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Information Literacy: An Issue of Equity for New Majority Students

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INFORMATION LITERACY: AN ISSUE OF EQUITY FOR NEW MAJORITY STUDENTS

A DISSERTATION

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Abstract

Information literacy, as an education philosophy, has the capacity to respond to the teaching and learning complexities arising from our transition into an information society. The intelligent network --telecommunications and computing--will dominate how we learn, teach, and work together. With this in mind, public higher education has a rich historical legacy of access and equality of educational opportunity to uphold and a mandate to pioneer educational strategies that can accommodate the rapidity of technological change and its consequent impact on society.

Educating over 49% of those who attend higher education, public colleges and universities must assume a more dynamic leadership role during this societal transformation if New Majority students are to develop the intellectual skills required to compete effectively in today's marketplace. By adopting an information literacy culture, public higher education can foster the intellectual empowerment needed by New Majority students to evolve into competent life-long learners and contributors to American life and the world at large.

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in-for-ma-tion lit-er-a-cy -n. 1. The empowerment of learners with the ability to manage effectively the wealth of information resources available today. -n. 2. A habit of mind essential for individual growth in the Information Age. -v. 3. To use the wealth of information resources to enrich the quality of academic, personal, and professional life.

Research Question:

How is the ability to manage information resources critical to the undergraduate experience for the New Majority student attending urban public universities?

My interest in information literacy stems from my working in various positions as an educational administrator with New Majority students attending an urban public university. Information literacy is the fusion of all the basic literacies - reading, writing, numeracy, and computing - required in today's world for making intelligent, educated, and, most importantly, informed decisions. New Majority students reflect society's rapidly changing demographics including growing representation from women, ethnic minorities, returning professionals, economically disadvantaged, senior citizens, and international students. Since the passage of the Morrill Land Grant Act in 1862, public higher education has accomplished significant achievements in the areas of access and equality of educational opportunity. Today, the urban public university, with its land-grant legacy, has become a mecca for those in society who had been historically denied the privilege of seeking and attaining affordable higher education.

While working closely with these students of varying backgrounds, ages, and academic experiences, I began to notice a pattern of academic preparedness that lacked basic knowledge of how to define a question and find, analyze, evaluate, and synthesize the information necessary to resolve or illuminate it. This pattern often included not only a limited knowledge and/or use of information technologies, but basically minimal comprehension, on the part of many of these students, of the importance of integrating the use of the academic library and its resources within their overall academic programs.

Most acknowledged, however, the importance of the academic library to the life of a student, yet most had little or no experience actually using it. Undergraduates not having the ability to articulate the research process or not using the basic resources of the academic library intensified my level of concern about their personal and professional success.

As I began contemplating the advocacy of integrating information literacy within the academic curriculum, it became apparent that this concept was, indeed complex, not only for this particular student population to master, but also for the traditionally trained academic faculty as well. These students' inability to comprehend, independently, the enormous value of integrating the principles of information literacy within their individual academic programs underscored the need for developing a plan of action that would systematize information literacy within the academic community and curriculum. It was clear to me that many New Majority students, coming from antiquated and/or inadequate K-12 educational experiences, were not being exposed systemically to the necessary literacy skills- information literacy, in particular, being required by the economic, social, and political shifts occurring globally today. In addition, most New Majority students were totally unaware of the empowering nature of information literacy. They often felt insecure asking questions essential to managing research of an often indifferent, yet demanding faculty.

It is becoming increasingly critical for New Majority students to develop the ability to integrate and manage within their academic programs information resources from the academic library, both print and electronic. This integrative process is imperative to the on-going development of their intellectual skills and , most assuredly, will enhance their higher order thinking capabilities as well. Ironically, most faculty in higher education across the country pay homage to the academic library as the "heart" of an educational institution.(Baker & Litzinger, 1993; Boyer, 1987; Breivik and Gee, 1989) Yet, very few have been motivated to institute this "heart" as a source for constucting

their academic curriculum, one suitable for meeting the teaching and learning challenges of a diverse student population in the new millenium.

As it now stands, New Majority students are being shortchanged by higher education institutions whose stated missions provide for an educational experience that prepares students for meeting the complex challenges of living, working, and voting in our information driven, economically based democratic society.

Personal Assumptions

In order for me to research this topic, I first had to define the parameters of my thinking based upon my belief that higher education is a fundamental, basic human right and not just designed for the privileged few as had been originally envisioned. The following set of personal assumptions undergird this study on the relationship between information literacy and the undergraduate experience of New Majority students in urban public universities:

1. The purpose of education in the United States of America is to provide opportunities for exposure to the entire spectrum of accumulated human knowledge; to encourage pursuit of and skills for basic democratic practices; to provide options and opportunities for individuals to develop habits of mind and requisite skills that will prepare them to become engaged lifelong learners and participants in the economic, social, political, and intellectual development of society.
2. Habits of mind are intellectual skills that promote individual exploration and application, utilizing higher order critical thinking and should be an integral part of K-16 curriculum and instructional development for all students.
3. Public higher education, in particular, must offer a variety of ways to develop habits of mind that not only engage individual student growth and development, but also expand their options for choice and opportunities.
4. Information literacy is a vehicle through which individual habits of mind and the tools for learning can be developed, implemented, and cultivated when integrated into the

curriculum. The concept of information literacy came out of the library and information science disciplines, and although not considered a liberal art in the traditional sense, it represents a process of learning that spans the spectrum of knowledge construction across all the academic disciplines.

5. The academic library can no longer afford to maintain a passive educational role in the design and implementation of the undergraduate academic curriculum. Instead, the design of an effective national teaching and learning infrastructure will require the direct involvement of academic librarians/library media specialists as valued teaching faculty and members within the university community, collaborating at all levels.

6. The teaching and learning mission of urban public higher education should be to develop an intellectual and affective framework that recognizes, supports, and enriches the educational potential of all the students whom it is chartered to serve. Information literacy is a major avenue through which urban public universities can achieve this educational mission. The ethnic, class, linguistic, cultural, and gender diversity within the academic community on urban public university campuses and the various communities they are obligated to serve, warrant the infusion of information literacy within the consciousness of their institutional cultures.

7. Although student retention is a major public policy issue that impacts the very survival of most colleges and universities, very few academic library professionals/faculty are involved in campus wide student retention policy development and/or program activities including those that directly affect the teaching and learning environment. Student retention programs and policies on urban public university campuses must engage actively the educational expertise of the academic librarian not only within its teaching and learning infrastructure, but also within its retention activities as well. Perfunctory participation on campus curriculum committees as a curriculum resource specialist, for example, does not begin to touch their in-depth knowledge and expertise in the area of information resource management and how that relates to the teaching and learning

spectrum. Academic librarians must be included not only in curriculum planning, but also in all campus instructional activities directly affecting the academic and social life of the New Majority student. They have a valuable contribution to make to the retention and intellectual development of this student population.

Definition of Terms

References to the following definition of terms are made throughout the study and provide the reader with the philosophical framework for comprehending the complexity of issues inherent in the integration of information literacy within the undergraduate curriculum in urban public higher education:

Information Age/Age of Information

In the early '60's, the coalescence of advancements in telecommunications with the rapid development of computing technologies-- otherwise known as the "intelligent network"--created the infrastructure for the dawning of the Information Age. (Williams, 1991) This infrastructure changed the nature of print and electronic communication networks, resulting in the unprecedented infusion of information into every segment of modern society. The continued expansion of the intelligent network, the explosive growth in new information, increased access to a diversity of information resources, and our emerging digital economy have dictated the development of new communication tools, new skills, new partnerships and collaborations, training and education, and, most of all, the need for new critical/analytical thinking patterns.

Information Literacy

According to the American Library Association, one of the major professional organizations for public, academic, school, and research librarians, defines information literacy as follows:

> ... to be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the information needed...Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how information is organized, how to find information, and

how to use information in such a way that others can learn from them.[1]

In 1987, ERIC (The Educational Resources Information Center), added the term "information literacy" to its major educational information database with the publication of Dr. Carol Kuhlthau's monograph, Information Skills for an Information Society: A Review of Research. (Doyle, 1994) Kuhlthau, one of the leading theoreticians in the field of library and information science, advocates that the development of information literacy skills is a pre-requisite for the success of individuals engaging in the learning dynamics of an information society.

Habits of Mind

Habits of mind are individualized disciplined ways of thinking that involve process and content within a given context. They often reflect the individual's particular style of learning as well as cultural experience. de Nicolas characterizes them as "the whole range of mental operations people perform, and have performed in history, giving them an individual and social identity, to include cultural diversity and individual uniqueness."(de Nicolas, p.xvi, 1989) Another view offered by Greene (1988) is that, effective habits of mind require an ability to engage in the "multiple realities of the human experience"; always cognizant of the political, social, and economic impact that these realities may have on shaping the course of education and ultimately freedom itself. (Greene, 1988) Whether performing mental operations or engaging in multiple realities, habits of mind are essential in one's ability to manage information resources in the construction of knowledge and in making informed decisions about complex issues in life.

New Majority Student

Upon hearing the term "New Majority student", images of students of color may come to the minds of many. However, Peggy Gordon Eliot (1994) defines the New

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[1]American Library Association's Presidential Committee on Information Literacy: Final Report, 1989, pg.1.

Majority student as " women, minorities, displaced workers, career professionals upgrading their skills, and senior citizens enhancing their knowledge." This term also includes traditional age students, first generation college attendees, recent immigrants, and international students. In fact, the term New Majority students may incorporate all the individuals impacted by the economic, cultural, and social shifts we are currently experiencing. This study will use Eliot's definition in this context.

Student Retention

Student retention is the strategic maintenance of student enrollments by educational institutions. Retention can also be defined as the degree completion rate of an academic program or achievement of specifically defined student objectives. It is an attempt to measure an institution's success in graduating students and/or assisting students in achieving particular educational objectives that may not necessarily include degree/certificate attainment.

Urban Public University

Urban public universities are unique 20th century creations reflecting the "populist land-grant spirit which propelled... older state universities to greatness." (Cited in Eliot, 1994, p.38.) According to Title XI of the Federal Higher Education Act of 1965, an urban public university is defined as having the following common characteristics:

- ❑ Located in an urban area of one-half million inhabitants
- ❑ Must draw a substantial portion of its undergraduate students from that urban area
- ❑ Must have a program to make post-secondary education more accessible to students in the area
- ❑ Must have the present capacity to offer urban oriented education, research, and service activities
- ❑ Must offer a wide range of graduate and professional programs
- ❑ Must have demonstrated a sense of responsibility to the urban area and its people.

(Golino, 1978)

General Education

In essence, general education is primarily the liberal arts foundation of an undergraduate and/or professional degree program required in American higher education. General education represents elementary and intermediary course preparation in the humanities, social sciences, and natural sciences for advanced study in a specific discipline. Jacobs (1997) perceives general education as more than the foundation of a liberal arts education; it was never meant to be the handmaiden of a university education. Jacobs believes general education to be the conscience of a liberal arts experience, "having an intellectual integrity and educational mission of its own." General education, therefore, represents the floor of any teaching and learning paradigm and fosters a world view that incorporates an appreciation for the diversity and richness of the human experience.

These definitions reflect the viewpoints of the researcher and will be used throughout the study.

Chapter One

PURPOSE OF THE STUDY

The purpose for conducting this study is twofold. First, it will examine the importance of incorporating information literacy within the undergraduate experience of New Majority students attending urban public universities. It is also designed to serve as an issues oriented guide for educators who may be unfamiliar with the topics related to the research question and who are interested in further exploring information literacy and its impact on the academic success of the New Majority student at the undergraduate level. Four goals govern the research process for this study:

- to hear the voices of some New Majority students regarding the importance of managing information resources during their undergraduate educational experience;
- to identify the importance of information literacy as a new "habit of mind" in need of integration within the undergraduate curriculum at urban public universities;
- to investigate the relationship between information literacy and the various educational policy issues that directly impact the undergraduate experience at urban public universities;
- to determine if information literacy should be the praxis for designing an integrated national teaching and learning infrastructure capable of producing competent, independent lifelong learners and contributors.

The advances in telecommunications and technology require a new perspective, a new habit of mind that provides the user with the skills and insights to use and manage effectively the enormous volume of information resources available today. Undergraduate education is a major pipeline in the educational experience that provides

students with the foundation upon which to build the necessary lifelong learning skills and habits of mind critical to their active and responsible participation in a democratic society.

The question to be addressed is whether undergraduates attending urban public universities are being prepared adequately to meet the intellectual challenges of living and working in a continuously evolving technological environment where change is the only constant. This study will look at the relationships between general education, the faculty, and the academic library in supporting the integration of information literacy within the undergraduate experience. It will also explore whether or not these relationships provide the New Majority student with the essential intellectual skills necessary to maximize available opportunities for living, working, and voting in this Age of Information.

Having spent the last nineteen years advising and counseling undergraduates at an urban public university, I have encountered a common insecurity expressed repeatedly by undergraduates. Many lack the confidence to synthesize information gathered from a variety of information resources, print and electronic. I am concerned about the effectiveness of undergraduate preparation in managing information resources--both print and electronic--during the undergraduate experience. Several points support my concern.

- Academic libraries are often touted as the *heart* of an academic institution. (Dewey,1963; Boyer, 1987; Chisholm, 1990; Poole, 1893; Breivik and Gee, 1989; Shore,1966) However, academic librarians are rarely included directly in the design and implementation of curriculum and/or instructional reform efforts, particularly in the area of general education.
- The "Information Age" has altered the economic playing field in the world marketplace and information has become the premier currency in the global economy. The "Intelligent Network"--the marriage between telecommunications and computer technology-- dominates every strata of American society.(Williams, 1991; Perelman,

1992; Dowler, 1996)

- Public colleges and universities are responsible for the education of over forty-nine percent of all undergraduates attending higher education.(NASULGC, 1997)

Given the above context, preparing undergraduates to meet the intellectual and social challenges of living, working, and voting in today's information culture, offers urban public colleges and universities a unique challenge; a challenge that not only conflicts with their often hierarchical perspectives on institutional growth and development, but also requires more than what the academic tradition may be prepared to engage presently. Jerome Bruner writes:

> The fact of the matter is that we need a much broader distribution of high skills to run this culture than ever was needed before and the failure to produce that distribution has been the cause of serious alienation. If we produce a two-tier society, it means in effect that we have two separate sets of evolutionary pressures operating --one within the elite group that calls for an acceleration of ability, and one within an underclass where no such pressure operates.[1]

Bruner's observation of an evolving two-tier society highlights one of the major concerns brought on by the introduction of the intelligent network and being perpetuated by our digital economy--the growing divide between the information rich and the information poor. Urban public universities have a major responsibility in not only closing that gap, but also developing habits of mind among New Majority students that mirror the creativity and innovation of the Information Age. These new habits of mind will transform and challenge how we teach and learn.

Thus, the central focus of this study will be whether or not urban public universities are or should be engaged in transformational intellectual change, change that prepares New Majority students to become independent thinkers, critical voters, discriminating consumers, and lifelong learners. This chapter will include the problem

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[1]Healy, J. Endangered Minds: Why Our Children Don't Think. New York: Simon and Schuster, 1990. p. 335.

statement, background information on the roots of information literacy, brief results of an *Urban 13 Consortium* information literacy survey, and the historical context of the issues involving the evolution of urban public higher education, the New Majority student, and information literacy.

Problem Statement

Today, over forty-nine percent of all students in higher education attend public colleges and universities.(NASULGC, 1998) In fact, since the enactment of the Morrill Act of 1862, a landmark piece of federal legislation that increased access of the "common man" to higher education, the growth of public higher education in America has had a dramatic impact on the intellectual, social, political, and economic development of our citizenry as well as on our influence in the global marketplace.

The invention of the telegraph in 1856 signaled the dawning of a new era in human communication. This era, in the course of time, outpaced the Industrial Age, changing American society from an economy based on the production of goods into an economy focused on the production, use, and dissemination of information and services. The Information Age has revolutionized how business is done in America and how people need to be educated. Educated workers are needed to oversee this constant flow of information sources and services and for the continuous development of the technological tools required to manage and use that information effectively. The Information Age has intensified the demand for developing citizens with a high level of critical thinking skills, skills required for making substantive decisions that impact their daily social, economic, professional, and civic lives.

In addition, we are currently in the midst of a national educational reform movement. This movement, taking place within the context of the Information Age, is requiring that our K-16 educational continuum take stock of its current practices, develop new teaching and learning strategies, implement these new strategies, and train and

retrain professionals to meet the educational needs of our diverse student populations. New approaches bring fear and resistance to change; people with traditional habits of mind often find difficulty embracing new ideas, new visions, and new ways of thinking. Information literacy can provide the platform for the effective integration of both the old and new ways of thinking and can also provide the platform to perform critically in the civic and professional realm.

Information literacy is the synthesis of all the literacies- reading; writing, numeracy, computer, and cultural- required for furthering learning and teaching in a society culturally governed by technological innovation. (Doyle, 1995) The intelligent use of information resources is a major outcome of information literacy. The traditional responsibility of the library, information resource management, is evolving into an essential job descriptor, written and unwritten, for most occupations and professions today. (Trauth, 1986) This specialized skill is a fundamental requirement for intelligent citizenship and will become even more dominant in the future. (Lenox and Walker, 1993; Breivik and Gee, 1989; Farmer, 1992; Hancock, 1993; Doyle, 1994; ALA Presidential Report, 1989, Adams and Bailey, 1993; Bruce, 1997) Thus, this study will investigate the impact of information literacy on an undergraduate group of New Majority students attending an urban public university.

