they do not understand
Conceptual Definition	Seeks clarity when a concept or assignment is not fully understood, is not intimidated to seek clarification or answers, pursues additional information to further understanding or get clarification
How Measured/Reported	This characteristic could be measured in several ways: 1) Direct evidence exists via online application in admission process, 2), respondent is asked to participate in a current class as a guest, 3) respondent is asked about learning style during an interview with emphasis on this scenario, 4) learning style is specifically addressed as part of the recommendation process

Table 12

Operational Definition of Ability to Work Independently and in Teams

Characteristic of Interest	Ability to work independently and in teams
Conceptual Definition	Comfort and success working individually or in group settings
How Measured/Reported	This characteristic could be measured in several ways: 1) Direct evidence exists via online application in admission process, 2), respondent is asked to participate in a current class as a guest, 3) respondent is asked to rate own work style, 4) respondent is asked about work style during an interview, 5) work style is specifically addressed as part of the recommendation process, or 6) a test is given to respondent to assess work style

Category 2: Technology Requirements and Skills. For a student to not only qualify for but to thrive in an online program, basic technology requirements and skills are needed. Since most of the learning and coursework takes place in an online environment, technology requirements and skills are essential to a student's success in an online program. Technology requirements include such items as hardware and software applications as well as access to a computer and the Internet. Technology skills include characteristics such as proficiency in email, basic word processing programs, and the Internet. Further detail is provided within the operational definitions. Characteristics of successful online learners related to technology requirements and skills are grouped together.

Table 13

Operational Definition of Displays Technology Skills

Characteristic of Interest	Displays technology skills (computer and email)
Conceptual Definition	Competence in basic technology skills, including software applications, email, the Internet, chat environments, and social networking environments. Basic technology skills may also include functional computer skills such as troubleshooting connectivity issues, creating login and passwords, converting documents to multiple formats, and editing electronic formats and documents. Competence is considered a demonstrated ability of workable knowledge and application of technology skills at an adequate level to fulfill course requirements
How Measured/Reported	This characteristic could be measured in several ways: 1) Direct evidence exists via online application or utilization of technology in admission process, 2)respondent is asked to rate technology skills, 3) respondent is asked about technology skills during an interview, or 3) a test is given to respondent to assess technology skills

Table 14

Operational Definition of Access to a Current Computer and the Internet

Characteristic of Interest	Access to a current computer and the Internet
Conceptual Definition	Current, active, and on-going access to a computer with updated software and Internet service
How Measured/Reported	This characteristic could be measured in several ways: 1) Direct evidence exists via online application in admission process, 2), respondent is asked to participate in a current class as a guest, 3) respondent is asked about computer and Internet usage during an interview, or 4) a survey is given to respondent to assess computer system, software, access, and usage

Table 15

Operational Definition of Flexibility in Dealing with Technology Problems

Characteristic of Interest	Flexibility in dealing with technology problems.
Conceptual Definition	Demonstrated ability to adapt and address technology problems and related response to encountering problems. For example, does respondent become frustrated, reactive, or absent from class? Flexibility is defined by ability to address problems as well as remaining calm, proactive, constructive, and active in class requirements. Technology problems may include difficulty logging onto systems, troubleshooting connectivity issues, creating login and passwords, converting documents to multiple formats, software

(continued)

	installation and setup, and encountering system conflict issues with software and/or hardware.
How Measured/Reported	This characteristic could be measured in several ways: 1) Direct evidence exists via online application or utilization of technology in admission process, 2)respondent is asked to rate flexibility in dealing with technology problems, 3) respondent is asked about flexibility and/or approach in dealing with technology problems during an interview, or 4) a test is given to respondent to assess flexibility in dealing with technology problems

Category 3: Academic and Business Acumen. This study examines successful online learning styles and characteristics for academic programs at the graduate level that are mostly or fully online. Given that the programs are both academic and at the graduate level, basic academic acumen would be beneficial if not required for success in the programs. Some academic characteristics are merely a prerequisite such as a test score, previous degree, or GPA. However other characteristics such as reading and writing skills or academic integrity may be equally important to indicate a student's likelihood of success in an academic program. Likewise, work experience is often a requirement for graduate programs since the academic programs often draw on general and specialized skills in professional fields. Thus business acumen, and the related characteristics, is considered indicators of a student's success in an academic, graduate-level program.

Table 16

Operational Definition of Has Appropriate Writing and Reading Skills for Online Learning

Characteristic of Interest	Has appropriate writing and reading skills for online learning
Conceptual Definition	Proficiency in writing and reading required to fulfill requirements of online courses. Proficiency for writing may include ability to communicate effectively in papers, emails, chat rooms, online bulletin boards, and social network forums. Profanely for reading may include ability to read material efficiently and effectively in books, emails, chat and online bulletin board threads, and social network forum postings. Additional proficiency includes the ability to read and write simultaneously for synchronous online forums and environments.
How Measured/Reported	This characteristic could be measured in several ways: 1) Direct evidence exists via online application in admission process, 2), respondent is asked to participate in a current class as a guest, 3)

(continued)

	respondent is asked to rate own level of writing and reading skills, 4) respondent is asked about writing and reading skills during an interview, 5) respondent is asked for writing samples during the admissions process, or 6) a test is given to respondent to assess writing and reading skills

Table 17

Operational Definition of Business Acumen

Characteristic of Interest	Business acumen
Conceptual Definition	Skills and sensibility related to basic business tenants such as leadership, professionalism, business etiquette, communication, and accountability
How Measured/Reported	This characteristic could be measured in several ways: 1) Direct evidence exists via online application in admission process, 2) respondent is asked to rate own level of business acumen, 3) respondent is asked about business acumen during an interview, 4) respondent is asked for writing samples during the admissions process, 5) business acumen is specifically addressed as part of the recommendation process, or 6) a test is given to respondent to assess business acumen