The following discussion on the origins of information literacy and the results of a recent survey of the *Urban 13 Consortium*[2] provides a preview on the present status of this "new" philosophy within the academic community

Information Literacy----The Beginning

The concept of information literacy first appeared in 1974 in a proposal submitted to the National Commission on Libraries and Information Science by Paul Zurkowski,

[2]Established in 1973, the *Urban 13 Consortium* is a group of 21 urban public universities with similar interests and demographics.

then President of the Information Industry Association. Zurkowski perceived information-literate people as having the " techniques and skills for utilizing the wide range of information tools as well as primary sources in molding information-solutions to their problems." (Zurkowski 1974, cited in Maio, p. 18, 1997) These techniques and skills include the ability to define and research a problem, analyze, evaluate, synthesize, and utilize the necessary information resources to resolve and/or clarify the issue at hand. Information literacy not only incorporates using higher order critical thinking skills, but also the ability to manage the infinite variety of information resources--print and electronic--available in today's information rich culture.

At present, the need for these skills is being touted as intellectually essential in the general education reform movement currently moving across many American college and university campuses. (Gaff, 1997; Kellogg Commission, 1997) However, whether or not the academic leadership of urban public universities perceives information literacy skills as critical to the intellectual growth and development of the undergraduate population is a central question that will be explored by this study. Another major tenet of the current general education reform movement is student centered learning. A group of students' voices will be used to highlight their perceptions on the importance of developing these skills during their undergraduate experience.

An Information Literacy Survey - The Urban 13 Consortium

A recent survey conducted with members from the original *Urban 13 Consortium* indicated that the preparation of faculty, staff, and students to incorporate and utilize this new literacy within the undergraduate curriculum at urban public universities is presently inadequate. (See Appendix A.) Thirty-nine surveys were mailed to the chief academic officers, student affairs officers, and library directors at the Urban 13 campuses.[3] These individuals exert considerable influence over the development and implementation of

[3] Surveys mailed to the original 13 members only.

most institutional mission statements and are the key campus policy makers as well. However, in the world of higher education, collaboration between these three camps has been the exception and not the rule.

Twenty-two responses were received; 7 from academic affairs; 7 from student affairs; and 8 from the academic library, producing a response rate of 56%. Only one institution returned all three surveys. The overall results indicated that, although all of the individuals surveyed recognized the significance of information literacy, very few of their institutions incorporated it philosophically or functionally within their teaching and learning infrastructure. These results also seemed to indicate the fact that, on some urban public campuses, academic librarians are not directly involved in curriculum planning. Their involvement is primarily ancillary to the curriculum planning process. It is ironic that, at most of these universities, academic librarians are on the cutting edge of knowledge management (Dowler, 1997), yet their role in curriculum planning is primarily to serve as a "resource" to curriculum planning committees. Very few were viewed as active participants in the philosophical and/or practical discussions on teaching/learning and curriculum planning issues.

The survey also included an assessment of several educational issues dominating academic discourse today. (Furhmann, 1997) These include:

- Students must learn how to manage change
- Students must be technologically proficient
- Students should learn to interact in a variety of cultural environments
- Education is a lifelong process
- Universities must create and discover new knowledge
- Colleges should develop students' problem solving and decision making skills (Gaff,1997)

All of the respondents from the *Urban 13 Consortium* identified the six issues listed above as the most significant challenges currently facing the higher education

community. Each issue raises, again and again, the need for a new teaching and learning strategy. Each echoes the need for the development of information literacy skills, and ultimately, a new habit of mind. (Lenox and Walker, 1993; Twigg, 1992; Farmer, 1992; Candy, 1993) The involvement of academic librarians in policy and instructional development, may provide American higher education with additional expertise in managing technological innovation and resourcing--the same expertise that is required by our new information culture. (Baker, 1992; Clark, 1982)

Critical to understanding the importance of information literacy and its interdependent relationship with the academic library, the faculty, general education, and urban public universities, is the historical context in which higher education evolved in America. A brief presentation of the historical context will demonstrate how the political, economic, and social forces strongly influenced the shaping of higher education's mission and its impact on the development of the undergraduate curriculum.

The Historical Context of the Problem

Our participatory, liberal democratic tradition has provided the foundation for the contentious growth of American higher education. Its purposes are always hotly debated. Its outcomes are often perceived as inconclusive. (Paris, 1995) Our liberal democratic tradition produced many diverse schools of thought on the purposes of higher education. Fundamental to all of these schools of thought from the points of view of those in power was the usefulness of education in solving America's social and economic problems . (Perkinson, 1978) The result was and is an on-going, rigorous philosophical debate about the merits of a practical education vs. a liberal arts education and who is entitled to one or the other. Each viewpoint was a definitive, major source of concern for curriculum designers in the 17th and 18th centuries as well as for curriculum reformers of the 19th and 20th centuries.

A number of 20th century educational philosophers and historians, however, speculate that this debate created a false dichotomy and that the true role of education in America has been to classify people for future vocational and social roles and not for the enlightenment provided by the classical liberal arts experience. (Parsons, 1959; Gintis and Bowles, 1976; Katz, 1995; Levine, 1978; Rudolph, 1962; Paris, 1995) Prior to the 20th century, a number of educational philosophers, in fact, believed that higher education was not meant for everyone. For example, in designing an educational system for the state of Virginia, Thomas Jefferson advocated sorting "the best geniuses...from the rubbish." (Bracey, 1997) This viewpoint exemplified this nation's ambivalence with its democratic principles, as does the following statement made by a state university professor in 1855:

> Could my voice prevail with our American colleges I would say, Cut down your numbers without fear and thereby increase your power; sift, select, separate, purge out until you have only men, though but a select few- men who are fitted to do the highest work of society! (Cited in Rudolph, p.15)

In succeeding years, leadership in higher education has reiterated many of the same sentiments--if not by their words, then certainly by their deeds. Elitism has a rich legacy in the annals of American higher education and continues to exert its influence as we evolve into the social dimension of an information society in pursuit of a new teaching and learning infrastructure. Staley (1998) observes that " the electronic network is egalitarian only to those with access to it" and the Digital Divide, a growing phenomena within American society between the information haves and have nots, is another example of elitist interests at work. (Katz, 1987; Macedo, 1994; Vanderbilt University, 1998)

The evolution of higher education in America does reflect our nation's deep, inner struggle with integrating democratic ideals into the social conscience. Providing access for all citizens to higher education has intensified the national debate on the purpose of

higher education. (Cremin, 1982) Access, indeed, can bring the kaleidoscopic culture of American society to higher education. It challenges American educational and political leadership to provide equal access and educational opportunity for everyone, regardless of ethnic and social background. (Paris, 1995)

The Early Years

Only white men of money, land, and/or particular religious affiliation were able to utilize higher education as an avenue to acquire leadership positions in colonial America. This practice continued through 19th century America. (Rudolph, 1962; Levine, 1975) Class status had inspirational meaning for early Americans and was intimately connected to the few higher education opportunities available to them at that time. Indeed, class conflict was one of the contributing factors to the Colonies' revolutionary break with Great Britain. The Handlins noted in The American College and American Culture - Socialization as a Function of Higher Education that for colonial America, "the value of higher education lay not in professional training... but in the belief that the course of learning endowed those who completed it with cultural attitudes that were signs of superior status." (P.10, 1970)

Money and class dictated access to higher education, to the traditions of classical learning, and ultimately to the acquisition of personal influence. Economics and academic tradition in higher education endowed the propertied, white male elite with the perspective that the ability to be "intellectual", to think critically, was inherent in their birthright and theirs alone to exercise. Secular knowledge as we conceive it today was not welcomed in the instructional process during colonial times either in higher education or in the limited number of religiously controlled free schools. The staunch religious nature of most schooling at the time did not encourage intellectual development as much as civil obedience. Intellectual notables such as Thomas Jefferson and Benjamin Franklin who assumed leadership positions did so largely on the basis of self-education.

(Cremin, 1970; Rudolph, 1965; Perkinson, 1987)

From the beginning, American colonists experienced a moral dilemma: whether to retain the status consciousness of British society or to strive for a more egalitarian community. Evidence of this tension exists in such documents as the Declaration of Independence and the United States Constitution and in episodes throughout America's social history. This duality of purpose has challenged American educational thinkers since Harvard first opened its doors in 1636. At different times, educational policy makers have advocated for equality and access--principles of participatory democracy--or have extolled the virtues of meritocracy. This challenge continues to control the discourse on the purpose of higher education today - ebbing and flowing with the unending tides of economic, social, and political change. If we understand that knowledge is, indeed, power, then we will also understand the preeminence of elitist roots of higher education in America. There is an historical legacy for the "power elite" in American higher education.

From 1636 to 1828, American higher education reflected the growing ideological pains of the new developing nation. The economic, social, and political impact of diverse migrating groups to North America created a mosaic of educational philosophies. These philosophies permeated American institutions. For example, William and Mary reflected Scottish-focused mathematics, history and science, Yale was devoted to the classical curriculum, the U.S. Military Academy was technically oriented, and the College of Philadelphia reflected a utilitarian perspective in its educational philosophy. (Levine, 1978; Perkinson, 1987)

Educational philosophy in American higher education represented a range of diverse perspectives and values. During his tenure as a prominent statesman, Thomas Jefferson's love of knowledge was exhibited in his efforts to establish a Virginian university committed to training a new meritocracy of the best and the brightest. This, new meritocracy was later held in contempt by President Andrew Jackson. Jacksonian

democracy viewed American higher education as institutions of privilege that did not operate in the best interests of the common man. The Jacksonian era did not favor the growth or expansion of institutions of privilege and, consequently, colleges and universities experienced a period of limited government support. (Rudolph, 1965)

The development of public education and its impact on American life is discussed in the next section.

The Impact of Public Education

The advent of public education for the masses in the 19th century was a direct result of our government's concerns with "shaping the citizenry" to meet the challenges of nationalism, societal reform, and, most importantly, the Industrial Revolution. Shaping the citizenry also meant creating a class of factory workers socialized to support the economic, social, and political needs of the manufacturing economy. To support the transition from an agrarian to an industrial based economy, the owners of industry directly influenced the design of our educational infrastructure by prescribing the curriculum and the pedagogy of public education. They also supported "elitist" institutions like libraries and museums and higher education institutions. (Ellis, 1997) Horace Mann and other educators collaborated with business and industry leaders to implement legislation advocating tax support for public schools to train factory workers in behaviors that would produce "steady, punctual, and predictable labor." (Katz, p. 14, 1987) This resulted in the factory model of education, a model of pedagogy that has lasted well into the 20th century and, to a certain degree, still dominates many American classrooms including those within higher education.

Installation of public primary and secondary education and the founding of public higher education occurred concurrently with five major social events in American history. These events took place between 1800-1885. They are:

- The emergence of democratic [participatory] politics

- Industrialization
- Urbanization and the development of the working class
- The State's assumption of direct responsibility for some aspects of social welfare
- Redefinition of the family (cited in Katz, 1987 pp. 6-7)

Managing these social developments preoccupied civic/educational leaders of the time. At the end of 19th century, developing the free thinking educated man was not a priority for public education or public higher education. As a result, by the turn of the century, [all] schooling in capitalist America, had become an entrenched, stratified, conflicted entity, mirroring complex social, political, and economic issues no different than those that we struggle with today.

> In our view...history has to be understood in the framework of the schools' adaptation to large-scale capitalism and the conflicts this engendered. Infusing the schools with corporate values and reorganizing them in ways seen as consistent with this new economic order has been the dominant motif. (Gintis and Bowles, pp.318-319)

Consequently, the role of public K-16 education and its relationship to the building of the American economy has been a prime source of contention between educational policy makers and reformers. As we continue to evolve into an information based economy, this contention shows no signs of lessening its intensity nor of adopting the flexibility needed to function effectively as an information/services based society.

Public Higher Education: The Morrill Land-Grant Act of 1862

Against the backdrop of the Civil War, President Abraham Lincoln and Vermont Congressman, Justin Morrill, pushed the passage of the Morrill Land-Grant Act of 1862. This law expanded the common man's access to higher education and revolutionized the very soul of American higher education. The Morrill Act of 1862 promoted the development of scientific agriculture, and, in the words of Justin Morrill, "the liberal and practical education of the industrial classes in the several pursuits and professions of

life."[4] It authorized the sale of federal lands to fund the development of state colleges, universities, and/or high schools offering instruction in agriculture, mechanic arts, military tactics, scientific, and classical studies. Each state was given 30,000 acres of federal land, per member of its congressional delegation, to establish one or more colleges subscribing to the above curricula. (Rudolph, 1965)

The implications of the Morrill Land Grant Act of 1862 were far reaching. They continue to reverberate today in academic discussions focused on equality of educational opportunity and equal access. This pivotal piece of federal legislation achieved the following:

- Expanded public secondary and higher education
- Increased access of the "common man" to higher education
- Integrated vocational education/practical utilitarianism within the liberal arts curriculum
- Encouraged the growth of western higher education (Levine, 1978)

In an address given at the Massachusetts Agricultural College twenty-five years after the enactment of the Morrill Act, Senator Morrill reiterated the purpose of the Morrill Act in the following passage:

> The land-grant colleges were founded on the idea that a higher and broader education should be placed in every State within reach of those whose destiny assigns them to, or who may have the courage to choose industrial locations where the wealth of nations is produced; where advanced civilization unfolds its comforts, and where a much larger number of people need wider educational advantages, and impatiently await their possession.... It would be a mistake to suppose it was intended that every student should become either a farmer or a mechanic when the design comprehended not only instruction for those who may hold the plow or follow a trade, but such instruction as any person might need - with 'the world all before them where to choose' - and without the exclusion of those who might prefer to adhere to the classics.[5]

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[4]Http://www.nasulgc.nche.edu/landgrt dev.htm

[5]Ibid. NASULGC, 1997. Hon. Justin W. Morrill Address, 1887. Reprinted under title, *I Would Have Higher Learning More Widely Disseminated,* by University of Massachusetts, Amherst, 1961

Morrill's message expresses a purpose reminiscent of the ideals that inspired the creation of the Declaration of Independence and the Constitution. Although our history is dotted with paradoxical examples of *American ideals vs. the reality of practice,* the passage of this act is yet another benchmark in America's efforts to achieve the humanitarian ideals expressed in parts of both of these historic documents.

In 1887, the federal government legislated the expansion of the economic role of public higher education. The Hatch Act authorized public higher education to develop agricultural experimental stations to investigate and research agricultural problems and solutions essential to our survival as an agrarian nation. In 1890, a Second Morrill Act provided for an annual federal appropriation to support the enhancement and enrichment of land grant colleges and universities, encourage direct state support, and established the "1890" Black Land Grant Institutions. (Levine, 1978; Rudolph, 1978)

Public higher education experienced a steady growth in the decades that followed 1890 and expanded even further with the passage of the Smith Lever Act in 1914. The Smith Lever Act allowed for the creation of a system of cooperative extension services which allowed public colleges and universities to bring directly to the American people the benefits gained from current research in the fields of agriculture, home economics, and other related fields. (Rudolph, 1965)

Public higher education made an impressive entry upon the landscape of higher education. Its roots were tied inextricably to the philosophy of educational opportunity for the common man.

A Model Land-Grant Institution

Unique in its educational mission, Cornell University with Ezra Cornell's leadership, exemplified the quintessence of the land-grant movement. Cornell University, a New York state land-grant institution, was among the first to open its doors to the poor. It advocated co-education; it considered the sciences, practical arts, and

liberal arts as co-equals in curriculum design; it also established curricular options for students.

Cornell may be one of the first to pioneer "student centered curricula" in higher education by providing its students with curricular options, interdisciplinary, and co-educational experiences. Ezra Cornell summed up Cornell's mission in his charter day speech, "Finally, I trust we have laid the foundation of an university - an institution where ***any person*** can find instruction in ***any study***." (Levine, p.561) Clearly, the promise of the land-grant movement at Cornell was to provide access and equality of educational opportunity for every American citizen, regardless of social class, economic status, gender, and/or ethnic persuasion.