Table 18

Operational Definition of Academic Acumen

Characteristic of Interest	academic acumen (test scores, GPA)
Conceptual Definition	Skills and sensibility related to basic academic tenants such as tests, grades, learning outcomes, and academic integrity
How Measured/Reported	This characteristic could be measured in several ways: 1) Direct evidence exists via online application in admission process including GPA and test scores, 2) respondent is asked to rate own level of academic acumen, 3) respondent is asked about academic acumen during an interview, 4) academic acumen is specifically addressed as part of the recommendation process, or 5) a test is given to respondent to assess academic acumen

Table 19

Operational Definition of Minimum Requirements of the Program

Characteristic of Interest	Minimum requirements of the program (i.e. work experience, prior degrees)
Conceptual Definition	Fulfillment of all requirements and prerequisites for the program, may include a certain number of years of work experience, a specific type of work experience or position previously held, a certain level of academic degree previously achieved, or a previous degree in a specific area of study

(continued)

How Measured/Reported	This characteristic could be measured in several ways: 1) Direct evidence exists via online application in admission process, or 2) minimum requirements are specifically addressed as part of the recommendation process

Category 4: Lifestyle. In addition to basic learning and leadership traits, technology skills, and academic and business acumen; a student's lifestyle also plays a role in success in an online environment. While a student's motivation may be high and the student possesses the basic technology and academic characteristics of a successful online learner, a student may still not succeed online if practical; lifestyle issues impede the student's participation or success. A student may truly want to pursue the degree and seem to have all the talent for success. However, they may not have the time for all the requirements, participation and coursework. Additionally a student may not have the support at home or work necessary to allow for flexibility or understanding needed for success in an online learning environment. Whether it is the academic rigor or potential evening and weekend coursework, a student's lifestyle and demands such as a family or spouse may impede a student's success in an online program.

Table 20

Operational Definition of Time to Devote for Online Requirements

Characteristic of Interest	Time to devote for online requirements
Conceptual Definition	Flexibility and availability to accommodate schedule needs for completion of online course requirements, sufficient time available to participate in and complete course requirements
How Measured/Reported	This characteristic could be measured in several ways: 1) Direct evidence exists via online application in admission process, 2) respondent is asked about availability and/or schedule, 3) respondent is asked about availability and/or during an interview, or 4) availability and time management is specifically addressed as part of the recommendation process

Table 21

Operational Definition of Parental, Spousal, and Family Support

Characteristic of Interest	Parental, spousal, and family support
Conceptual Definition	Support (financial, moral, practical) of parents, spouse, family, friends, and/or colleagues that will make it possible to complete the program requirements, practical support may include accommodation or coordination of schedules to allow for participation in program
How Measured/Reported	This characteristic could be measured in several ways: 1) Direct evidence exists via online application in admission process, 2) respondent is asked about support structure during an interview, or 3) support structure is specifically addressed as part of the recommendation process

By providing a specific operational definition of each characteristic, it is possible to more fully understand the criteria that lead to more successful online learning outcomes as well as potential means of measurement for each characteristic. Current admission practices can then be examined for evidence, if any, that these characteristics are being measured or considered as part of the admission process.

Current Admission Practices

All academic programs included in this study currently use online applications. With the advent of online programs, has also come the onslaught of online applications. In fact, the move toward online applications may be even greater than the rise of online programs. Electronic applications have become increasingly popular over the past few years. They have become more users friendly and their security features have improved dramatically. Business school admission offices have been blazing the trail, so to speak, with regards to online applications and, in fact, many business schools no longer accept paper applications. (CollegeAdmissionInfo.com, 2009). While many programs are migrating to online modes of delivery, nearly all college applications have moved to an online format being available.

Many traditional institutions that do not offer any courses or full degree programs online have implemented online application processes. Online applications offer benefits to applicants that traditional hardcopy applications do not such as more immediate access and submission, confirmation of submission, anytime and online access to the status of an application, and uniform, clear type on the form in comparison to handwriting. Further many online applications simulate the traditional experience of moving forward through the completion of the application at one's own pace by allowing users to create logins and passwords so that they can save an incomplete application and return to it at a later time for completion or submission.

While online applications offer many benefits for the applicant, online applications also offer advantages for administrative processes. Through the use of online applications, institutions can more readily automate counts of applications, automate calculation of test scores and GPAs, more quickly determine the status of applications and assign the related communication for applicants, and reduce costs associated with the production and storage of traditional hardcopy applications. In addition, admission offices can also use the online application itself as a measurement or assessment of some basic skills of the applicant such as time management and technical abilities.

Online applications and current admission practices implemented as part of the online process may aid in the qualification of candidates at the outset, prior to submission of the application. For example, many online applications have steps or pull down menus triggered by responses to a previous question. When an answer is unsatisfactory, the candidate may be prevented from moving further in the application process. Examples of disqualification can be an invalid social security number, a GPA or test score that does not met a minimum standard, or lack of a qualifying previous degree. The automation and increased security that can be built into an online application can make for a more comprehensive and better screened application process.

The application itself can also be used as a form of assessment. A student would need access to the Internet to access the online application, may require some basic technical skills to navigate and complete the application, or may require some advanced skills to complete the application.

While it may be difficult to pinpoint the precise catalyst for the implementation of an online application at a particular institution, the benefits are evident. And, whether the means of using the application itself as a form of measurement for certain characteristics of the applicant was part of the reason for implementation, it is clear that the online application does provide some insight into characteristics of the applicant. This is especially relevant for institutions offering online degree programs.

While some basic technical skills may be commonplace among today's applicant pool, an online application does require certain technical abilities such as Internet access, access to a computer, ability to complete and submit a form online, and, perhaps, creation of a login or user ID. Depending on the sophistication of the online application and related services, online applications can also require one to attach documents, include digital signatures, or track the status of their application online.

However, completing an online application in of itself may not provide verification of some technical skills. One could seek assistance when completing online applications as well. However, for the purposes of this study it is assumed the individual completing the online application is the same individual that would be enrolled and completing the online program. A further study may be recommended to examine how often, if at all, assistance is sought when completing an online application for graduate level education.