Yet, as history records, Ezra Cornell's vision of "any person...any study," in reality, has become obscured in public higher education's competition with its elitist counterpart, private higher education. This is a legacy that our current K-16 educational system continues to wrestle with as it sorts, classifies, categorizes and, on occasion, segregates this country's most precious resource, our human capital. (Parsons, 1959;Gintis & Bowles 1978; Katz, 1995)

Access To Land-Grants Not Universal

The 1862 Morrill Land-Grant Act was an extraordinary piece of federal legislation in that it provided for the establishment of public higher education in each state of the Union. It, indeed, legislated across the nation the philosophical foundation for the "access" of the common man to public higher education. Unfortunately, in the South, where segregation laws prohibited Blacks from attending most public higher education institutions, this fell short. Mississippi and Kentucky were the only southern states to establish separate institutions for Blacks under the 1862 Morrill Act.[6]

As mentioned earlier, the Second Morrill Act of 1890 not only provided for an

[6]History of the 1890 Land Grant Colleges and Universities Program, 3/11/98, Http://web.fie.com/htdoc/fed/agr/edu/text/min/agrtba01.htm

annual federal appropriation to support the enhancement and enrichment of land grant colleges and universities, but it also awarded land-grant status to historically Black educational institutions which became known as the "1890 Land-Grants". When it came to participating in the arena of educational opportunity, Blacks unwillingly wore the invisible shackles of slavery, ever conscious that just a short thirty or so years before, it had been illegal in many southern states for them to acquire even basic literacy skills. Although limiting the education of Blacks was primarily a southern perspective, the rest of the country demonstrated de facto racism by developing separate and unequal school systems for Black Americans. (Levine, 1978; Rudolph, 1977; Butchart, 1988) Other ethnic groups, individuals of lower economic status, and women suffered similar discriminatory practices, but the Black experience was particularly dehumanizing and its legacy continues.

The Emerging Urban Land-Grant Institutions

At the turn of the 20th century, urbanization had also become a magnet for increased higher education enrollments. In 1924, fifteen percent of the 913 colleges reporting to the U.S. Commission of Education were located in cities with populations of over 100,000. Moreover, these same urban colleges were enrolling more than forty percent of the students attending higher education in the U.S. (Eliot, 1995, p.3) The rapid growth of cities, increased immigration, and a decreasing agricultural economic base intensified America's conversion into an industrial economy. By 1930, fifteen of the largest higher education institutions were located in cities with populations of 500,000 or more and enrollments of over 10,000. (Eliot, 1995, p.3) In retrospect, the seeds for the growth of the urban public university had been firmly planted.

The end of World War II saw the emergence of another piece of landmark federal legislation, the G.I. Bill. The enactment of the G.I. Bill caused public higher education to experience a phenomenal growth spurt in student enrollment. Many returning World

War II veterans perceived higher education as the only route to economic security. Jobs were scarce and higher education provided them with opportunity to re-enter American society with new hopes and dreams. The American G.I. also brought a new element to the higher education community--the non-traditional student perspective. They had a "right" to be there and to take advantage of the opportunities that furthering their education would bring. The G.I. Bill was a major milestone in the evolution of public higher education in this country. It not only changed the student profile of public higher education, but also expanded significantly its educational mission by making it more responsive to the social and economic needs of American society. (Rudolph, 1965)

Although the passage of the G. I. Bill revolutionized the culture of higher education in America, for the Black American G.I., the return home was racism as usual. It was not until the 1960's and the dynamic impact of the Civil Rights movement that Black Americans began to demand and receive greater access to educational opportunity. Higher education, both public and private, was awash in a sea of protest, not only from Black Americans, but from women as well. The social tumult of the 60's altered the social conscience of higher education, many think for the better. Discriminatory practices and barriers to access took center stage during the 1960's with urban public colleges and universities feeling particularly pressured to abide by and recommit to the intent and the legacy of the land grant movement. Even the campus of Cornell University--"any person...any study"-- did not escape the intensity or the wrath of the Civil Rights Movement. The events of the 60's rearranged the social and political relationships between government and higher education in that the covert discriminatory practices of higher education were now being monitored by the state and federal government.

Increased federal aid to higher education in the form of student assistance and research support set in place government monitoring practices that many in higher education considered an infringement to institutional autonomy and academic freedom.

(Harcleroad, 1987; Newman, 1985) Nonetheless, these monitoring practices placed a needed spotlight on institutional practices and, ultimately, opened the doors of opportunity to many who had been historically underrepresented and marginalized within the academic community and in society at large.

At the same time that higher education was wrestling with the complex social issues of access, racial relations, and equality of educational opportunity, the early 60's also brought the concurrent rise of new urban campuses and the expansion of the community college system. Each heeded society's call for a more skilled and educated workforce to compete in the ever evolving global economy. Approximately, forty-three public universities managed 150 urban branch campuses in thirty-one states during the early '60's. The urban public university had arrived; with that arrival came the complexities.

The changing demographics of the student population, the Vietnam War, the Civil Rights movement, and increased federal aid altered the social character of American higher education. These events also impacted the academic community's perception of the importance of teaching, research, and community service and the role of that trinity in formulating responsive educational mission statements and actions. Although the number of Black Americans and women attending institutions of higher learning had risen dramatically during the 60's and 70's, the 1980's and the 1990's witnessed the political and social pendulum swinging back to the conservative right, slowly eroding the social and educational gains made during the 1960's. These unfortunate setbacks are evident today in the recent changes in affirmative action policies on land-grant campuses such as the University of Texas and the University of California. (NASULGC, 1998) The conservative rise in influence, the setbacks in affirmative action, and recent reductions in fiscal resources have intensified institutional concern on issues of student retention.

The Rise of the Information Age

Although the spiritual roots of the information age can be traced back to the invention of Gutenburg's printing press in the 15th century, it was not until the 1940's that the once restricted use of computers, formerly the exclusive province of the scientific and military community, actually began to weave itself slowly into the fabric of American society. As we progressed into the 1950's, the partnership between technology and media dominated American culture, with television and its diverse programming having a profound influence over the American intellect. The establishment of ARPANET (United States Advanced Research Projects Agency Network) in the 1960's fathered the INTERNET project which was later absorbed by the National Science Foundation (NSFNET). Under the auspices of NSF, the INTERNET project matured to the major innovative, communication network it is today.

The 70's also witnessed the birth of the personal computer, with Apple, Inc. and IBM leading the way into the education market. The potential for using technology in the classroom terrified and inhibited many educators within the K-16 teaching profession. This, in turn, perpetuated a sense of professional inadequacy and denial that, unfortunately, still permeates some of our teaching and learning infrastructure today. Embracing and integrating the benefits of technology and the intellectual skills required to manage it effectively have not come easily to the education profession. Faculties within higher education have been reluctant to assume the leadership role in revamping our national teaching and learning infrastructure. This reluctance has stifled the potential of developing a much-needed aggressive approach in meeting successfully the economic demands and educational challenges of an information society.

By the end of the 1980's, the Information Superhighway was well on its way to building its national infrastructure. The infusion of the communication tools of the Information Age--telecommunications and technology--dominated the essence of American culture and society. Overwhelmed by the dynamic rapidity of technological

innovation and change, the K-16 education community demonstrated difficulty integrating these new tools within the context of their academic curricula. This intelligent network--the marriage between telecommunications and technology--placed new academic demands on the K-16 educational community, demands that continue to challenge the teaching and learning foundations of America's K-16 system of education. (Williams, 1991)

Business, government, and various members of the educational leadership perceive American education as unable to meet the teaching and learning challenges of the Information Age and they continue to produce, often unfavorable, reports on the American ability to prepare citizens for working and living in a global economy. *A Nation at Risk: The Imperative for Educational Reform* is, perhaps, the most quoted of these reports and the most influential in perpetuating the perception that American education is failing in its ability to produce a "nation of learners." (Bell, 1988) *A Nation at Risk* predicted a bleak future for the continued educational growth of American manpower, and for our ability to compete effectively in the global marketplace. For many academic and governmental leaders, *A Nation at Risk* set the tone for the future assessment of American public education which, for many, was on an irreversible course of self-destruction.

Gerald Bracey (1998), however, points out in *What Happened to America's Public Schools?: Not What You May Think* that in America's urgency to view the history of America's educational experience through lenses of "nostalgia and amnesia," a number of critical factors have been overlooked. For one, a hundred years ago, our national population was 63,056,000 and the high school graduation rate was only 3% of three-million eligible children. By the 1950's, the graduation rate reached over 50 %. Today, the rate is 83%. Another factor is that after World War II, only 20 % of American youth were considered prepared to handle college material. Today, 62% of high school graduates annually attend college. What these statistics highlight is the long, steady

evolution of American education and its continuing struggle to adapt, educationally and philosophically, to the demands and challenges of a diverse and dynamically changing society.

Although Bracey's viewpoints provide a more balanced perspective on the overall positive influence of education on American society over the last century, recent educational assessment reports on urban public school systems continue to document the inadequate preparation of New Majority students to master higher order thinking and mathematical skills.[8]

L. Scott Miller's An American Imperative: Accelerating Minority Educational Advancement, (1996) offers an insightful analysis of the generational impact of discriminatory practices in America and how these negative practices still permeate and influence decision making in the teaching and learning process today. Miller concludes that America's window of opportunity to optimize the talent of all its human capital is diminishing rapidly if the essence of Moynihan's 60's phraseology - *benign neglect* - continues to undermine educational policy planning efforts.[9]

While the primary role of schooling is considered to be nurturing individual talent within a learning environment, that role is often misconstrued as society's major social, political, and economic transformer of human capital. If so, education has fallen short of society's expectations. As we continue to evolve into a learning society, which, in effect, will be a major outcome of this current technological revolution, the K-16 educational community faces formidable, but not insurmountable, teaching and learning pressures from an array of political, religious, and economic forces. These challenges will alter how information and knowledge is integrated within the academic curriculum. Toffler, a renowned futurist, emphasizes:

Today we are living through one of [the] exclamation points in

[8]Federal Educational Statistics Report (1999) and Massachusetts Curriculum Frameworks (1998)

> history when the entire structure of human knowledge is once again trembling with changes as old barriers fall. We are just accumulating more facts. Just as we are now restructuring companies and whole economies, we are totally reorganizing the production and distribution of knowledge and the symbols used to communicate it. (Toffler, 1994)

The history of the evolution of the American K-16 educational experience is characterized by its vulnerability to powerful, external forces such as business, government, and changing social conditions like the Age of Information. How this evolution continues, with the management of this new change within the context of its external forces, will speak to education's commitment to excellence and learning and providing equal access and equality of educational opportunity to both as we progress into another "exclamation point in history."

The Challenge for the Next Decade

As we move toward the end of the 20th century, higher education is now engaged in an intellectual metamorphosis, a metamorphosis that will reshape the way we seek information and the way we construct, learn, and teach knowledge. I believe that those measurements that guarantee entry into society, such as assessment of intellectual potential and standards for work performance dictate how talent is nurtured in a technological environment. As Davenport (1997) notes in *Information Ecology*, "information and knowledge are quintessentially human creations, and we will never be good at managing them unless we give [committed] people a primary role."

Public higher education is responsible for educating over 49% of the student population that attends institutions of higher education. (Menard, 1997) Its potential influence is enormous and its potential for impacting our human capital is unprecedented if public higher education seizes the opportunity. Ezra Cornell's prophetic *any person...any study* does, indeed, represent what could possibly be the 21st century educational mission of public higher education. Whether or not public higher education has the insight, the capability and, more importantly, the philosophic will to develop and

nurture an independent learner who can master the intellectual challenges of the Information Age remains to seen. It will depend, in large measure, on public higher education's ability to create a successful, integrated union between information literacy, the academic curriculum, and all members of the academic community.

Chapter Two presents foundations for inquiry in the area of information literacy in urban public higher education. The goal of Chapter Two is to provide concerned educators in urban public academic communities with the background information to explore further the integrative impact that these policy issues may have on the intellectual development of the New Majority student as we continue to transform into a learning society.

Chapter Two

FOUNDATIONS FOR INQUIRY IN THE AREA OF INFORMATION LITERACY IN URBAN PUBLIC HIGHER EDUCATION

Introduction

A number of educational policies must be explored if a substantive analysis of the relationship between information literacy and the research question is to be achieved. Chapter One provided the historical context of the growth of higher education in America and its evolving interrelationship with these educational policies. Given the marriage between telecommunications and computing as well as their offspring, our digital economy, the policy areas listed below are in need of transformational change today if public higher education is to remain competitive in the educational supermarket of choice and opportunity. (Williams, 1995)

Since the first public discussion of information literacy in 1974, library and information science faculty have extensively published articles, research reports, and surveys on the impact of information literacy on various student populations as well as the academic community itself. (Jacobson and Vallely, 1992) Interestingly, liberal arts faculty have written very few articles on this very important academic issue.

In light of the important role of this significant college and university constituency, we need to enlighten their perspectives and encourage their investigations on the importance of this issue to teaching and learning, if we hope to implement information literacy as a new habit of mind throughout the higher education community. Fostering increased research and interest into the area of information literacy among this constituency is a prime objective of this interdisciplinary study. By discussing these nine

policy areas as they relate to the research question, this researcher hopes to establish an academic foundation for future inquiry in the area of information literacy in urban public higher education.

Educational Policy Areas:

1. Information Literacy
2. Library and Information Science
3. Role of Faculty and Academic Librarians
4. General Education
5. Institutional Mission
6. Urban Public University
7. New Majority Student
8. Student Retention
9. Information Literacy Program Models

In reviewing research in each of these policy areas and relating that research to information literacy and the New Majority student, a panoramic, interdisciplinary reality begins to emerge. This reality illuminates the importance of building interactive collaboratives from all constituencies within the university community in order for information literacy to be integrated fully within the institutional culture. (Naidoo and Searle, 1997) Examining these areas in the context of teaching and learning demands being imposed by external economic, social, and political forces, may assist the Academy in realizing its new *intellectual* mission in transforming its traditional, academic culture. Mission statements of urban public universities must make specific how the pursuit of educational opportunities and options for the population it has promised to serve can be

achieved while, at the same time, maintaining the richness of its academic legacy. An explicit commitment to integrate information literacy not only within the academic curriculum, but also within the academic community may afford them this opportunity. Without the strong advocacy and support of liberal arts faculty in this area, undergraduate education in urban public higher education will become marginalized, with wide ranging repercussions for graduate education and the K-12 public education sector. (Morner, 1993)

Educational Policy Areas

1. Information Literacy: A New Habit of Mind?

> "The greatest crisis facing modern civilization is going to be how to transform information into structured knowledge." (Wurman, 1989)

What exactly is information literacy? In order to understand the sum total of the concept of information literacy, we must examine its distinct parts. Various dictionaries similarly define *information* as "knowledge and/or data derived from *any* source". The dictionaries also define *literacy* as the "ability to read and write". Both definitions are intimately related to the process of teaching and learning, regardless of academic level. By synthesizing these two definitions, an educational template for integrated critical thinking begins to evolve and demand attention. All three combined, information, literacy, and critical thinking constitute a presence, a new habit of mind unfolding from the dynamic, intellectual upheaval resulting from the massive production of information emanating daily from every corner of our digital society. As amorphous as the term may sound, information literacy is a powerful philosophical representation of the educational complexities being imposed by our transformation into a learning/knowledge society. (Candy 1995) Encouraging the development of this new habit of mind will require a teaching and learning perspective that embraces change and unpredictability, a perspective not at all endorsed nor welcomed by many traditional faculty on many

college and university campuses across this country.

Discussion of the nature of information literacy engenders a variety of viewpoints and perspectives. In reviewing the research on the various interpretations of the term " information literacy," Christine Bruce (1997) identified ten definitions that reveal the broadness of its meaning which, in turn, characterizes the complexity of its usage. Information literacy is:

- Using information technology
- Library and computer literacy
- Mental models of information systems
- Combining information and technology skills
- An information process
- An amalgamation of skills, attitudes, and knowledge
- Engaging actively with information
- Ability to learn
- First component of critical thinking skills
- Part of the literacy continuum (Bruce, 1997)

In addition to the above, Bruce offers another viewpoint, using a phenomenological perspective. Developed in Sweden, phenomenography is a research method that evaluates how learners envision learning as well as define and attempt learning tasks. In adopting this methodology, Bruce moved away from the traditional behavioral models of viewing information literacy to developing a relational model that explored how information literacy was viewed conceptually by users within the context of their real world information needs and experiences. By analyzing the experiences of lecturers, librarians, advisors, and staff developers in higher education, Bruce's study concluded that the concept of information literacy is not just about developing personal attributes as described by behavioral definitions. Following in the Dewey tradition of underscoring the importance of individualized experience and background in the learning

process, Bruce found that information literacy, as a phenomenon, is chameleon-like by nature and, therefore, its usefulness depends on the perspective of the user. The perceived information needs of the users shape their information literacy experience. Engaging in the process of information literacy involves more than skill development. It requires a conceptual understanding of the users' information needs and how those needs are applied to a given situation and/or purpose.

Also inherent in the research outcomes of Bruce's study is the notion that information literacy is, in fact, a new habit of mind, a new way of thinking. It provides individuals with the cognitive foundation necessary not only to formulate, but also to manage knowledge construction in the Age of Information. In the "Definition of Terms" section of this study, de Nicolas defines habits of mind as "the whole range of mental operations" characterized by " individual uniqueness and cultural diversity." Habits of mind shape what Greene describes as the "multiple realities of the human experience" and, in doing so, requires a teaching and learning template that directly addresses the learning complexity of living in the information age. (Greene, 1988)

In the last three decades, the growth of the information industry has been phenomenal; more new information has been produced in this time frame than in the last five millennia. Approximately 1,000 books are published daily around the world and over 9,000 periodicals are published in the United States on a yearly basis. (Nelson, 1997) One of the premier managers of this information explosion is the professional librarian, the chief custodian of our knowledge warehouse - the library. In the United States alone, there are 119, 030 libraries, of which 92, 628 are elementary and secondary school libraries and 4,914 are junior college, college and university academic libraries. Librarians are the informational professionals in this country, and many are actively engaged in changing how American society views their role from that of information keeper to that of information provider and educator. (Jackman and Payne, 1995) Professional librarians have been the key architects in promoting the concept of

information literacy, a concept often misconstrued by many other educators as meaning either the development of computer skills or the development of library use skills. (McCrank, 1992) The term "information literacy" has a rich history.