Just as the online application itself may indicate characteristics of the applicant, the application process in its entirety is intended as an assessment tool of the applicant for fit within the academic school and program. Whether in an online or hardcopy form, the application is used to evaluate an applicant's merit. For the purposes of this study, an

applicant's merit for an online program within a four-year, Title IV, degree-granting institution is based on the characteristics of a successful online learner. Therefore current admission practices were studied in relation to characteristics of online learners to learn whether these characteristics are being evaluated as part of the admissions process.

A criteria among the schools included in the study was that artifacts, materials, or information would be readily and publicly available via the web. While some schools required a request for materials or a pre screening phone call before providing access to an application, all schools included in the study offered online applications. While the detail of each application varied, all applications requested personal information, a valid email address, and educational background information. Characteristics related to each of these, then, were all considered measured as part of the online application itself since they were universally asked and required as part of the online application process.

In addition to the online application, supplemental components were used to evaluate characteristics. The supplemental component along with how they were used is outlined below:

- Letters of Recommendation

  Letters of recommendation were used differently among institutions. In many cases the letter of recommendation form or request included specific attributes to address. Among the attributes named specifically were organizational skills, leadership style, and preparedness for graduate level study, motivation level, business acumen, and time management. However, in some cases a general letter of recommendation was requested with no specific attributes outlined.

- Test Scores

  Submission of official test scores for the GRE, GMAT, or MAT was requested by many institutions as a gauge for academic acumen.

- Employment History/Resume

  Many institutions requested employment information as part of the general online application information. However, it was often a separate step based in the process or based on the degree program sought. Additionally, other school requested a separate form or resume be submitted with this information or a form be submitted by an employer for verification of employment or employment history. Therefore, characteristics related to employment history were considered to be measured separately from the main online application for the purposes of this study.

- Honors/Awards/Association Membership

  A few institutions requested information on special awards, honors, or affiliations of a student as part of the application process. In some cases, the application stated that this was to identify the student's business or academic acumen.

- Personal Statement/Letter of intent/Essay

  Many institutions requested a separate essay or personal statement from the student addressing the student's learning and career goals, as well as their motivation for seeing the degree for which they were applying. In many cases this essay may also have been used as a gauge for the student's writing skills.

- Technology Assessment/Recommended Technology Guidelines

  Some schools designed a specific questionnaire or assessment tool related to technology skills. Issues addressed included skill level for specific software applications, typing speed, use of and comfort with certain web-based applications and the Internet, and publications used to stay current on trends in technology. One school designed a specific technology document

outlining specific requirements and skills by where the signature or check mark on the box served as acknowledgement that the student stated they possessed the skills and abided by the requirements.

- Specialized Readiness Assessment Tools

  One school designed a three-part assessment test to measure a variety of characteristics for success in an online learning environment. The test was estimated at 45 minutes for completion in addition to the standard online application. Another school featured a series of question related to online study that was required to assess whether online learning was a fit for the student prior to allowing access to the ionone application for online degree programs.

- Personal Interview

  Many schools included a phone interview prior to providing access to an online application or as a supplemental step in the application process. The personal interviews addressed a myriad of characterizes and varied by school. Most, however, served as an additional screen for the basic requirements being met such as precious degree, work experience, and test scores.

Evaluation of Characteristics

Now that successful online learning styles and characteristics have been examined as well as current admissions practices, this chapter will next address the evaluation of admissions criteria and practices with regards to successful online learning styles and characteristics.

When the characteristics of successful online learners were applied to schools' current admission practices, the study found that most are not screened as part of the current admission process. This is especially true of those characteristics that are more

specific to online programs such as technical skills or active learning. The standard compliment of characteristics of successful learners in any learning environment such as GPA and test scores were among those screened for most frequently. GPA, test scores and other factors may be constant, reliable indicators of academic acumen, yet there are other considerations for academic success in an online learning environment.

When considering the four categories of characteristics of successful online learners that emerged from the secondary research, Academic and Business Acumen was the most considered category in assessing students for admissions across all programs with a range of twenty to one hundred percent of all institution types assessing for at least one characteristic within the category. Traditional mechanisms such as GPA and test scores discussed earlier in this study that are used as part of the admission practices are a significant reason for this category being the most considered. There are also basic minimum requirements for eligibility into a degree-granting, accredited graduate program such as GPA, previous degrees, and work experience that, then, must be included in the assessment of students in the admissions process. Given that the target population's criteria included accredited, degree-granting, graduate-level programs it is a requirement for characteristics within this category to be included in current admission practices.

Of the three remaining categories, Learning and/or Leadership Style, Technology Requirements and Skills, and Lifestyle, two or fewer percent considered all characteristics in assessing students for admission within each respective category. Only two percent of private, four-year for profit programs screened for all Learning and Leadership Style characteristics and none of the public, four-year or private, four-year not for profit programs screen for all characteristics within this category. Two percent of private, four-year for profit programs screened for all Technology Requirements and Skills characteristics while eight percent of the public, four-year and thirty-three percent of private, four-year not for profit programs screened for all characteristics within this category. Thirty-two percent of private,

four-year for profit programs screened for all Academic and Business Acumen characteristics while sixty percent of the public, four-year and twenty percent of private, four-year not for profit programs screened for all characteristics within this category. No private, four-year for profit programs screened for all Lifestyle characteristics while only three percent of the public, four-year and seven percent of private, four-year not for profit programs screened for all characteristics within this category.

It is worth noting that institutions use the online application itself as a means to gauge some of the characteristics in the Technology and Skills category. Given that all programs in the student's sample utilized an online application, all were assumed to be considering the Displays Technology Skills (computer and email) characteristic by virtue of submission of an online application and an email address being a required field of all online applications.

While secondary research provided the sixteen characteristics of successful online learners included in this study, no institution in this study screened for all characteristics. Of the characteristics of successful online learners, the most commonly screened characteristics among all schools types were:

- Displays technology skills (computer and email)

  100% screened for this characteristic by virtue of the online application requirements
- Academic acumen (test scores, GPA)

  91% screened for this characteristic through various methods
- Minimum requirements of the program (i.e. work experience, prior degrees)

  100% screened for this characteristic by virtue of the online application requirements

Among the next top commonly screened characteristics, there was variation by type of school:

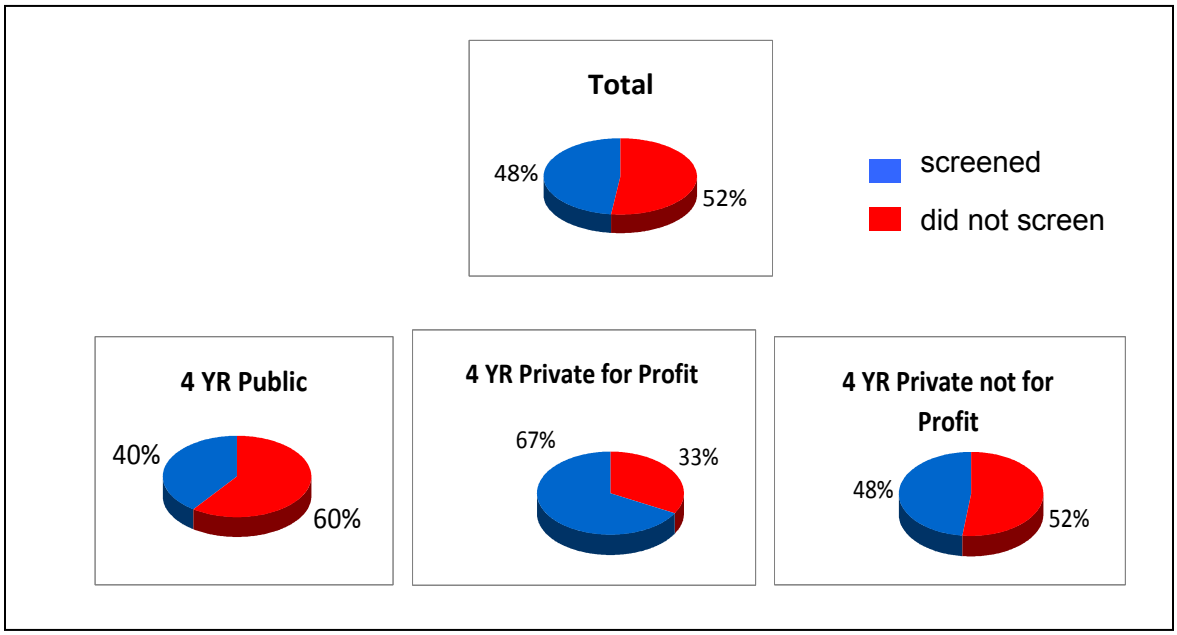

Figure 1. Percent of institutions, by institution type, that screened for the characteristic of highly motivated, self-directed, and self-starting

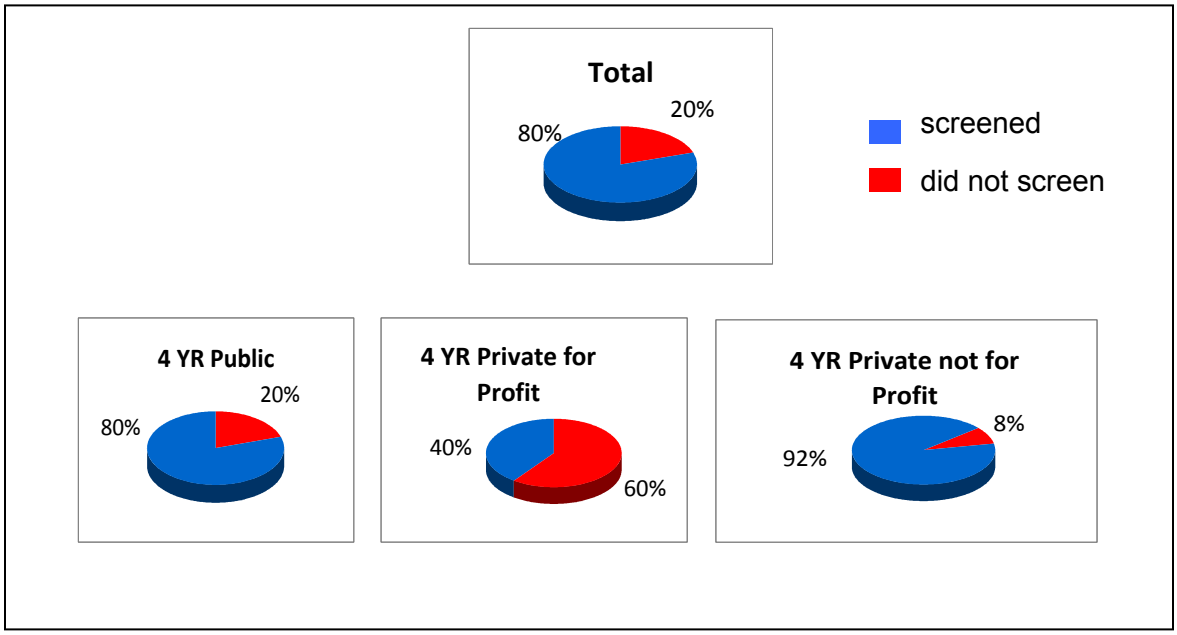

Figure 2. Percent of institutions, by institution type, that screened for the characteristic of business acumen