Although Paul Zurkowski is credited with coining the actual term, "information literacy," Christine Bruce traces the "rhetoric" of information literacy in her 1997 dissertation, *The Seven Faces of Information Literacy,* back to the mid-sixties to the work of an Australian librarian named Ernest Roe. Recognizing the dynamic educational ramifications of the information explosion, Roe was among the first to advocate for a more integrated and active role for the library and for the library professional within the teaching and learning process across the educational spectrum.

Shirley J. Behrens (1994), a senior lecturer in the Department of Information Sciences at the University of South Africa, also offers a comprehensive history on the evolution of the term "information literacy." It was in the 1970s that the embryonic concept of information literacy began to address the need for recognizing the importance of the individual's intellectual integration of information tools within the burgeoning information environment in the United States. The facility to use various technologies effectively was beginning to require more than purely mechanistic functions and activities. Consequently, the ability to think critically about information produced by these new technologies began to command a level of importance in the K-16 discussions involving the educational impact of technology.(Behrens, 1994)

The educational reform movement of the 1980s saw information literacy emerge as an intellectual skill, a skill reflecting the teaching and learning challenges of integrating and managing information resources appropriately in the Age of Information. In 1983, Forest Woody Horton, Jr., an information management consultant, recognized the intellectual acumen required for the use of computer technology. In his article, *Information Literacy vs. Computer Literacy*, he states, "There is an emerging new dimension to computer use that hasn't yet found its way into the headlines because all of

the pieces are not yet in place... If we really want to magnify the individual's productivity, [then] we must make him or her information efficient." (Horton, 1983) Horton concluded that knowledge of computer literacy alone was not sufficient in an increasingly complex technological environment. The educational profession had yet to produce the leadership capable of enlightening the collective consciousness of educators, business leaders, and government policy makers to the importance of integrating information literacy into the national teaching and learning infrastructure.

In 1986, however, educational leaders such as Ernest Boyer and Frank Newman voiced their ardent support of information literacy as well as of the *educational* role of the academic library at the 1986 National Symposium on Libraries and the Search for Academic Excellence held at Columbia University. (Breivik and Gee, 1989) The focus of the symposium was a discussion of ten commissioned papers that addressed the issue of educational reform and the use of academic libraries in achieving various educational objectives. (Breivik, 1989; Chisholm, 1990)

As a result of this symposium, the American Library Association (ALA), one of the driving forces behind the promotion of information literacy as a critical intellectual skill, established a committee to explore further several of the positive outcomes of the symposium. Of particular interest to this committee was the integration of the concepts of information literacy and lifelong learning within the teaching and learning process of undergraduate education.(Breivik, 1987) The A.L.A.'s *Presidential Committee on Information Literacy,* a blue ribbon panel chaired by one of information literacy's leading authorities, Dr. Patricia Senn Breivik, published its final report in 1989. The following is an excerpt from the report that articulates the Committee's viewpoint on the importance of incorporating information literacy within the K-16 American educational experience:

> No other change in American Society has offered greater challenges than the emergence of the Information Age...How our country deals with the realities of the Information Age will have enormous impact on our democratic way of life and on our nation's ability to

> compete internationally. Within America's information society, there also exists the potential of addressing many long-standing social and economic inequities. To reap such benefits, people- as individuals and as a nation - must be information literate... Producing such a citizenry will require that schools and colleges appreciate and integrate the concept of information literacy into their learning programs and that they play a leadership role in equipping individuals and institutions to take advantage of the opportunities inherent with the information society...Ultimately, information literate people are those who have learned how to learn.[1]

The American Library Association's Presidential Committee's Final Report on Information Literacy recommended the establishment of a national forum to begin the process of nationalizing the concept of information literacy within the social, economic, and political culture of the United States. Today, the forum represents more than sixty organizations from education, industry, and government. It is a major concern of the forum's membership that the educational preparation of undergraduates is designed to meet the information literacy challenges over the next several decades. The forum also encourages the exploration of creative methods to integrate the information literacy philosophy within the national K-16 teaching and learning infrastructure. The importance of teaching future generations of New Majority students "how to learn" by managing intelligently the overwhelming diversity of available information resources in today's information rich culture cannot be overemphasized or underestimated.

Although the term "information literacy" has evolved steadily, it has not been without its detractors. Snavely and Cooper (1997) discuss the vigorous debate within the library profession surrounding the usage of the term, its applicability to the real teaching and learning needs of students and/or patrons, and its marketability to the general public as a viable and meaningful educational concept. (See Appendix B, List of Information Literacy Terms.) Many within the library profession share the insight of those who feel that "information literacy has a hollow sound...[and] is empty of content and has the connotation of being a fad."(Snavely and Cooper, 1997, pg.9) Not only is the term

[1]ALA Presidential Report on Information Literacy (1989)

information (data) ambiguous and possibly lacking in academic stature and substance, but usage of the term *literacy* compounds and further diminishes its legitimacy as a valid teaching and learning concept.

For many educators, the term information literacy is often perceived as an ancillary and, in many instances, an optional component in the educational process. This, then, becomes a philosophic debate regarding the purposes of education, a debate that has dominated academic discourse for centuries. (McCrank, 1992) And as this debate will no doubt continue, what must be kept in the forefront of our thinking is, "any definition of education is a proposal for how to use an honorific term...to educate, then is to make fit for life." (Gorovitz, 1998) In light of the present social, economical, and political changes we are currently experiencing, an undergraduate education with a solid information literacy foundation, will, in fact, prepare New Majority students to be "fit for life."

Although much has been written within the library profession on the merits of subscribing to the concept of information literacy, the question of academic legitimacy continues to plague the concept of information literacy, inside and outside of the library profession. Throughout much of this debate, however, what remains clear is that the concept of information literacy, is the best philosophical representation of the educational challenges faced by the digital economy presently dominating our world marketplace. The phrase advocates for developing the habit of mind essential for managing and using intelligently the wealth of print and electronic information resources available today and for developing a critical, democratic citizenry. (Breivik, 1989)

Information Literacy and Civic Responsibility

In a report published by the National Education Goals Panel in 1992, the "advanced ability to think critically, communicate effectively, and solve problems" (cited in Doyle,1992), was listed as necessary to compete in a global economy and to exercise

the rights and responsibilities of democratic citizenship. Information literacy and civic responsibility have integrated historical roots dating back to early America. A "democracy" without access to information or the intellectual skills to interpret information is, in essence, a totalitarian state, where diversity of any form is non-existent. James Madison wrote, "A popular government without popular information or the means of acquiring it is but a prologue to a farce or a tragedy or perhaps both." (Cited in Lenox,1991, p.43) Informed decision-making and access to the intellectual tools necessary in making those decisions remain critical.

Information is the legal tender for intellectual growth and development; it is the mechanism that shapes public opinion. The ability to sort, assess, classify, validate, verify, extrapolate, synthesize, and articulate informed opinions are pre-requisites for participating actively as well as independently in a democratic society. Theoretically, these intellectual capabilities evolve from the educational process and are crucial for the maximization of individual choice and for contributing to a socially cohesive collective. (Lenox, 1991; Lenox and Walker, 1994)

Macedo (1994) reminds us, however, that, historically, the educational process in America has been of two minds; one, serving the intellectual needs of the power elite; two, serving the manpower demands of a growing, industrial society. The development of an "informed" citizenry has been carefully monitored and managed by those in power. Sadly, American history is replete with social, political, and economical examples of government and economic interest hindering the public's right to know.

Chomsky has observed that "...democracy is a system of elite decision and public ratification, as in the United States itself. Correspondingly, popular involvement in the formation of public policy is considered a serious threat..." (Cited in Macedo, 1995, p.15) Yet, the Information Age is altering substantially the canvass of American democracy and the public's access to information as evidenced by the surprising results of 1998 national elections and the impact of the presidential public scandals. Not to have

the intellectual skills to think critically today is, in fact, a serious threat to any democracy awash in torrents of information and misinformation. This flood anesthetizes the public consciousness to the merits and validity of basic democratic principles such as freedom, equality, and truth. The creation of information literacy as a habit of mind within the educational process may provide an appropriate forum to counteract the flood of information impacting populist participation.

The cultivation of information literacy within our K-16 system of public education may contribute significantly to building an informed citizenry, one capable of navigating the intellectual, political, social, and economical challenges of the Information Age. By doing so, we may be able, eventually, to transform the "perceived" menace of our participation in public policy formation, into an intriguing, beneficial matrix of diverse, intellectual talent dedicated to the service of the public good.

2. Library and Information Science: A View from the Field

Library and Information Science research focused primarily on public higher education was used to establish the basic data frame of reference for this study. To many who have conducted substantive research in the field, information literacy is perceived as the dominant pedagogical "world view," and as such, offers valuable insights into the less than positive reception of this phenomenon among some constituencies within the academic community. According to Baker and Litzinger (1992), most faculty will admit to the importance of the principles of information literacy; however, very few are successful in achieving them. "Many faculty members, not having the benefit themselves of a solid education in research methodology, are unaware of the library's resources, human and otherwise."(p.93)

Many faculty do not commonly use the resources of the library including indexes, nor do they possess sufficient knowledge of information search strategies, preferring to rely on their own journal subscriptions and upon colleagues for current information.

(Smallen, 1993; Folster, 1989). Werrell and Wesley (1978) observed that most faculties assume that once students are given basic instruction in library research skills, they automatically advance to higher levels of evaluation of information. The College English Association (1982) conducted a national survey which revealed that only twenty-nine percent of the faculty workload focused on the development of the research paper, a key academic exercise used by most disciplines and requiring a variety of intellectual/library research skills. (Ford, 1982)

In 1990, Joy Thomas conducted a follow-up analysis on a study she had conducted at California State University, Long Beach in 1982. Sixteen percent of the faculty surveyed believed that students should learn research skills on their own and that there was no room in the curriculum for library instruction; little had changed in an 8eight year span of time. Maynard (1990), in another study, discovered that only seventeen percent of the faculty felt that library skills should be taught and that students either arrive on campus already knowledgeable about library research skills or should learn to use the library independently. This is a perception still quite common among most faculties today. (Thomas, 1994; Joseph and Dabbs, 1986; Sellen and Jirouch, 1984) At Iowa State University, seventy percent of the 500-teaching faculty surveyed believed that incoming freshmen do not possess the research skills to use a research library effectively. (Haws, Peterson, and Shonrock 1989) Although eighty-eight percent of the faculty said they believed that students should know how to use a university library, only twelve percent of the freshmen level courses required library usage, with up to fifty percent of the courses at the senior level requiring use of the library. Only twenty-two percent of the faculty included library skills within their course objectives.

Two comprehensive studies on library research skills, conducted in the 1970s at the University of Texas at Austin and the University of Colorado, serve as models for colleges and universities wishing to evaluate student library research climates on their campuses in light of our Information Age. The Texas study (1977) focused on faculty

responsibility for the delivery of information resource instruction.

In surveying faculty, the Texas findings revealed:

- Sixty-two percent of the faculty taught courses requiring library use, yet only twenty percent assessed undergraduate research skills as good
- Ninety percent of the faculty reported learning how to use the library on their own, forty-six percent reported having learned from a librarian, thirty-two percent learned from colleagues, and nineteen percent learned in a faculty instructed course
- Eighty-five percent expected students to use the card indexes and bibliographies to locate source material; eighty percent assigned reserve materials
- Seventy-nine percent expected students to use discipline-oriented reference books and seventy-six percent expected use of general reference materials
- Thirty seven percent felt students should learn on their own; thirty seven percent also taught courses not requiring library use and fifty-nine percent felt that use of the library was not required for their course

The Colorado study surveyed history and economics faculty and included a random sample of other faculty. (Edwards, 1976) It evaluated the feasibility of integrating library resource instruction within the curriculum. This pilot program utilized subject-specialty librarians to prepare instructional materials, to assist in teaching bibliography and library use, and to provide individual consultation on research topics. Findings from this project study revealed:

- Twenty-five percent of the faculty usually explained reference tools in their field; 56% occasionally, and 18.5% never explained them
- One hundred percent of the faculty expected students to learn the use of the library by "asking the librarian," 81% believed that they should "pick it up on their own," and 68% believed that they should "learn it in high school"
- Because of the pilot program collaboration, 59% of the economics and 48% of the history faculty increased their library research assignments

- Ninety percent of the economics faculty and 64% of the history faculty believed that student research skills improved markedly after participating in the pilot project

Although both studies were conducted in the 1970's, they appear to represent accurately faculty attitudes and perspectives still prevalent on most college and university campuses today.

In analyzing a random sample of 162 syllabi at Pennsylvania State University, Rambler (1982) discovered that 63% of the syllabi required no library use. A search in non-library journals of articles addressing the issue of library research instruction revealed very few directed at the faculty. (Jacobson and Vallely, 1992) Another literature search of 2,882 bibliographic instruction citations mentioned in 187 articles published between 1980 and 1985 uncovered that almost 75% of the citations were from library professional sources with the remaining derived from subject journals. (Bracken and Tucker, 1989)

In an effort to determine how faculty located the references they cited, Hallmark (1994) reviewed 319 articles from scientific research journals published in 1991. One hundred and sixteen authors cited work from specific researchers as their most common source as well as colleagues and references in the literature. Wiberley and Jones (1989) found that humanities scholars at the University of Illinois at Chicago relied first on references in the publications they read, next on colleagues, formal bibliographies and lastly, librarians.

Faculty use of print and electronic resources by science and engineering faculty was also evaluated by a survey conducted by Hurd, Weller, and Curtis (1992) at the University of Illinois. They found that the most used information resource for science and engineering faculty was the print version of *Current Contents*. *Current Contents* is a subject oriented table of contents service that provides access to journal article titles with article delivery upon request.(Bopp and Smith,1995,p.532) Faculty also relied upon other sources such as colleagues and conferences for information as well as references in

journal articles. Surprisingly, very few used electronic resources. At the University of Utah, Broadbent (1986) surveyed faculty and discovered that 23% used references in books they read, 19.8% used the subject catalog, 18.4% used printed indexes and bibliographies, and 3.5% used on-line databases.

Maio (1995) surveyed 1000 faculty in three institutions in Connecticut including the University of Connecticut, seeking information on the types of print and electronic resources used and recommended for use by faculty. She also examined how they instructed students in the use of these resources and what their opinions were about how students should learn information research techniques and strategies.

The results of Maio's research showed that almost 75% of the faculty required students to conduct research; however, approximately 70% believed that although information skills are important, it was even more important for these skills to be taught by librarians. The academic discipline governed the types of information resources that faculty recommended to students. Only a small percentage of faculty recommended use of electronic resources, which is indicative of the fact that many are not using these resources themselves. Faculty in the professions, humanities, and English were found to be more active users of information resources than faculty in the sciences and social sciences. Another interesting finding was the fact that undergraduates at the State University were neither expected nor required to do as much information research as students at the smaller institutions were.

In summary, this review of extensive library science research reveals some very disturbing findings regarding faculty perspectives on the importance of integrating information literacy within the academic curriculum:

- Most faculty expect students to learn information research and library skills on their own
- Faculty do not conduct systematic, comprehensive information searches, but rely on citations from specific researchers, information from conferences or other colleagues,

and, on occasion, the reference librarian

- Most faculty assume instruction in writing research papers is the responsibility of the English department
- Many faculty still believe that the reserves-lecture-textbook approach provides the best pedagogical framework for instructing undergraduate and graduate students
- Very little is written about information research skills in journals read by faculty
- There is limited use of both print and electronic information resources by faculty

These perspectives undergird the faculty's continued resistance to embracing information literacy as a habit of mind to be integrated throughout their curriculum.

If information literacy is to gain universal acceptance within the K-16 continuum, then all faculty, including administrators, at all levels, must assume philosophical ownership for the concept. Without their strong advocacy for the development of these critical intellectual and information retrieval skills then undergraduate and graduate students alike will be unable to enrich as well as enhance their academic experiences. (Morner, 1993) Academic librarians cannot and should not be the sole transmitters of this very vital life long learning, educational experience. (Bundy, 1997)

Faculty must model and teach appropriate information seeking behaviors and techniques if students are to develop the intellectual skills needed for managing the variety of information resources available today on most college and university campuses, not to mention the American workplace. College and university administrations must integrate within faculty professional development programs opportunities for faculty and librarians to work collaboratively in designing information literacy protocols that address the teaching and learning needs of their particular communities. (Graf, Albright, Wheeler, 1992; Amstutz and Whitson, 1997; Bonwell and Sutherland, 1996) Ironically, the value of lifelong learning often diminishes when issues of faculty re-training and the status of their disciplines arise, given their propensity to resist change in academic traditions.