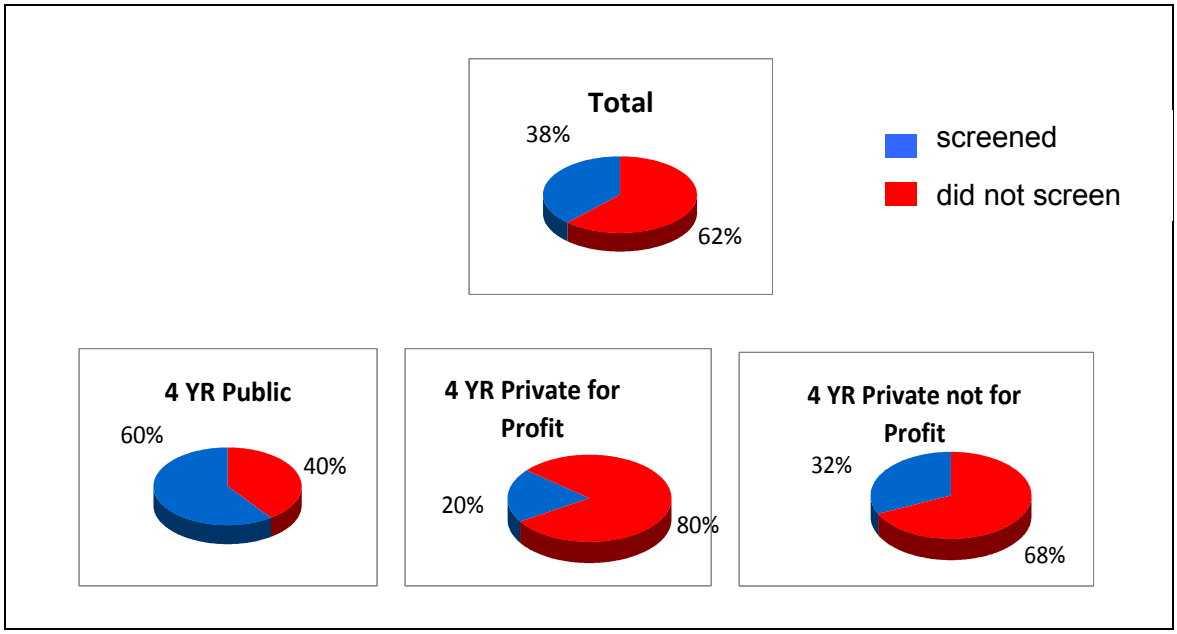

Figure 3. Percent of institutions, by institution type, that screened for the characteristic of has appropriate writing and reading skills for online learning

Of those characteristics screened, there were several characteristics that were screened using two or more methods of measurement:

- Highly motivated, self-directed, and self-starting
- Business acumen
- . Minimum requirements of the program (i.e. work experience, prior degrees)

The characteristics that were screened the least were:

- Prefers linear learning style

  only 2% of schools screened for this characteristic
- Ask questions when they do not understand

  only 1% of schools screened for this characteristic
- Parental, spousal, and family support

  only 2% of schools screened for this characteristic

The method used as part of current admission practices to screen for the most characteristics included:

- Online application

  Used to screen for an average of four characteristics

- Letters of Recommendation

  Used to screen for an average of five characteristics

- Personal Statement/Letter of intent/Essay

  Used to screen for an average of four characteristics

- Interview

  Used to screen for an average of seven characteristics

Table 22

Each Institution Type and Percentage of Schools that Screened by Characteristics

	Public 4-Year	Private 4-Year (non profit)	Private 4-Year (for profit)
	%	**%**	**%**
Learning and/or Leadership Style			
Manages and allocates time appropriately	10	40	24
Prefers linear learning style	0	7	2
Is an active learner (Motivation to read, write, and participate fully in class activities)	13	20	4
Highly motivated, self-directed, and self-starting	40	67	48
Organized	30	13	26
Ask questions when they do not understand	0	0	2
Ability to work independently and in teams	8	40	4
Technology Requirements and Skills			
Displays technology skills (computer and email)	100	100	100

(continued)

	Public 4-Year	Private 4-Year (non profit)	Private 4-Year (for profit)
	%	**%**	**%**
Access to a current computer and the Internet	43	53	24
Flexibility in dealing with technology problems.	8	33	2
Academic and Business Acumen			
Has appropriate writing and reading skills for online learning	60	20	32
business acumen	80	40	92
academic acumen (test scores, GPA)	100	87	86
minimum requirements of the program (i.e. work experience, prior degrees)	100	100	100
Lifestyle			
Time to devote for online requirements	3	47	2
Parental, spousal, and family support	3	7	0

Chapter Five: Conclusions

Overview

Many academic programs are moving online. Online programs include both courses which are “fully online”, with no “face-to-face time”, or a hybrid, defined as a mix of face-to-face time as well as time spent online. Both the delivery of content using various instructional strategies as well as the learning achieved by the students in online learning environments are quite different from practices common in academic courses of the past. Characteristics of successful online learners have been identified in secondary research. These characteristics serve as indicators as to the skills and criteria a student must possess for success before entering an online program and learning environment. Thus, admissions screening methods or criteria based on these indicators would be an effective approach for assessing online students prior to admission.

Along with the advent of online programs, there has been a significant shift toward the use of online applications. Admission standards and processes, however, have remained fairly constant. These traditional admission processes do not appear to be comprehensive, adequate, or appropriate for evaluating candidates for online learning programs. As online education continues, and learning environments change, schools need to rethink their traditional screening and admission criteria. While schools may move their academic programs and education online for a variety of reasons, it is vital to also consider the impact on the learning process and students. And, considering the impact, it is necessary if not critical for schools to also consider their admissions criteria and practices in relationship to characteristics of successful online learning.

Conceptual Support

The survey of 2,200 U.S. colleges and universities show attendance in online courses jumping from 2.3 million students last year to 3.2 million during the fall 2005 term. Yet one troubling statistic has emerged — the dropout rate for online courses ran as high as

60%, compared with 11% for traditional classroom learning, according to a 2007 study by Lee and Nguyen, researchers at New Mexico State University.

Traditional entrance examinations for college and professional schools, such as the SAT, GRE, MAT, and GMAT, will be required or at least part of the admissions mixes for the foreseeable future. According to a national report*, Trends in College Admission 2000: A Report of National Survey of Undergraduate Admission Policies, Practices and Procedures*, the percentage of institutions reporting they required admission test scores remained constant at over 90 % of institutions between 1979 to 2000. However, there is also growing skepticism over standardized tests and the sole or strong reliance on them as indicators of a student's skill or intelligence level.

GPA continues to be a prevalent measure used as part of the admissions process. Many schools are also now considering other factors such as letters of recommendation, essays, and interviews with much more weight.

However, it appears that admissions practices have not evolved much in relationship to the evolution of online learning. While GPA, test scores and other factors may be reliable indicators of academic acumen, there may be other considerations for success in an online learning environment. Many of these characteristics of successful online learners do not appear to be part of current admission practices.

It has been suggested that learning experiences with online courses are different than those of traditional courses (Dumont, 1996). Online courses "focus less on dispensing information and more on creating virtual contexts where students can learn collectively and collaboratively" (Arbaugh, 2001, p. 229). Research indicates a unique learning environment and style as well as behaviors that serve as indicators for success within this new, growing learning environment.

However, while the online learning environment may be different than the traditional classroom and learning environment, admissions standards and practices may not be

changing. The purpose of the study is to see if current admissions practices of online programs truly serve the students and schools by screening for characteristics of successful online learners.

Methods

In order to identify the characteristics of successful online learning, an exploratory research design was used. Exploratory research was also used to identify the admissions criteria and practices for specific, targeted online programs. A thorough review of secondary research allowed for a more efficient and comprehensive evaluation of each area of study. By evaluating secondary research on online learning styles and admissions practices, an exploratory design then led to an examination of whether there is a relationship between them in terms of screening for admissions to online programs.

The target population for this study included online hybrid programs at Title IV, degree-granting, graduate schools which were at least 40% online. In order to properly identify and select a sample population for the study, a probability sampling design was used. Specifically, the study used random sampling. First, Title IV institutions were stratified into groups by type of institution. These groups were public 4-year, private non-profit 4-year, and private for profit 4-year institutions. Next, within each group of institutions, multi-stage sampling was used to identify specific schools within each group, and then specific eligible programs within each school.

Finally, a rubric was used to capture the data from publicly available secondary sources such as journals, articles, and websites.

This was a non-human subject study. There are not ethical considerations as there are no human subjects. The source of data involves artifacts that are available to the public.

Descriptive statistics were used to determine means, ranges, and numbers of valid cases that the characteristics of successful online learning were integrated in the admission requirements or practices.

Key Findings

Many schools have added in tools or automated steps as part of the online admissions process to aid in screening students. Programming has been included that avoids bad data such as invalid social security numbers or invalid email addresses. Additionally certain data must be provided for an application to be considered complete. When filling out a paper application in the past, a student could simply omit certain data. Now, the student is unable to continue to the next step or submit the application unless "required" data is provided. There are also convenient tools to identify programs or campuses available to a specific applicant based on the criteria provided by the applicant, such as previous degrees or work experience.

Some schools have developed targeted, supplemental tools such as a technology skills assessment or a readiness assessment, to specifically address a student's fit for online programs. A few do this extremely well. This is encouraging.

Further, a few schools have also introduced online chat or live customer service representatives available via the Intranet as part of the admissions process. This is a way to serve the needs of students who seek or need the convenience of online learning. Having online student services available makes it easier for students who cannot or do not travel to campus to still get assistance with their academic program and courses. Online student services also demonstrate that the school understands the needs of students with advancing technology skills and those that desire flexible or innovative approaches to the entire student's experience. Just as schools screen for certain criteria among applicants, students are increasingly screening for certain criteria among schools they consider—among them is availability of resources and technology acumen. It is therefore equally important that a school consider how students assess them as much as they consider how they assess the students

The advent of online applications has made it a bit easier to screen for technology skills which is one of the predetermined characteristics of successful online learners. Basic technology skills are required to access, complete, and submit online applications. This may not, however, provide a full sense of the level of technology skill, access to current software or hardware needed for participation in an online degree, or proficiency in specific applications utilized as part of the learning process. Some schools seem to be developing tools to tap into these other related technology issues, yet the percentage is less than 40% overall.

Educational background, previous degrees, test scores and GPA contribute to making academic acumen one of the top characteristics screened for as part of the admission process for online programs. This is anchored, however, in traditional practices and does not appear to reflect any shift in admission practices to more fully integrate or screen for characteristics of successful online learners. True, basic academic criteria are needed to pursue a graduate degree online. However the findings would be more reassuring if academic acumen were among the characteristics screened for rather than one of the only or most dominant.

Many of the characteristics that seem to be unique to online learning or truly aimed at success in an online learning environment still are screened by less than half of all schools. And characteristics related to lifestyle and time commitment are screened by less than 5% of schools.

Four-year private for profit institutions seem to be most interested in “highly motivated, self-directed, and self-starting” as a criteria among all school types, with 67% screening for this characteristics in comparison to 48% overall.

Four-year public institutions seem to be most interested in “has appropriate writing and reading skills for online learning” as criteria among all school types, with 60% screening for this characteristics in comparison to 38% overall. This, in part, is due to the fact that

public institutions included an essay or statement of purpose as part of the application process more than the other institutions types. Many schools stated that the essay was a means to demonstrate and evaluate the student's writing ability, among other criteria addressed within the body of the essay or written statement.

Four-year private for profit institutions seem to be least interested in "business acumen" as a criteria among all school types, with only 40% screening for this characteristics in comparison to 80% overall. The emphasis among private for profit institutions seem to be requirements being satisfied as qualification for admission. There was little request for or reliance on work experience or business skills as part of the admissions process. Many programs positioned themselves as one that could prepare a student for career or work expertise rather than utilizing as part of their learning experience. Among all online application processes, these relied most heavily on prescreening calls prior to access to the application.

Conclusions

First, it appears that not many institutions have supported the move toward online programs with screening for characteristics of successful online learners. So, while there is a shift toward moving courses and programs online, there is less movement toward considering the characteristics or needs of online learners when evaluating students that may be successful in a program in this new mode of delivery. This study shows that there is a weak connection between characteristics of online learning and current admissions practices. There still seems to be heavy reliance on traditional or standard criteria as part of the current admissions practices. The review of current admissions practices indicate low percentages of many characteristics being screened among the institutions included in this study.