Clearly, the Age of Information requires that every occupation undergo a self-examination that analyzes thoroughly its present value, currency, and accountability to our on-going transformation into an information society. Although many believe otherwise, college and university faculties are no exception to this process. (Twigg, 1995; Farmer, 1995; Baker and Litzinger, 1993; Candy, 1993; Guskin, 1996; Davenport, 1997)

3. The Roles of the Faculty and Academic Librarians in Information Literacy

As discussed in the previous section, many faculty in higher education today are neither inclined nor prepared to develop curriculum which incorporates the philosophy, principles, and methodology of information literacy. In fact, this point is highlighted in a 1992 policy development study conducted by Christina Doyle. The study proposed a model of outcome measures for information literacy based on the National Education Goals of 1990. Doyle surveyed, using the Delphi technique[2], 46 members of the National Forum on Information Literacy, representing national organizations and agencies from business, government, and education. Doyle found that higher education was the least prepared to develop information literacy skills, not only for students, but for professional staff as well. Members of the National Forum ranked the mastering of information literacy skills by all college graduates among the highest of its recommendations.

This finding illuminates a well-known "secret" within the Academy: faculties in higher education, historically, have had little or no training, other than on the job, in the principles of learning theory and teaching practices. (Katz, 1989, Wood, 1976) Many faculty engaged in teaching today began their careers as teaching assistants, in most cases, assuming prime instructional classroom responsibility without ever acquiring the appropriate theoretical and instructional foundations to do so. Contrary to public perception, faculties in higher education are not trained teachers as much as they are

[2] An iterative interview research methodology, the Delphi technique surveys opinions of experts on a particular topic or issue, with reaching consensus as its ultimate objective.

trained academics, specialists in a given discipline. This may account for their lukewarm reception to the principles of information literacy as well as other higher education issues.

In the last 20 years, numerous studies and reports have depicted faculty involvement in curriculum design as being a critical factor in the intellectual growth and development of undergraduate and graduate students. (Terenzini and Pascarella, 1991) Although the faculty are principal architects of curricular content, they continually find themselves defending the relevancy of their choices in meeting the social, economic, and personal needs of their diverse constituencies, both on and off campus. Faculties have debated the value of a practical education vs. a liberal arts education since the inception of higher education in America. The debate is rooted in academic elitism as exemplified by the very existence of public and private higher education. It has dominated faculty academic discourse to the point that it has stifled creative development of curricular options to meet the diverse learning and teaching needs of today's New Majority student. (Rudolph, 1977; Bowen and Schuster, 1986; Boyer, 1987; Pascarella and Terenzini, 1991; Breivik, 1997)

A study conducted in 1986 by Ernest L. Boyer, former U.S. Commissioner of Education, and funded by the Carnegie Foundation for the Advancement for Teaching, evaluated the status of undergraduate education in America's colleges and universities. The report, *College: The Undergraduate Experience in America* (1987), found the quality of America's colleges and universities in a declining state of intellectual and social despair, to the point of endangering the educational experience of their undergraduate populations. This report focused on eight critical issues:

1. Seamless transition from K-16 experience
2. Curriculum and goals of education
3. The professional priorities of faculty
4. The condition of teaching and learning
5. The quality of campus life

6. The governing of the college
7. Outcomes assessment
8. The intellectual and practical links between the campus and the real world

These issues still dominate academic discussions today, resulting in very little systemic innovation or change.

Boyer (1986) also analyzed in the study the contributions and status of the academic library and uncovered a disturbing finding—one in four undergraduates spent *no* time in the library during an average week. Maio's study on public institutions in Connecticut corroborated the same finding. (Maio, 1994) Boyer advocated strongly that students should spend as much time in the library as they do in the classroom, should use the wide range of information resources available to them, and should be given bibliographic/library instruction. Interestingly, a study conducted in 1975 by Wilson, Gaff, Dienst, Wood, and Bavry found faculty having a significant influence on the development of intellectual skills such as analysis, synthesis, and evaluation in *non-classroom* interactions with students. (Pascarella and Terenzini,1991, p. 149)

The findings in this study underscore the importance of faculty teaching beyond the confines of the traditional classroom and Boyer's call for teaching and learning to occur in a variety of venues including the academic library. Even better, rather than separating their functions, if faculty and academic librarians combined their expertise, they could create an information literacy teaching consortium that would educate the entire academic community around an information literacy philosophy that integrates process with content. This partnership could also serve as an information literacy clearinghouse for those seeking teaching and learning models to educate their constituencies around academic information literacy. In 1990, Stauffer advocated for a similar collaborative, but on a much grander scale. His *partnership university* would embody the key philosophical elements of the five Carnegie classifications of academic institutions in addition to expanding their role in the economic, social, and cultural

advancement of their region. As we approach the next millennium, perhaps Stauffer's vision needs to be revisited with an information literacy perspective.

Boyer (1986), in effect, was advocating for information literacy, and crucial to that advocacy is the collaborative involvement of faculty and academic librarians. However, resistant behavior continues to dominate the faculty's involvement in the advocacy of information literacy. (Guskin, 1996; Jones, 1996; Knapp, 1961; Leckie, 1996; Breivik, 1997; Walshok, 1995) Although most faculty recognize the impact of the Information Age on teaching and learning, only a few have engaged in curriculum planning with the intention of meeting the intellectual challenges posed by our ever shifting teaching and learning paradigm. (Amstutz and Whitson, 1997; Doherty, 1997)

According to Breivik (1997), many may not have the confidence to develop a curriculum which integrates information literacy with content and/or the skills to perform comfortably in 21st century classrooms. Most faculties remain discipline-focused rather than interested in exploring the domain of an interdisciplinary, process-content curriculum. As Gorovitz (1998) observes, " problems in the real world do not respect the traditional taxonomy of academic institutions." (p.246) Unfortunately, the faculty's steadfast allegiance to academic tradition remains their guiding force in curriculum design in spite of the social, economic, and political realities that they encounter daily. (Breivik, 1997)

Faculty reluctance to actively engage the concept of information literacy into curriculum design may be illustrated best by the following observation made by an English professor at Earlham College:

> ...I think of my very good experiences with reference services in college and graduate school, but I recall that I, and everyone else I knew, tended to go to the reference desk as a last resort and that I asked questions with no notion that I might learn a generalizable method of research which could help me become more expert in research and conceive of more interesting questions to pursue, either on my own or with the help of a reference librarian. And, I would add, I do not

> believe I ever thought of a librarian as a teacher until I began work at Earlham...I suggest that my experience is not untypical of both undergraduate and graduate use of the library even now. If I am right in this, it would follow that many of us who are now teaching in colleges and universities are only *slightly at home in libraries.*[Emphasis added] (Breivik and Gee, p.36)

This view resonates a common attitude still prevalent within today's faculty culture and may be one of the primary explanations for their on-going resistance to the integration of information literacy in the academic curriculum. Adams and Bailey (1993) believe that "the instructional process is in need of an overhaul" and it should reflect the intellectual challenges of the Information Age and integrate information literacy and technology into the content of the curriculum. Such an overhaul would require direct faculty and librarian collaborative involvement. Involvement would also require a change in how faculty interact with students, moving the pendulum even further from content-centered instruction to student-centered learning changing the role of the faculty from disseminator of information to guide in the search for academic relevance.

Faculty's continued reliance on the reserves-lecture-textbook mode of instruction also serves to undermine the pro-active efforts of other educators in the K-16 continuum. These educators are concerned with creating a new student centered teaching and learning paradigm, one framed by process, managed by content, and flexible in application—information literacy. (Breivik and Gee, 1989). Bruner (1977) notes in *The Process of Education*:

> A curriculum is more for teachers than it is for pupils. If it cannot change, move, perturb, inform teachers, it will have no effect on those whom they teach. If it has any effect on pupils, it will have it by virtue of having had an effect on teachers. (p.XV)

Unfortunately, without the assertive involvement of academic faculty and librarians committed to creative curriculum reform in higher education, information literacy has little chance of being fully integrated systemically in the K-16 infrastructure.

The Role of the Academic Librarian

Many academic librarians are staunch advocates of information literacy and its companion process of resource based learning. Recognizing the importance of developing the intellectual skills capable of assessing information needs and managing the diversity of information resources, the academic library profession is becoming a more pro-active voice in designing information literacy curriculum to meet the lifelong learning challenges of the 21st century. They are aware, however, that librarians cannot act alone.

While academic librarians possess a wealth of knowledge about "information" that would be invaluable to the teaching and learning process, particularly in the college and university setting, more substantive collaboration and partnering is needed between faculty and academic librarians. The academic librarians could merge their expertise in understanding how information and knowledge are accessed, organized, and disseminated with faculty knowledge in the application of knowledge and development of academic curricula. In this collaboration, however, both faculty and academic librarians would need to have a thorough understanding of teaching and learning principles in order to develop an effective information literacy academic model.

The Instructional Role of the Academic Librarian

The role of the academic librarian in the instructional process in higher education has been peripheral, at best. Nevertheless, being peripheral has not lessened the reality that the academic librarian must be at times all things to all people. The facilitation of the teaching/learning process is key to the effective delivery of these services. Academic librarians' leadership and the depth of their experience with information inquiry are crucial to the successful integration of information resources in classrooms and within American society.

In 1935, Dr. Louis Shores, former dean of libraries at Florida State University, began to promote the concept of a teaching function for academic libraries. This was a concept contrary to the traditional way academic librarians perceived their role - that of custodian, a keeper of books. (Bopp and Smith, 1995) Shores' revolutionary way of thinking stimulated a variety of opinions on the role of the academic librarian; however, the arrival of technology within the library community has made it extremely difficult for the traditionalists within the profession to maintain their *custodial* perspectives.

As custodians of warehouses of knowledge, librarians focus was on the support and maintenance of the book culture within academic institutions. (Branscomb, 1940) Shores vigorously advocated that librarians were, in fact, educators and quite capable of making an invaluable contribution to the overall mission of the academic institution. Consequently, his teaching library concept gave rise to the library college movement, a movement the focus of which centered on solidifying the teaching and learning process as its primary educational goal. Shores' library college concept envisioned the following elements:

1. The abolition of regular class attendance and the substitution of extensive library learning experiences
2. The inclusion of all physical facilities [i.e. classrooms] in a library complex
3. The tutoring of underclassmen by upperclassmen
4. The complete integration of library-trained, subject-oriented faculty members
5. A curriculum composed entirely of library study that encompasses the whole of man's accomplishments and an appreciation of present problems.[3]

Nevertheless, the library college movement progressed slowly. This is evidenced by the establishment in 1968 of the Library College Journal. Over thirty years library college conferences, newsletters, and workshops had occasionally been held. However, the number of professional library converts to the teaching and learning mission of the

[3] Encyclopedia of Educational Research, (1996, p. 610)

library college movement have increased steadily and across the country various institutions have begun to experiment with the library college concept in a variety of ways. Probably the most notable experiment was that of Monteith College at Wayne State University in Detroit Michigan.

The Monteith Experiment

Funded by the Cooperative Research Branch of the United States Office of Education in 1961, the goal of the Monteith project was to conduct an experiment in "coordination between the library and teaching staff to change student use of the library, with the eventual outcome of students developing a fairly sophisticated understanding of the library and a high level of competence in its use." (Knapp, 1961, p.256) The Monteith experiment was also designated as a demonstration project to show the effectiveness of integrating library instruction within specific disciplines. Some interesting discoveries came to light during the evolution of this project:

1. Some instructors had little understanding of the nature of library organization
2. Some lacked an appreciation for the library's contribution to the overall general education program.
3. Although, at the outset collaborative in purpose, tension did exist between the librarian subject specialists and the faculty and produced undercurrents of uneasiness, an environment still quite typical in most academic libraries today. (Knapp, 1961)

Even though the Monteith Project was modestly successful in meeting its objectives, it did define, unequivocally, the importance of integrating bibliographic (library) instruction within the academic context of undergraduate teaching and learning.

Librarian as Facilitator

Although some academic librarians have teaching credentials, many do not and may have the same perspective as faculty about teaching research skills. Some of the uncredentialed librarians may feel ill equipped to be a part of the teaching and learning

process and faculty may reinforce this perspective. Yet, the "quiet" revolution taking place in the academic library requires a new perspective regarding the instructional role of academic librarians.

As the principal gatekeepers to the Information Age, librarians are obliged to experience a metamorphosis that will facilitate the teaching and learning process. The advent of technology has permanently altered the character of the academic library and the teaching and learning of information literacy has evolved as one of its principle missions. (Baker, 1993; McCrank, 1992)

The role of facilitator does require special qualities. According to Dr. Carl Rogers, the ideal facilitator is an individual who possesses the following characteristics:

1. Developing the ability to be real
2. Prizing, accepting and trusting the learner
3. Possessing empathic understanding (Rogers, 1969)

1. The ability to be real

> When a facilitator is a real person, being what he is, entering into a relationship with the learner without presenting a front or facade, he is much more likely to be effective. (Rogers,1969, p.106)

For many in the Academy, this prospect is frightening. It is even perceived as an invasion of their personal, *private* space. Yet, academic librarians engaged in the sharing and transferring of knowledge/information must establish a communications link that may perhaps require a journey into the personal realm. To be real means to search for and to share a level of comfort in the transfer of knowledge/information during the learning process. This may require some sharing of personal information, usually in anecdotal form, which serves to remind both participants that the sharing of information is a human interaction as commonplace as having a cup of coffee and gossiping about the news of the day. Hensley (1991) notes that the desired learning outcome of this type of interaction is for the users to incorporate within their knowledge base what is learned and

to develop the ability to transfer what is learned to a new situation. (p. 208) This is central to the learning dynamic.

However, the high level of activity that often occurs at an academic library's reference desk can impede the development of the learning relationship. Consequently, academic librarians must move beyond the reference desk and actively promote the importance of reference and information services as an integral part in the learning process. Positive individual contacts occurring within a supportive setting can lead to a high rate of repeat customers and can become infectious within the institutional community. There is no substitute for quality word of mouth service delivery. (Janes and Meltzer, 1990; Buttlar, 1994; Bopp and Smith, 1995; Stevens, 1995)

2. Prizing, accepting and trusting the learner

> I think of it as prizing the learner, prizing his feelings, his opinions, his person. It is a caring for the learner, but a non-possessive caring. It is an acceptance of this other individual as a separate person, having worth in his own right. It is a basic trust-a belief that this other person is somehow fundamentally trustworthy. (Rogers, 1969, p.109)

The development of this attitude requires an appreciation of the changing demographics within American education, an appreciation of the broadening nature of academic roles, and an understanding of the mosaic nature of the learning process as applied to individuals. Individual learning styles are as diverse as the planets in the universe. Their common core is their humanity, their approaches to learning as individualized as that of the planets. Although research has documented otherwise, learning styles are often erroneously confused with intelligence levels. (Arp, 1993; Beaubien et. al., 1982; Daragan and Stevens, 1996; Hall, 1991; Eisenberg and Spitzer, 1993) The danger in doing this is the probability of inflicting harm to the learner. An academic librarian must view each learner as a welcomed participant in the construction of knowledge. Although the academic librarian possesses a certain set of specialized skills not necessarily known by the learner, the learner still brings knowledge to the table

of learning. Learners should be considered peers in the search process of problem resolution and supported as such. (Farmer, 1992; Fenske and Clark, 1995; Giroux, 1988; Higbee, 1991)

3. Empathic understanding

> When the [educator] has the ability to understand the student's reactions from the inside, has a sensitive awareness of the way the process of education and learning seems to the student, then again the likelihood of significant learning is increased. (Rogers,1969, p.111)

Empathic understanding is perhaps the most difficult attitude to develop because it demands an appreciation of diversity; this has been, foreign to many academic librarians, because of the homogeneity of their lives and educational experiences. The irony here is that the content of their own discipline dictates a knowledge and appreciation of the diversity of sources within their purview. The same intellectual skill required to appreciate and analyze the diversity of resources used in the quest for information is needed to support effectively the search of the learner. (Raven, 1992; Schuh, 1991)

To discern the most appropriate resource for a given problem i.e., according to the defined needs of the problem solver, the problem requires the ability to share information resources among the diversity of users engaged in any given search process, helping to contextualize the information so that it becomes knowledge. As educators, academic librarians are obligated to share with the users the availability of all information resources that could assist them in building connections to their own knowledge base and backgrounds. Students learn best by making connections to their already existing knowledge bases. (Rosenshine, 1995) Academic librarians, as service providers, need not only to be aware of the importance of the users' frames of reference, but also be engaged proactively in building connections to those frames of reference and the users' searches for knowledge and information.

Most of the new students of the '90's have had very little exposure to library literacy skills and resources and, consequently, know very little about the diversity of information resources currently available or how to access and evaluate them. For these new students, the ability to absorb a variety of information resources and use them discriminately in the quest for new knowledge and information will require interactive instruction from academic librarians. Many in the field today believe that excess of information and not access to information will be the educational juggernaut for the 21st century. (Pastine and Katz, 1989; Twigg, 1994; Smith, 1997) This means that it will be even more important to have the critical thinking and evaluative skills to manage such a deluge.

The Rogers' prescription for developing the ideal facilitator does not call for an abandonment of the teaching function, as much as it calls for a redefinition which includes respecting and encouraging the inherent, intellectual talent of the learner. Those committed to nurturing intellectual potential and providing options of choice to the uninformed, in fact, are facilitating the learning process and adding to its richness. (Webler, 1997)

Academic librarians have a remarkable challenge before them. To manage professional and institutional reform within the demands of rapid technological change and to enhance the teaching/learning spectrum for diverse users is an Olympian task indeed. Although they will have intense competition from the information services industry, academic librarians have been and will continue to be the primary gatekeepers of knowledge and information. (Dowler, 1997) However, in meeting that challenge, they will need to expand, and perhaps, reshape their professional roles becoming the "gateopeners" to knowledge and information in this digital age.