The implication is that many programs have moved online with little regard to the impact, if any, on the criteria sought for students who are most likely to succeed in an online

environment. The study included only programs that are at the graduate level and are at least forty percent online with a combination of synchronous and asynchronous course requirements. By design, the study examined programs that are more likely to reflect the changing learning landscape and an environment that research shows is different than that of a traditional classroom. The characteristics of successful online learners are, thus, most relevant to the programs included in this study. However, only four of the twenty characteristics from the secondary research that indicate successful online learners are among the criteria evaluated by more than half of the schools. Conversely, seven of the sixteen characteristics of successful online learning were utilized in current admission practice by nearly half of all programs in the total sample, which can be attributed to the use of traditional criteria such as GPA and test scores and a recent move toward implementation of online applications. Other characteristics related to success in an online environment are not screen consistently or frequently.

A recommendation is that schools more closely examine characteristics of successful online learners and change admission practices to better assess potential students based on these characteristics. This may lead to better student success rates and higher satisfaction among students.

Second, there is little evidence of a connection between characteristics of online learning and current admission practices beyond traditional measures of academic and business acumen. Academic and business acumen may not be sufficient indicators of success in online environments when assessing candidates for admission. Yet, reliance on traditional, standard assessment tools and criteria continue and don't target or support online learners.

The implication is that standard academic acumen indicates some likelihood of success in a degree program, yet may not indicate success or comfort in an online

environment. Therefore, a school's reliance on traditional criteria and admission practices may be missing the mark for online programs.

A recommendation is that students may want to develop their own set of criteria for screening schools or programs when selecting an online program. If schools do not take the initiative to screen for students that are suited for online education, perhaps the student needs to take the initiative to evaluate the school for their own potential success in the program. A school's inability or unwillingness to recognize or respond to the needs of online learners in the admission process may be an indication that the school will fail the student in other areas of their educational experience.

Third, attributes evaluated least may be most important to indicate success. According to the secondary research, many of the characteristics of successful online learning have emerged based on the new and unique nature of learning in an online learning environment. As stated earlier, the concept of the independent, home-bound, adult, self-motivated, disciplined self-starter, and goal-oriented learner, which largely characterized the classic distance education learner, is now being challenged with socially mediated online learning activities that de-emphasize independent learning and emphasize social interaction and collaboration. Therefore, online learners must be ready to share their work, interact within small and large groups in virtual settings, and collaborate on projects online or otherwise risk isolation in a community growing increasingly dependent on connectivity and interaction. Characteristics related to this new connectivity may be equally, if not more, important to success and comfort within an online learning environment than traditional academic and business acumen.

The implication is that criteria related to new, emergent connectivity and interaction that take place in online environments are critical to success in an online program. Success in an online environment includes the ability to work in groups as well as independently, demonstrate effective communication, exercise good time management, and maintain

flexibility. Better measures of these types of skills are needed in order to fully assess a student's chance of success in an online program.

A recommendation would be that schools look more closely at characteristics specific to the new, emerging, online learning style and environment. A deeper understanding of these characteristics and the learning environment could lead to real change in admission standards and practice. Changes in admission practice could then lead to higher student success rates and student satisfaction, through a more effective means of selecting students best suited for online learning.

Fourth, new instruments may need to be developed to evaluate characteristics. The society we live in has created the need for new learning environments. Today's student seeks a more convenient way to learn and desires to utilize and advance their technology proficiency as part of the learning experience. Job markets often require skills which also have necessitated a change in learning environments. Technology skills and use of online collaboration and communication tools are becoming more commonplace. Further, many colleges and universities want to respond to the demand to be both relevant and marketable. Admission standards and processes, however, have remained fairly constant. These traditional admission processes and tools may not be adequate or appropriate for evaluating candidates for online learning programs. As online education continues, and learning environments change, schools need to rethink their screening and admission criteria. While schools may move their academic programs and education online for a variety of reasons, it is vital to also consider the impact on the learning process and students. And, considering the impact, it is necessary if not critical for schools to also consider their admissions criteria and practices in relationship to characteristics of successful online learning.

The implication is that new tools need to be integrated into the admission process to assess characteristics of successful online learners. New tools may include new

measurement instruments, inclusion of different criteria as part of the screening process, and new technologies being used as part of the process (i.e. online chat, web-based surveys, and trials of virtual classroom environments.)

A recommendation is that schools consider instruments such as FIRO-B and Myers Briggs which measure self-directed skill levels, initiative, time management and other characteristics related to interpersonal skills and behaviors. These instruments may be more effective in assessing the characteristics related to success in online environments beyond basic academic and business acumen. Additionally, online trails of a class, and other custom approaches or tools could be developed for a deeper look at characteristics of successful online learners.

A few schools do appear to be addressing characteristics of successful online learners and responding to the new changing education al landscape by introducing specific technology surveys or skills assessment. In fact, a few schools required completion of a quick online questionnaire to determine if online was a fit for the student prior to granting access to the online application process. These schools were among those that considered the most characteristics when assessing students for admission to online programs.

Finally, traditional characteristics for academic success are used for some online criteria yet reflect no real change in practice. Not many programs have supported the move to an online mode of delivery with the screening for characteristics of successful online learners. In essence, have schools put their money where their mouth is? While institutions may have integrated online strategies for the delivery of the program and application process, initial indications are that there is little overall modification to the application mechanisms and criteria considered in assessing students for admission to online programs. Schools simply are not backing up the shift to online programs with a similar or related shift in admission practices to target successful online learners or those most likely to succeed online. Secondary research indicates that some of the inherited application tools and

criteria are applicable when assessing students for online programs such as GPA, test scores as they are predictors of success in both traditional and online learning environments. However reliance on these may not be adequate for a true assessment of a student's likelihood of success in an online program. There are many aspects of learning and succeeding in an online program. Participation in an online program introduces new formats, tools, technologies and responsibilities for the learner in an online environment. Institutions, however, have not introduced many new measures for addressing or assessing the new characteristics that indicate success within the changing learning environment. With the shift to online learning, the learning environment has evolved and introduced specific characteristics for success within the new environment. The admission process to support assessment of students for online programs, however, has not evolved much beyond the implementation of an online application.

The implication is that programs may not get the students that are successful online, or that complete an online degree program. This lack of appropriate or effective screening fails the student and ultimately fails the school itself.

A recommendation would be that institutions and students alike carefully examine success and completion rates of online programs. These factors may be indicators of success for the school themselves with regard to offering online programs and admission practices to support those programs.

Recommendations for Further Research

One recommendation for further research is that further research examines admission practices prior to the programs moving online to see if there has been any change other than the applications being available online. A closer, more detailed examination of criteria included, questions asked, information gathered, or supplemental forms required as part of the admission process would be helpful to identify what, if any,

changes there have been other than simply offering the same application in a different online format or means of access.

Another recommendation for further research is that a comparison study be done comparing the past paper application with the current online application to see if any additional criteria was built into the online application specifically aimed at characteristics of online learners.

Another recommendation for further research is to examine current student services of online programs in connection to online learners. It is one thing to screen for successful online learners, it is quite another to support and serve those students throughout their educational experience. While this study considered admission practices with regards to characteristics of successful online learners, additional research in student services with regards to successful inline learners would be beneficial. It would be interesting to examine whether schools offering online degree programs consider the needs and skills of online learners when shaping services beyond admission practices. Do they consider convenience and access when setting office hours? Do they have enrollment services available online or 24/7? Do they use technology or demonstrate technology acumen in providing support to online students? These and other questions may indicate whether a school considers needs or characteristics of successful online learners in all aspects of a student's progress and enrollment in an online program.

Another recommendation is that further research examines new tools and effectiveness for measuring characteristics of successful online learners. Given the characteristics of successful online learners identified in this study, further research can be done to identify and/or assess a variety of existing measurement tools, such as FIRO-B and Myers Briggs, in regards to their ability to properly measure or screen for the characteristics of successful online learners. By conducting research on measurement instruments,

effective tools could be identified and implemented for future use in admission practices for online programs.

A final recommendation for further research is a pilot a study with a school(s) that screens for all characteristics and examine success and completion rates of that school. A pilot study such as this may reveal the impact of admission practices on student success and completion rates.

Closing

Online programs have moved beyond convenience and market appeal. Their growth in enrollment has been significant and continues to rise. While distance learning opportunities provide tremendous benefits to students in regards to course offerings, student-centered instruction, flexible scheduling, and heightened critical thinking and written communication skills, there are specific learner characteristics that promote greater student success in online learning environments. There are also a myriad of mechanisms used in current admissions practices among four-year, degree-granting graduate institutions. However, few mechanisms target critical factors of success in online learning programs. Ultimately, schools may be doing a disservice to themselves and students by overlooking characteristics and services for online learners.

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APPENDIX A

IRB Review and Approval Letter

PEPPERDINE UNIVERSITY

Graduate & Professional Schools Institutional Review Board

November 16, 2009

Karen Magner
[redacted]

Protocol #: EN1109D01
Project Title: ***Evaluation of Admissions Criteria and Practices with Regards to Successful Online Learning Styles and Characteristics***

Dear Ms. Magner,

Thank you for submitting the Non-Human Subjects Verification Form for your project entitled, *Evaluation of Admissions Criteria and Practices with Regards to Successful Online Learning Styles and Characteristics*. Per Institutional Review Board (IRB) guidelines, all proposed research that involves either direct or indirect contact with human subjects requires an application be submitted to the Graduate and Professional Schools IRB (GPS-IRB). Research that requires IRB review must meet the definition of human subjects' research. The code of federal regulations provides the following definitions:

- For purposes of the IRB, research is defined as a systematic investigation designed to develop or contribute to generalizable knowledge.
- Human subject means a living individual about whom an investigator (whether professional or student) conducting research obtains

  (1) Data through intervention or interaction with the individual, or
  (2) Identifiable private information.

Because your research does not involve the participation of human subjects **and** you are not using/collecting any data that has been obtained from individual participants, your research is not subject to IRB review and approval.

Sincerely,

Doug Leigh, Ph.D.
Associate Professor of Education
Chair, Graduate and Professional Schools IRB
Pepperdine University
Graduate School of Education and Psychology
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cc: Dr. Lee Kats, Associate Provost for Research & Assistant Dean of Research, Seaver College
Ms. Ann Kratz, Human Protections Administrator
Dr. Doug Leigh, Chair, Graduate and Professional Schools IRB
Ms. Jean Kang, Manager, Graduate and Professional Schools IRB
Ms. Christie Dailo
Dr. Kay Davis

APPENDIX B

Rubric Sample

Sample of Rubric for Data Collection

			Name of School and Specific Degree Program					
			Admisison Practice Requirements					
			online application	resume	letters of rec	work exp	ed background	int with counselor
Characteristics of Successful Online Learners	Y/N	#						
Manages and allocates time appropriately	1	1						1
Prefers linear learning style								
Displays technology skills (computer and email)	1	2	1					1
Flexibility in dealing with technology problems.								
Is an active learner (Motivation to read, write, and participate fully in class activities)	1	1						1
Highly motivated, self-directed, and self-starting	1	1						1
Has appropriate writing and reading skills for online learning								
organized								
business acumen	1	3		1	1	1		
academic acumen (test scores, GPA)	1	1					1	
Time to devote for online requirements	1	1						1
Ability to work independently and in teams								
Ask questions when they do not understand								
Access to a current computer and the Internet	1	2	1					1
Parental, spousal, and family support								
minimum requirements of the program (i.e. work experience, prior degrees)	1	3				1	1	1
#			2	1	1	2	2	7
Y/N (1=yes)			1	1	1	1	1	1
field notes:								
req to talk to enrollment counselor (they give url and log in info)								
no link to online app								
no test score or essay requirements								
30 min to complete information gathering on application process								