Given the Academy's propensity to resist change, perhaps an example from the world of business can provide encouragement to those whose visions can expand beyond the boundaries of higher education. A leader in the field of educational equipment and

educational software to schools and libraries, Duncan Highsmith, CEO of Highsmith Inc., believes his "secret weapon" in staying ahead of the trends and planning for the growth of his company is providing his chief librarian with a seat at the table of corporate planning and development. He meets weekly with his chief librarian to discuss issues impacting corporate growth and viability. Chief Librarian, Lisa Guedea Carreno's primary responsibility is to provide all levels of management with the information necessary to assist them in achieving maximum performance in their individual corporate tasks. The concept of knowledge management, managing and utilizing effectively a variety of information resources, is considered a top priority for this $55 million dollar business. There is a lesson in this model, one from which higher education can most certainly profit. (Buchanan, 1999)

In the final analysis, librarians throughout the K-16 continuum need to move proactively into the instructional realm and become indispensable to the overall teaching/learning process. They must become part of the educational leadership in the Information Age. Perhaps Dr. Patricia Breivik, 1995 President of ACRL and Dean of University Libraries at Wayne State University, has already sounded the rallying cry for the entire profession by asking all librarians to "become beyond-library-walls librarians." (Breivik, 1995 p. 469)

The untapped, intellectual talent of our diverse nation can be unleashed with a dedication to the development of higher order critical thinking skills. (Paul, 1994) These skills – as they relate to the intellectual development of New Majority students- must become integrated within library professional training activities. A national philosophy of life long learning cannot be fully achieved without the active support and engagement of the professional library community in collaboration with every sector of the K – 16 infrastructure. Without it, our chances for competing successfully in a global economy diminish significantly. (Candy 1994)

Thus, the professional development of librarians and, indeed, even that of academic faculty can benefit significantly from adopting Dr. Rogers' prescription for *effective* teaching and learning.

4. General Education: The Academic Foundation for Knowledge Enrichment or Job Performance

"Palm Of The Hand....Trunk Of The Tree"[4]

The development of an information literacy culture within public higher education may depend on its systemic integration into the general education component of the undergraduate experience. General education, however, has had a turbulent history in the annals of American higher education. In 1828, the Yale Report declared *the discipline and furniture of the mind* as the essence of a liberal arts education; the former representing the capacity to expand the mental faculties and the latter the need to fill the mind with knowledge. (Boyer, 1986, Levine, 1978) As the domain of liberal arts grew within the academy, general education not only came to represent *the furniture of the mind*, but also the very foundation of the liberal arts undergraduate experience. Informed world views are often the result of a socially aware, general education experience and the development of informed world views should be a major institutional objective in educating all students.

Since the introduction of its forefathers, the quadrivium and trivium[5]- as the *general education* core of the undergraduate curriculum at Harvard College in 1636, general education has experienced several transformations. (Levine, 1978, p.500) These transformations reflect the historical, sometimes contradictory nature of curriculum revision; a revision, subject to the social, political, and economic dynamics of a constantly changing society.

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[4]Tanner, Daniel. *A Brief Historical Perpsective on the Struggle for an Integrative Curriculum,* Educational Horizons, Fall 1989, p.7-11

[5]Kimball, B. Orators and Philosophers: A History of the Ideal of Liberal Education. New York: Teachers College, 1986, p.25.

In addition, competing and often conflicting economic and political interests within society have heavily influenced the design and purpose of general education, causing many educators to lose sight of its original intent and mission. Instead of declaring general education the foundation for the growth of social, economic, and political prosperity for all, many educators developed narrow perspectives, and basically subscribed to *a survival of the fittest* mentality as far as educating the American public was concerned. (Katz, 1987; Gintis and Bowles, 1976)

Thus, the quandary within these transformations was basically whether or not curriculum content could marry successfully two opposing philosophical forces, often viewed through a variety of lens: diversity vs. uniformity, specialization vs. generalization, practical vs. classical. This quandary continues to fuel the debate today as we continue to maneuver our way through the intellectual mindfields created by the information age and the present curriculum reform movements. (Gaff, 1997)

What is General Education?

Jerry Gaff, a leading authority on the undergraduate curriculum, reviewed the academic literature on general education in 1983 and summarized its fundamental characteristics as the following:

- Is rooted in the liberal arts and sciences
- Stresses breadth of knowledge, languages, and methodologies
- Strives for integration, synthesis, and cohesion of learning
- Encourages appreciation of one's heritage and of other cultures
- Examines values and controversial issues
- Prizes a common educational experience for all students
- Expects mastery of linguistic, analytic, and computational skills
- Fosters personal development and an expanded view of self.

Unfortunately, the comprehensive scope of Gaff's characteristics of general education does not represent the standard practice within most institutions of higher

education. As fundamental as these characteristics may appear, the reality is that most American general education programs seem more inclined to reflect the social character and aspirations of the institution itself and not necessarily the intellectual needs of the community and/or the people they profess to serve. For example, private universities such as Columbia University, the University of Chicago, and Yale University, often located in marginal urban areas, have developed, arbitrarily, select commitments to the local communities in which they reside, while adhering to their elitist visions and international missions of educational preparation. Urban public universities, on the other hand, are legally bound to serve fully the local communities in which they reside. Unfortunately, their strong allegiance to academic tradition underscores their longing for the elite status of their contemporaries. This often short-circuits their visions in terms of meeting the real academic needs of their constituencies.

In ironic ways, the diversity of higher education institutions in America makes it extremely difficult for them, as a group, to commit to a common philosophy of general education, even when that philosophy may contribute significantly to achieving the ideal liberal arts education.

Instituting an information literacy framework, within a general education context, may provide the alternative approach needed to move closer to achieving that ideal. This approach would consist of creating a more responsive teaching and learning infrastructure, one sensitive to the uniqueness of individual institutions as well as to their constituencies. At the same time, it would establish a model of general education practice, one that would level the playing fields of access, opportunity, and choice for New Majority students. New Majority students need to learn the fundamentals of general education and its various modes of inquiry. This will enable them to manage information resources so that they may develop the intellectual dexterity and habits of mind to exercise lifelong learning skills for academic, personal, and civic success.

The General Education Debate

Although the purpose of general education continues to be debated, a recent study conducted by the American Council on Education showed that 89% of public research universities "reported that their undergraduates were expected to fill a core amount of coursework *in* general education classes." (Kellogg Commission, 1997) Institutions such as Portland State University continue to revise their general education components and integrate them within their institutional missions. Portland State University's definition of general education provides a model for urban public universities still struggling with the issue of general education and the academic context of the learning required to prepare New Majority students for responsible citizenship and lifelong learning:

> The purpose of the general education program at Portland State University is to facilitate the acquisition of the knowledge, abilities, and attitudes that will form a foundation for life-long learning among its students. This foundation includes the capacity and the propensity to engage in inquiry and critical thinking, to use various forms of communication for learning and expression, to gain an awareness of the broader human experience and its environment, and appreciate the responsibilities of persons to themselves, to each other, and to the community. (Portland State University, 1995)

In 1996, the National Association of Scholars conducted a study assessing *U.S. News and World Report's* designation of the top twenty-five research universities and the to twenty-five liberal arts colleges.[6] Within these colleges and universities, it was revealed that the concept of general education no longer held a place of prominence within their curricula. Although general education may not hold a place of prominence within these particular institutions, they, in fact, only represent approximately one percent of the higher education population. Some aspect of general education will always be a vital component of the liberal arts experience, although where it ranks within the academic continuum, will depend, in large measure, on the external forces which historically impact academic curricular reform in most institutions in higher education

[6]National Association of Scholars, http://www.nas.org/print/dogenews/dogenyt.htm

today. (Gaff, 1997)

General Education: Intellectual Skills and Workforce Skills – Is There a Difference?

I believe that general education is the foundation of undergraduate education and, as such, is responsible for the enrichment of the intellectual skills required to live, vote, and work productively in a democratic society. In 1995, the National Association of Colleges and Employers (NACE) identified the following set of skills as those most sought after by employers in hiring qualified and capable undergraduates(A.C.E., 1995):

- Oral Communication
- Interpersonal
- Teamwork
- Analytical
- Flexibility
- Leadership
- Written Communication
- Proficiency in Field of Study
- Computer

From an academic perspective, a similar set of skills and abilities were identified by Walshok (1995) as critical in meeting the demands of an increasingly diverse, economically challenged society:

- Higher-order applied problem-solving abilities
- Enthusiasm for learning on a continuous basis
- Interpersonal skills, including teamwork and collaboration, and oral and written communication skills
- Sense of responsibility for action (both personal and collective)
- Ability to bridge cultural and linguistic barriers
- Sense of professionalism

Analyzing Gaff's characteristics of general education in conjunction with NACE's criteria for qualified employees and Walshok's description of needed skills, one becomes hard-pressed to distinguish substantive differences among them. All require the development of basic intellectual skills and abilities which are integrally woven within the general education experience. In fact, in today's information society, general education and workforce preparation must go hand in hand if business and the higher education community are to produce competent, independent lifelong learners capable of managing in a complex information driven society.

The Information Age dictates new visions for teaching and learning. Today, we are being overwhelmed with information and yet, we continually require new knowledge. As Tapscott notes, " In an economy like this, the only assets that really count are intellectual assets." In this writer's opinion, the same is true for higher education. Discipline specializations are out of control in regard to the availability of information. (Walshok, 1995; Tapscott, 1998) If we plan to manage information resources effectively and thoughtfully then we must search for more ways to integrate the educational functions of each occupation within society that contributes to enriching our quality of life. The development of lifelong learning practices cannot and should not be left to educators alone. Each occupation and profession has views and methods in which they conduct their teaching and learning functions within their own spheres. Collaborating on the implementation of these methods and practices would provide a multi-level approach in creating a teaching and learning and training/retraining infrastructure responsive to the diverse, educational needs of the American public. Without more collaborative efforts our most precious resource, our human capital, will not be able to flourish in a society destined to be controlled by the ebb and flow of information resources.

Process vs. Content Learning

Another major concern within the general education debate is the on-going issues

of process vs. content. This concern is particularly concentrated in the K-16 teaching and learning continuum. (Parker and Rubin, 1966;Tanner, 1982; Kuhlthau, 1987)

> The majority of teachers and students currently approach content, not as a mode of thinking, not as a system for thought, nor even as a system of thought, but rather as a sequence of stuff to be routinely "covered" and committed to memory.[7]

Numerous models of curriculum design exist: teacher-centered, career-based, student-centered, values-based, culturally driven, and so on. (Jackson, 1992; Tanner and Tanner, 1980) Yet, in higher education, the lecture (teacher-centered) and discipline-specific model of knowledge dissemination still dominate curriculum planning and programming.

For the last 300 years, curriculum development in higher education has evolved around three major components: general education, discipline specialization, and electives, with discipline specialization accorded the most value in the academic community. Each component has, however, been the subject of many debates and each has evolved as a result of three major external influences: society, the world of knowledge, and the nature of the learner. (Tanner, 1982, p.238; Levine, 1977; Rudolph, 1984).

Nonetheless, the Age of Information is changing dramatically the teaching and learning context in which we define the acquisition of information and the construction of knowledge. Discipline specialization, considered by the faculty to be the apex of the liberal arts experience, is now being overwhelmed by the immensity of information production. As discussed earlier and illuminated in Large's The Micro Revolution Revisited (1984), "more new information has been produced in the last 30 years than in the previous 5000 years." Print and electronic resources are multiplying at unbelievable rates:

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[7] *Content is Thinking; Thinking is Content,*
Http://www.sonoma.edu/Cthink/university/univlibrary/content.nclk

- Book titles published in the United States each year: over 40,000
- Paperback titles published in the United States, 1995: 14,559
- Newspapers in the United States, 1994: 1548
- Magazines published in the United States, 1993: 11,153
- CD-ROMs and WWW Home Pages are experiencing phenomenal growth[8]

Consequently, the management of the exponential explosion of information creation has overwhelmed the development of the current teaching and learning infrastructure within higher education.

Knowledge creation, often thought of by the Academy as the cumulative end of the teaching and learning process, now possesses constructivist qualities in that it has become the building block of the reflective and critical informational process. In fact, what is the informational process? According to Lenox and Walker (1993), the informational process is a method designed to give individuals and/or groups of individuals the ability " to question, channel, control, sort, divert, analyze, store, and later retrieve vast quantities of data." The process of acquisition of information now relies heavily on our ability to sift through the bombardment of data chips constantly assaulting our intellectual psyche and glean appropriate linkages for meaningful knowledge construction. In years past, "to know" meant to have in one's own memory," whereas in today's world, " to know means to have access to the informational process." (Lenox, 1993) Therefore, access to the informational process and the ability to contextualize information are critical to the development of constructivist learning, a process vital to the on-going objective and subjective creation of individual knowledge. (Belenky et al. 1986)

Higher education's affinity for the lecture [teacher centered] model often stifles opportunities for constructivist learning to take place in the classroom which, on many

[8]Information from:(Source: *Bowker Annual*, 1995; Source: *Information Please Almanac*, 1996; Source: *Standard & Poor's Industry Surveys*, 1995) http://www.wsulibs.wsu.edu/univ300/campus/lesson1/growth.htm

urban campuses, is the optimum environment for active community learning and sharing to occur. As Papert (1995) writes, "Better learning will not come from finding better ways for the teacher to instruct but from giving the learner better opportunities to construct."(Cited in Shaw, 1999) In fact, access to informational process has been held by various enclaves of white male leadership whose practices have served to suppress creative knowledge construction for a broad spectrum of individuals. The intellectual success of the New Majority students will depend on their access to the informational process, active engagement in the learning process, and the ability to contextualize information and construct it into meaningful knowledge.

In the teaching and learning paradigm for the 21st century, the importance of the informational process is based on appropriate methodology that is critical to the development of the life long learner." Any [other] approach which fragments the expectations of education into knowledge on the one hand, and skills, understanding, attitudes, and appreciation on the other is shortsighted. Process...is the integrating mechanism."(Parker and Rubin, 1966, p.29)

General Education and Information Literacy

An information literacy perspective within the general education component of the curriculum not only provides the appropriate framework to insure connectedness of teaching and learning, but also fosters the development of *inquiry skills* essential to meet the teaching and learning needs of diverse student populations. Papert(1993):

> Not very long ago, and in many parts of the world even today, young people would learn skills they could use in their work throughout life. Today, in industrial countries, most people are doing jobs that did not exist when they were born...The most important skill determining a person's life pattern has already become the ability to learn new skills, to take in new concepts, to assess new situations. To deal with the unexpected. This will be true in the future. The competitive ability is the ability to learn.(Cited in Shaw, 1999)

Exposure to a general education curriculum offers students intellectual choices

and options that should be compatible with individual learning styles, interests, and experiences. In order for effective learning to take place, students must be able to connect to the knowledge being presented and feel confident that they possess the inquiry skills necessary to make the appropriate learning connections. (Rosenshine, 1995) The same perspective applies to teaching as well; what is being taught must, in some way, connect to the experiences and background of the learner; actively engage the learner in the learning process; and challenge the learner to absorb and interpret the knowledge and information in such a way that represents the best of his/her unique style of learning. (Rubin and Cohen, 1966)

In concert with the above perspective on general education and information literacy, Shapiro and Hughes (1996) offer another insight into the role of information literacy within the academic curriculum that illuminates the potential depth of its impact in light of the evolving, transformational nature of the Intelligent Network (telecommunications and computing):

> ...information literacy...as a liberal art that extends from knowing how to use computers and access information to critical reflection on the nature of information itself, its technical infrastructure, and its social, cultural, and even philosophical context and impact—as essential to the mental framework of the educated information-age citizen as the trivium of basic liberal arts (grammar, logic, and rhetoric) was to the educated person in medieval society.

Livelihoods of the future, both blue and white collar, will depend on one's ability to problem solve effectively and to access, manage, and integrate information resources within the overall context of the societal work and home environment. What was once considered rudimentary and fundamental to the process of learning is currently transforming itself into an integrative, core component for the process of life long learning and its application to life. Basic skills and intellectualism, contrary to the opinion of many in the Academy, are not mutually exclusive and may be seen as the conceptual basis for Bruner's (1960) spiral curriculum, evolving and maturing with every

spin of intellectual, developmental, and technological advancement. Thus, general education may provide the diverse, disciplinary roots for effective integration within an information literacy framework.

As Shapiro and Hughes (1996) suggest, information literacy should be incorporated into the academic taxonomy of every institution's general education program and in their mission and vision statements. (Bruner, 1960) Katz (1989) also encourages faculty to stop avoiding courses out of their area of specialization, to move beyond their disciplines, and to embrace general education. In so doing, they will not only expand their own "intellectual horizons" but also, become more receptive to new ways of teaching and learning, for their students and for their own professional development. (Katz, 1989)

In the final analysis, general education is one of those academic icons that will always evoke rousing debates, whenever issues of student learning and access to the informational process arise. However, as content continues to be the "moving floor" in the teaching and learning spectrum, the successful outcome of any general education program will depend on the solid development of an appropriate cognitive framework that addresses the modes of inquiry reflected throughout the academic continuum. (Hativa & Marincovich, 1995) Pascarella and Terenzini (1991) synthesized over 2600 research studies in their comprehensive work, How College Affects Students. They discovered:

> Abundant evidence suggests that much factual material is forgotten rather soon after it is presented in educational settings...Thus, beyond post-secondary education's undeniably significant role in the imparting of specific subject matter knowledge, claims for the enduring influence of post-secondary education on learning must be based, to some extent, at least, on the fostering of a repertoire of general intellectual or cognitive competencies and skills. These cognitive skills go by a number of different names (reasoning skills, critical thinking, intellectual flexibility, reflective judgement, cognitive complexity, and so on.) and they differ somewhat in the types of problems or issues they address...These cognitive competencies and skills represent the general intellectual

outcomes of college...(p.43)

The transformation to a learning society requires information literacy to be the cognitive component within any curricular framework.(Candy, 1995) Bruner's (1960) "spiral curriculum" philosophy may provide the synergistic model needed by faculty, students, librarians, and other committed stakeholders working together to create a new teaching and learning framework sensitive to the intellectual demands of a rapidly growing information society. (Bruner, 1996)

5. The Institutional Mission Statement and Information Literacy

The purpose of a mission statement in an institution of higher learning is to affirm its raison d'être. Each mission statement is unique, reflecting a particular philosophy and characteristics including type and purpose of education offered, composition of student body, and services to the community. In essence, the mission statement serves as the guiding force for the institution and the community it serves. (Levine, 1977)

Mission statements are also living documents, subject to the vicissitudes of a world in a constant state of transition. Mission statements respond pragmatically to mirror a transitional society and are often nostalgically wedded to the classical tradition of a liberal education.[9]

Many institutions today are seeking to "modernize" their mission statements by including in them a recognition of the importance of teaching and learning, the significance of diversity, the need to be responsive to applied research, and the need to integrate the use of technology in the academic preparation of students. Yet, today's mission statements still reflect the tension inherent in reconciling the classical tradition of a liberal education to real world expectations. (Jones, 1996) They are often ambivalent

[9] In Orators and Philosophers (1986), Kimball traces the epistemological origins of liberal arts first back to the Greeks (Enkuklios Paideia), then the Romans (Septem Artes Liberales), both representing *general education* for the free citizen who has leisure time to study. Septem Artes Liberales a.k.a. trivium and quadrivium consisted of the following areas of study: grammar; logic; rhetoric; arithmetic; geometry; music; and astronomy. The trivium and quadrivium constituted the classical liberal arts tradition ingrained in the historical evolution of the higher education curriculum in America.

towards the importance of applied research as well as the need to focus on diverse pedagogical techniques. In addition, they have a tendency to demonstrate patronizing attitudes toward the principles of diversity and access.

In the 1993 report, *An American Imperative: Higher Expectations of Higher Education*, the Wingspread Commission published a number of essays concerned with the future mission of colleges and universities as they transition into a learning society with an information based economy.(Wingspread Group, 1993) In addressing the issue of what society needs from higher education, Robert Atwell wrote that the inherent mission of colleges and universities is to develop citizens capable of making wise choices and demonstrating leadership capabilities across the spectrum of American society. Eileen Moran Brown saw the mission as a constant re-examination of what she classified as the "sacred cows" of higher education--if, in fact, colleges and universities were going to continue to weather the paradoxical nature of cultural change and social ambivalence in a time of dynamic technological, systemic upheaval:

- Everyone learns the same way and that the best way of learning disciplined thinking is the academic approach.
- Most academic subject matter is learned best in a classroom.
- It takes a certain number of credits to qualify for a degree.
- Faculties know and teach while students learn.
- How an institution of higher learning structures itself, runs its classes, operates its dormitories, promotes its faculty, relates to its community, selects its students, and allocates its resources has little to do with what its students learn.
- Tests and papers assess what students know and what they are becoming.
- Particular grade point averages and degrees are precise measures of an institution's output.
- Intellectual competition and the structured search for truth are sufficient dynamics for change within academic institutions to keep them securely ahead of the rest of

society.

It would seem that for colleges and universities to maintain any aspect of these "sacred cows" may be antithetical to the institution's adoption of an information literacy philosophy in their mission. This is a philosophy that is central to creating student-centered institutional missions that are responsive to the teaching and learning demands being created by the educational reform movements currently sweeping the nation. Russell Edgerton, former president of the American Association of Higher Education, states that colleges and universities must "engage their students in much more intense effective learning communities, and shift the emphasis from passive and 'received' to active and 'constructivist' approaches to knowledge and learning." Activism and constructivism are teaching and learning principles inherent in any information literacy based institutional mission statement. (Breivik, 1991)

Arthur Levine (1992) observed that in times of great social upheaval, such as our current transformation from an Industrial to an Information Age, the colleges and universities which emerged successful in fulfilling their missions were those with "clearly defined institutional missions, boldness in educational vision, curricula that mirror their visions, and programs that respond to the educational needs of their times. For them, resources follow programming, not the other way around."

If higher education is to maintain its present leadership stature within American society and avoid falling victim to emerging educational alternatives being spearheaded by business and industry, then the following issues, dominating academic discourse, will require, non-traditional solutions. These issues must be addressed by higher education with a collaborative mindset including constituencies not necessarily a part of the traditional academic echelon:

- The current explosion in information technologies
- The growing ethnic diversity, aging, and academic preparedness of our student populations

- The shifting pendulum in curriculum design (liberal arts vs. professional education)
- The on-going erosion of public and private confidence in the public K-16 educational spectrum
- The rising interest in entrepreneurial governance within higher education as opposed to the existing traditional, management structures
- The continuing reduction of federal/state financial support
- Business and industry's continuing dissatisfaction with higher education's myopic vision of their human resource needs
- The *Digital Divide* – the technology haves and have-nots.[10]

David Kolb offers a concrete perspective to the resolution of these very important issues:

> A central function for a large university organization is to provide the integrative structures and programs that counterbalance the tendencies toward specialization in student development and academic research. Continuous lifelong learning requires learning how to learn and this involves appreciation of and competence in diverse approaches to creating, manipulating, and communicating knowledge. (Chickering, 1981, p252)

Thus, urban public universities must continuously re-examine their mission statements if they desire to manage their academic enterprises with the expressed purpose of serving the educational needs of the "all of its citizens" in a dynamically shifting culture and environment. (Irving, 1996; Hogarty et al. 1995)

6. The Urban Public University: "Any Person...Any Study"

What are urban public universities? Berube (1978) defined them as "servants of society, [evolving from their inception] as municipal institutions ... or from the expanded campuses of [established] university systems" existing to serve the educational needs of the common man. Golino (1978) believed strongly that urban public universities had the capability of bringing together diverse groups within the community to improve

[10]Vanderbilt University, *The Digital Divide*, 1998.

significantly the quality of the urban life. Grobman (1988) saw them as *new* institutions serving larger percentages of New Majority students. Barnett (1988) viewed the role of urban public universities as preparing its citizens to meet the challenges of a transforming, information/knowledge society. Therefore, they bear the responsibility for developing the economic, educational, social, and political leadership needed in metropolitan areas and throughout the country. Desrochers and Detmer (1990) speculated that the urban university today "lies in the shadows of highrises and skyscrapers, in something amounting to a "global city" and is filled with people whose expectations regarding information, service, and egalitarian access to knowledge are unprecedented in all of history." The central theme inherent in all of these viewpoints is the interlocking connectedness of the urban public university to the vitality and richness of urban life and its mandate for the timely creation and proliferation of knowledge to its various publics.

In a 1990 longitudinal study examining the issues of access and graduate education at urban public universities, Kinnick and Ricks revealed a portrait of a fairly new, emerging institution of higher learning struggling to define its own, unique destiny within the context of an academic culture steeped in tradition and elitism. Urban public universities appear to have an identity complex. While many of these institutions are seen by external constituencies as "any person...any study" type of institutions, many faculty and administrators within the urban campus culture possess elitist views of scholarship and teaching. Peggy Gordon Eliot, president and professor of education at The University of Akron, notes:

> While they [the faculty] are, for the most part, exceptionally well prepared to advance the knowledge of their specific field, none can realistically be expected to arrive at the academy equipped to engage in issues of institutional change, methods of instructional delivery, or fundamental ways of advancing intellectual development. (Eliot, 1994, p.92)

The inability of many faculty and administrators at urban public universities to transform traditional, elitist practices and manage the dynamic educational challenges at these new *common man* institutions does not bode well for students whose only option for higher education may be an urban public university.

Kinnick and Ricks' study also uncovered that in most of the 32 urban public universities studied, access for students of color was very problematic in that many reflected a lower percentage in student enrollment than was representative of the metropolitan population. The White male dominated (83% male and 89% White) domain of higher education impacts the accessibility of other groups of New Majority students to higher education as well.[11] This is a major example of the difficulty of urban public universities to think creatively and act critically in maintaining their status as an accessible, urban land-grant institution of higher learning. Access, a major cornerstone of the urban land-grant movement, is clearly in danger of being compromised. As Eliot observes, if many of these faculty and administrators on these campuses lack the skills and insight to facilitate the internal cultural transformation needed, then the ability of urban public universities to compete and remain viable within the higher education marketplace forecasts a very bleak future. (Eliot, 1995)

According to the National Association of State Universities and Land-Grant Colleges (NASULGC), the oldest higher education association in the nation, public colleges and universities today educate nearly 49% of the student population attending higher education. In being responsible for educating such a large number of America's students, many public colleges and universities are aware of the urgency to re-energize and enrich their urban land-grant missions. In January 1996, the Kellogg Foundation awarded NASULGC $1.2 million dollars to establish a presidential commission, consisting of twenty-five public university presidents, to study the future of state and land grant universities. The Commission had three years to develop an *action* agenda on the

[11]Kellogg Commission: *Returning to Our Roots, The Student Experience*, 1996.

following variables impacting the current status of public higher education: a persistent shortage of funds, greater accountability from the public, skyrocketing fees, and questionable practices regarding research, teaching, and faculty workloads. The Commission will also focus and issue reports on the following five concerns: the student experience, access, engaged institutions, a learning society, and campus culture. (NASULGC, 1996)

All of this concern and attention brings into focus the conflicting realities of urban public institutions managing in times of dwindling resources and wavering public and private trust, while trying to maintain a commitment to equality of educational opportunity and academic excellence. Although teaching is supposed to be central to the educational mission of urban public universities, many have chosen to reverse the order of the academic trinity and capitalize on the prestige and profits of educational research, at the same time diminishing the importance of teaching and service. Thus, their challenge as seen by the Kellogg Commission is to " maintain [their] legacy of world - class teaching, research, and public service while, at the same time, building on [its] legacy of responsiveness and relevance."[12] This will require a re-examination of their mission and the development of strategies to educate the diversely prepared populations now converging at their portals demanding access and service.

Urban public higher education does, indeed, have a critical responsibility for developing a significant portion of this nation's workforce as lifelong learners who have mastery of the basic intellectual skills crucial for managing the complexities of modern day life. Basic intellectual skills in today's world not only include reading, writing, and numeracy, but the ability to think critically and creatively, work collaboratively, utilize information resources to strengthen informed decision making, and act responsibly within dynamically changing environments. These skills are essential for individuals to enjoy the richness of having options and taking advantage of opportunities. Many of the urban

[12]Kellogg Commission: *Returning to Our Roots, The Student Experience*, 1996

public university faculty, however, often fail to incorporate them within classroom practices as evidenced by their continued reliance on the use of the lecture and text book as the primary methods of instruction. (Guskin, 1996; Cross, 1997; Breivik, 1998)

A mastery of basic intellectual skills is fundamental to the teaching and learning process advocated by an information literacy philosophy. Given the current composition of the New Majority student population attending urban public universities today, basic intellectual skill development should not be relegated to remedial instructional practices only, as has been done in the past. In fact, they should be incorporated within all levels of an academic curriculum, providing New Majority students with a firm foundation to manage and integrate the abundance of new information these students will encounter on their intellectual journeys throughout the Academy and beyond.(Gaff, 1997)

Sherman and Taylor (1982) believe that the word "basic" takes on a whole new meaning when addressing the basic skills of New Majority students. For Sherman and Taylor, "basic" encompasses the perspective that the learning of basic skills is a fundamental and multi-level intellectual activity, dependent on the individual's prior exposure to a given discipline, career focus, and/or a life experience. Being exposed to new entities for learning requires an understanding of its basic intellectual properties that does not necessarily translate into being a remedial activity as much as an intellectually, challenging experience.

Consequently, in today's world, the learning and re-learning of basic intellectual skills impacts every level of the K-16 teaching and learning continuum. Adopting this perspective highlights the importance of understanding how individuals actually learn and re-learn at different academic and career levels and emphasizes the importance of how they are being taught. By their professed missions, urban public universities have the unique opportunity to lead the way, pioneering a new model of teaching and learning that engages the true meaning of educating diverse student populations. In doing so, they will create learners confident in their abilities to master basic intellectual skills while

accumulating and synthesizing new knowledge and information. Walshok (1995) notes:

> Knowledge is information put to work. It is the marriage of theory and experimentation. It is the integration of ideas and experience. Knowledge is what enables people to make judgments, create new products, solve problems, and interpret events. (Wolshok, 1995, p.5)

Information literacy may provide urban public universities with the intellectual blueprint for designing such an infrastructure, one capable of making significant contributions to how we teach, learn, generate, and share new knowledge in a technically driven, information society. The fact that sixty-one percent of full-time undergraduates and 48% of part-time and adult students are currently adept at using personal computers underscores the readiness of many students to integrate the principles of information literacy within their own educational experiences. (NASULGC, 1998)

7. New Majority Students

The complexion of the undergraduate population in public higher education has changed significantly in the last twenty years, no longer dominated by the traditional 18 year old white male and female college student of modest and/or affluent means. Dramatic shifts in demographics have brought waves of new learners into urban public colleges and universities today, learners who have had no prior exposure to and/or limited experience with using the print and electronic resources of an academic library.

These new learners, these pioneers of the Information Age, often come ill equipped, but not intellectually incapable, of handling the rigors of the Academy. (Eliot, 1994; Miller, 1995) Yet, they are expected by most faculties to produce quality academic work at the outset of their intellectual journeys. What is even more profound is that they are also expected by faculty to know how to navigate the rapids of information inquiry/research and manage the extensive variety of information resources available to them in their academic libraries. Many are learners who have often been shortchanged by various systems of public education, which have neglected developing their critical

thinking and library literacy skills. (Paul, 1994)

Just who are these new learners? They are the new students of the 90's, reflecting the makeup of many cities in urban America. They are adult learners: single parents; women; senior citizens; returning career professionals; newly arrived immigrants from the Pacific Rim, Latin and Central America, the Caribbean basin countries, Eastern Europe, and Africa; historically underrepresented people of color; and the economically disadvantaged. (Kinnick and Ricks, 1990; Eliot, 1994) Only forty-three percent of the undergraduates attending four-year post secondary institutions today are under the age of twenty-five. (Twigg, 1995)

As Figure 1 demonstrates, today New Majority students dominate undergraduate enrollments in most urban public institutions. Wayne State University typifies the urban public university student profile.

Figure 2.1. Wayne State University's Student Profile

Characteristics	*Attitude*	*Expectations*	*Range of*
Varied ethnically	*Cynical*	*4 year mentality*	*Academic preparation*
93% from Michigan	*Pragmatic*	*Unrealistic*	*Learning styles*
Mean age of 28	*Uncertain*	*Fast feedback*	*Learning rates*
Urban/	*External*	*Consumer-*	*Self-esteem*
Suburban mix	*Priorities*	*Oriented (Quality, Value)*	
Exist in two worlds	*Anxious*	*WSU is 2nd choice*	*Ages*
Career brain-washed	*Bored*	*"Green"*	*Interests*
75% employed off campus	*Excited*		
1st generation college	*Zealous*		
Commuter	*Insecure*		
Pressed for time	*Scared*		
Short attention span	*Cocky*		
Tentative identity			
Visual Orientation			
Non-print information gatherer			

These new learners are perceived by most traditional academic faculties as being totally responsible for the acquisition of these skills. (Doherty, 1997; Maynard, 1990; Thomas, 1994; Sellen and Jirouch, 1984) However, the lack of critical learning tools causes many of these new learners to fall victim to intellectual self-degradation and

eventually many withdraw from higher education altogether. Retention rates are dismal for New Majority students who do not possess strong intellectual supports, i.e., critical thinking, library literacy, and technological skills, as evidenced by educational research and national reports produced in the last 20 years on the state of education in America. (Carnegie Commission, Wingspread Commission, A Nation at Risk, American Council on Education, etc.)

A significant number of New Majority students attending urban public universities share a common bond, a bond of limited academic preparation that contributes significantly to the attrition of many of them during the first year of their college experience. Sixty-four percent of college freshmen do not return for their second year. Students attending public colleges and universities have among the lowest retention rates of all students in post-secondary educational institutions. (Astin, 1996) Poor academic preparation and a lukewarm campus-wide environment, among other factors, contribute to low retention rates in urban public universities. A major factor contributing to this low retention rate, however, is the limited understanding possessed by most college and university faculties concerning the importance of student learning styles and the impact of teaching styles on student success. (Katz, 1989; Lucas, 1989; Higbee, Ginter, and Taylor, 1991; Gaff et al. 1996)

New Majority students, attending urban public universities, represent a panorama of learning styles unfamiliar to faculty. Consequently, college and university faculties planning course content and classroom instruction methodologies seldom address issues of learning styles prior to engaging in instructional activity. Most college and university faculty would profit greatly from being aware of how their students learn and the range of learning styles they possess.

K. Patricia Cross (1997) believes that the abundance of research on learning underscores the fact that students must be "mentally engaged in order to learn." Without an in-depth understanding of how individuals learn, faculty at urban public universities

may be seriously undermining the effectiveness of their teaching responsibilities and their own learning capacities.

> Not only does a person's learning style influence the way the person learns, but learning style also has implications on how they teach others... the key to teaching students with different learning styles is the identification of your own learning style as well as your student's styles. (Raven, 1992)

A significant amount of literature is available discussing the importance and/or influence of learning and teaching styles and should be incorporated in all faculty professional development programs. (Katz, 1989) At present, this is rarely done. This probably can be attributed to the fact that faculty development programs began in the early 70's and, as with most academic issues involving substantive change in faculty behavior, systemic growth in this area has evolved very slowly. Consequently, New Majority students attending urban public universities are often exposed to faculty who have limited training and/or knowledge about student development as it relates to teaching and learning.

New Majority Students and Student Development

Effective styles of teaching and learning require a deep understanding of student/adult development theories, particularly as they relate to New Majority students attending urban public universities. Arthur Chickering (1969) is considered, perhaps, the foremost authority on student development theory in higher education. (Gaff, 1997, p.95; Upcraft and Gardner, 1989) Chickering's research consolidated various elements of developmental theory from several theorists, Piaget, Kohlberg, Erickson, and Perry, and created a spectrum of seven vectors that define student development in higher education. Students must be able to:

- Develop competence--coping intellectually and interpersonally with goal setting and goal achievement
- Become autonomous--emotional independence and self-sufficiency

- Manage emotions--control and use emotions wisely
- Establish identity--holistic examination of self and act accordingly
- Develop free interpersonal relationships--develop meaningful and responsible relationships
- Clarify purposes--an appreciation for the responsibilities of adulthood
- Develop integrity--an enriching and rewarding belief system that frameworks individual behavior

New Majority students could benefit significantly from the incorporation of Chickering's principles in academic programming. Wholesale adoption of Chickering's principles by the urban public higher education community is, at present, highly unlikely. Realizing theory into practice is not one of higher education's strengths.

Chickering's theories continue to challenge higher education's traditional, didactic approach to teaching and learning. Many faculties within urban land-grant institutions today seem to have lost touch with the land grant's original purpose - educational access for the common man. Their traditional, elitist training often frames their perspectives on teaching and learning in designing curriculum for New Majority students. For the present, the continual arrival of the New Majority student to urban public university campuses will be a source of constant consternation for those traditionalists wedded to a classical view of higher education.

In addition to incorporating the principles of student/adult development theories into the design of undergraduate curricula, high academic student performance must be inspired by a caring, concerned faculty. According to Noel and Levitz, leading authorities on student retention, student academic achievement is enhanced with the assignment of higher education's best teachers to [undergraduate] courses. This is not, however, the common practice in urban public higher education. Noel and Levitz strongly advocate that "teachers who believe they have no responsibility for motivating students do not belong in [any] classroom." (Noel and Levitz, p. 78, 1989)

In the long run, the ultimate assessment of an urban public institution' s commitment to educational excellence and life long learning is its ability to *develop talent* in its students--talent engineered by enlightened faculty who consider teaching the most important component of the Academic trinity. (Astin, 1985; Erickson, 1984) Information literacy can only exist in a teaching and learning environment inspired by the best faculty who embrace Chickering's principles of student development and develop the intellectual acumen of the New Majority student.

Information Literacy Instruction for New Majority Students

The ability to identify the question and analyze, evaluate, and use information, otherwise known as information literacy, can support a teaching and learning process in an information society. It is this ability that sustains innate intellectual talent. This ability feeds the learning style of the learner and bonds the new with the old. It is a process in a state of constant reflection and it embraces the phenomenon of change, planned or unexpected. Kuhlthau believes that by attaining information literacy, New Majority students will gain proficiency in modes of inquiry as they learn to interpret and use information. (Kuhlthau, 1987)

Adopting an information literacy philosophy enables New Majority students to master what Lisa Delpit has described so articulately in Other People's Children: Cultural Conflict in the Classroom as "codes of power". For the K-12 student population, Delpit sees "ways of talking, ways of writing, ways of dressing, and ways of interacting" as the essential communication skills needed by these students to function effectively in the dominant culture of power. In higher education, however, Delpit's codes of power must be expanded to include ways of thinking as well. The ability to synthesize and use information is the pinnacle of intellectual empowerment.

Today, information is the premier currency of the world marketplace, and, as such, New Majority students educated within an information literacy framework will be

powerful brokers their own knowledge and currency. Information literacy instruction can provide the New Majority student with the opportunity to master a variety of modes of inquiry, modes not commonly developed in current academic curriculums, but essential in developing the self-motivated and life long learner. It has the capability of investing New Majority students with the intellectual skills and self-esteem to master the dynamic challenges of an emerging, technologically driven society and provide the necessary, responsive leadership in a continually shrinking, global economy. Information literacy must not be presented as a separate skill; it must be integrated across the curriculum, if it is to be utilized and built into the culture of thinking needed to manage intelligently the wide variety of information resources available in the print and electronic media today. (Bruce1997; Eisenberg,1999; Breivik,1997) It is only through meaningful application and usage that New Majority students will be able to perceive themselves as empowered users of information rather than passive vessels of data manipulation. (Macedo, 1995)

8. Student Retention

To understand the interconnectedness among information literacy, student retention, and the undergraduate academic experience, a brief analysis of higher education's student retention practices must be examined. Student retention, the maintenance of student enrollments, has been and continues to be one of the major public policy issues within the higher education community. Fluctuating enrollments dramatically impact the financial bottom line and the future viability of any institution of higher learning. Consequently, most colleges and universities are aware of its importance and its influence on the institutional mission and vision. Since the early 80's, when enrollments began slipping across the country and the availability of traditional age college students began to take a downward spiral, numerous studies and reports assessing the effects of student retention efforts on college and university campuses concluded that students leave for a variety of reasons that are not just academic and/or financial.

Institutional efforts to reverse the trend have had only a marginal impact. (Noel/Levitz, 1986; Astin, 1992; Tinto, 1996)

In 1991, external pressure focusing on institutional enrollments and accountability within the higher education community started to escalate with Congress passing the *Student Right-To-Know and Campus Security Act.* This federal legislation required all higher education institutions to make public their institutional retention rates. Today, most college and university campuses use their retention rates to measure the institution's effectiveness in fulfilling its mission and to recruit prospective students.

"Retention," often used in conjunction with its antonym "attrition," can be defined as academic degree completion or achievement of specifically defined student objectives. In either case, the concept of retention is an attempt to measure an institution's success at graduating students and/or assisting students in achieving particular objectives that may not include degree/certificate attainment. Most institutions subscribe to the Student Right-To-Know and Campus Security Act's definition of retention: retention is measured by a student's *first academic, institutional experience* that provides the foundation for most institutional studies and policies on the issue of retention. The experience is measured by whether or not the student achieves his/her educational goal and/or graduates in a given period.

Why do they leave?

As stated earlier, both traditional and non-traditional students leave colleges and universities for variety of reasons. Research on retention focuses on the following indicators as the prime reasons for attrition:

- Academic boredom
- Irrelevancy
- Transition/adjustment problems
- Uncertainty about what to study

- Limited and/or unrealistic expectations
- Incompatibility
- Academic unpreparedness
- Financial (Noel/Levitz, 1989, Tinto, 1996)

In addition to the above, external environmental issues such as "hours of employment, outside encouragement, and family responsibilities" have a greater impact on adult learners in matters of retention than on traditional age students. (Updraft, Gardner et al. 1989. p.307)

Based on the above, institutional fit between the student and the college/university environment has a major impact on retention rates. "Fit", can be defined as how well the institution supports its students through its support services and its mission statement. Support services include personal and career guidance, social and financial aid, academic skills support, responsiveness of faculty and staff to student needs and interests, and flexible curricula designed to accommodate personal, intellectual, and professional interests. Tinto (1996) Supporting students in the attainment of their educational goals--be they degree or non-degree candidates--is crucial to the development of an effective, institutional retention policy. (Tracy-Mumford et al. 1994)

One aspect of the concept of institutional fit is reflected in Tinto's "Theory of Marginality." This theory focuses on the level and intensity of tension between a student's academic performance and social integration (participation in campus culture). Tinto (1996) believes that institutions would better serve their educational missions if they would assist students with finding their "niche" and when the "fit" doesn't "fit," facilitate their departure. Institutions that manage this process well have higher retention rates. (Tinto, 1985)

Thirty years ago, the concept of retention focused on "student persistence." Marchese notes that during the 60's, student persistence focused on the efforts of the individual student. As we moved into the 70's, the academic preparation of students was

reported to decline, shifting the emphasis from persistence to institutional retention efforts. (Noel/Levitz, 1985, p. X) By the 80's, the focus moved again to the total student collegiate experience. Today, the focus because of dwindling corporate and governmental resources is primarily on high student retention rates as a measure of institutional accountability.

Are institutions, in fact, living their mission statements or just professing them? Are state residents being prepared to meet the social, political, and economic challenges of a rapidly, dynamically changing information society? Can urban public institutions account for their tax-exempt status in terms of community revitalization and international competition within the world economy?

Institutional Retention Practices

Today, efforts at retention concentrate on institutional practices; practices that narrow the gap between student preparedness and the academic culture and environment; practices that support individual development in conjunction with academic relevancy; practices which include in the evaluation process, positive change within the campus community. "Effective retention has little to do with instituting gimmicky programs, lowering standards, or manipulating students into staying; it has everything to do with providing experiences that engage student minds and energies." (Noel/Levitz, 1985, p. XI) Noel and Levitz (1985) determined that effective retention practices must focus on continuous improvement of campus programs, services, attitudes, and behaviors. Moreover, a campus culture that is receptive and welcoming to diverse student populations with varied teaching and learning needs--is a campus that will survive and thrive in the Information Age.

Retention and Urban Public Universities

Urban public universities attract a diverse academic, social, economic, and ethnic profile of student body. Numerous retention studies (Noel/Levitz, 1982; Starks, 1987;

Metzner and Bean, 1987; Walleri and Peglow-Hock, 1988; Astin, 1992; Tinto, 1996) indicate that in order to hold a high number of enrollees, the following retention principles must be adopted:

- The persistence of diverse groups is affected by institutional policies and retention efforts must be targeted accordingly
- Students must be helped to clarify their academic and career goals, prior to and after enrollment
- Students' objectives are not necessarily degree oriented and retention success must be measured accordingly.

As basic as these principles may be, traditional academic faculties are often too conservative when issues of student centered learning or change within the academic culture take are called for. (Guskin, 1997) According to one scholar:

> If it weren't for the admissions office admitting students who don't belong here, we wouldn't have a retention problem. And if we have a retention problem, it's the responsibility of the student affairs people to deal with it. (Tinto, 1996)

Unfortunately, this sentiment is still predominant within the academic culture.

Student Retention, the Academic Library, and Information Literacy

The direct involvement of the academic library in student retention planning is rare on most college and university campuses. Kelly (1995) believes librarians must participate in the student retention process by "learning more about their students through surveys...and networking with other campus units and by developing programs or participating in programs based on the needs of the student population that have been identified through data collection and networking." Jones-Quartey (1993) advocates for higher education's creative use of traditional resources in student retention planning, namely the academic library and its diverse resources. Butler and Davis (1992), however, still contend that "while there is a great deal of institutional rhetoric espousing

the centrality of libraries to teaching, research, and learning, libraries are often excluded from policy decisions that have major impact on their services, funding and staff." The result being the inadequate preparation of undergraduate and graduate students to meet the challenges of living and working in an information society. (Butler and Davis, 1992; Morner, 1993)

In 1992, an Astin survey of twenty-four thousand graduating college students in 1989 revealed that only 38.8% felt that their undergraduate education had improved their thinking skills; only 32.5% believed their analytical and problem solving skills had improved; and only 27.6% felt their writing skills had improved. Ironically writing skills, critical thinking and problem solving skills are key components of most institutional mission statements today. This study also emphasizes the importance of including academic library professionals in campus-wide student retention planning. Critical thinking and problem solving are two intellectual skills embraced by an information literacy perspective, a perspective whose root structure evolves primarily from the academic library profession. (Adams, 1985; Baker and Litzinger, 1992; McCrank, 1992; Osborne, 1989; Lenox and Walker, 1993; Farmer, 1992; Bruce, 1995)

In 1972, Dr. Patricia Senn Breivik conducted a study to examine the impact of library-based instruction on the academic success of disadvantaged college freshmen attending Brooklyn College/City University of New York. Prior to 1970, CCNY was an institution with highly selective admissions policies. However, the social turmoil of the late 60's and early 70's, forced CCNY to adopt an open admissions policy and, as a result, CCNY began recruiting disadvantaged students. Some of these students were not academically prepared to meet the challenges of attending an elite institution and sometimes lacked the necessary confidence to be pro-active learners, workers, and citizens.

Dr. Breivik's survey revealed that regularly programmed library-based instruction contributed to the academic success of disadvantaged college freshmen. It also

contributed to their increased usage of the library itself and its resources. The study demonstrated that their academic success was not a result of less demanding work, but more importantly, of the availability of adequate support programs in which library-based instruction played an integrative role. The educative value of the library and the librarian was also highlighted.

Thus, higher education's tradition for hierarchical management and isolated programmatic unit practices contribute significantly to its inability to use creatively a variety of internal as well as external campus resources that could, in fact, impact positively on student retention ratios. The academic library is a case in point. Until higher education refrains from pursuing a path of *progressive resistance* and actively develops a culture which addresses the challenges of change, the long-term prognosis for the inclusion of an information literacy framework within the academic curriculum does not bode well for New Majority students, their retention, and even for their futures.

Retention Programs... Successful?

In spite of the limited involvement of the academic library, are student retention programs successful? According to Vincent Tinto (1996), an authority on student retention, most retention programs experience only modest success. He believes the reason for this is that most, if not all, of student retention programming centers around non-academic issues and is not integrated directly within the academic life of students. (Tinto, 1996) There is merit to his observation. At the same time, the non-academic issues speak to academic issues because they impact the thinking processes of students. Students' experience the university from a number of perspectives and perspective is interconnected, influencing all spheres.

Importance of Retention to the Campus Community

In order for campuses to experience success in their retention efforts, involvement in retention programming must become a campus-wide responsibility--from the janitorial

closet to the presidential suite. Every college, library, department, program, division, unit, and administrative office are major stakeholders in retaining students. They have the responsibility for insuring that all students have the maximum opportunities to complete their educational plans. The complacent view currently held within the academic community that student retention is the primary responsibility of student affairs and/or campus admissions contributes significantly to the limited resolution of this problem. Until the entire campus community as a whole recognizes and accepts ownership of student retention rates, institutional change and information literacy have little chance of expanding the learning and earning potentials of New Majority students.

Retention Pitfalls to Avoid

For institutions designing a new retention program that may or may not include input from a broad representation of the campus community, Dr. Francine McNairy, Provost at Maryville University, describes four pitfalls that should be avoided.

- *Treating students as a monolithic group*

Academic institutions are notorious for developing programs with one type of student in mind.

- *Designing strategies to "fix" the student*

Segmented approaches often exclude looking at the whole student within the campus community. Most institutions focus primarily on students' academic preparation or lack thereof and plan accordingly, neglecting to incorporate in the planning an examination of institutional "fit" in relationship to the social and cultural needs of the student.

- *Lack of institutional commitment in terms of proper assessment, human resources, sufficient budgets, and executive leadership*

External constituencies such as the Federal Government, business, and industry are now demanding more accountability. Committed, responsive, and collaborative leadership within an institution can shape the institutional culture and achieve a visionary mission.

Although the traditional forces of faculty culture and established administrative practices present barriers that even the most skillful leaders find formidable, with pragmatic planning, incremental progress can be achieved.

- *Lack of institutional efforts to build and maintain an academic, social, and cultural climate that recognizes the value of multicultural and multiracial diversity within the academic community (McNairy, 1996)*

The Academy's entrenched resistance to change and adaptation to diverse societal and cultural forces threatens to paralyze the growth of higher education. If this resistance continues, other learning organizations, such as business and industry, will eventually take over where higher education refuses to venture.

Student Retention and Information Literacy

Student retention should be a campus-wide responsibility, requiring active engagement, planning, and commitment from *all* constituencies directly involved with maintaining the life of an academic institution. The current hierarchical administrative structure within the higher education community often does not allow for a spontaneous, working collaborative, which is characteristic of communities dependent on mutual supports for survival. Hierarchy in an academic community should become non-existent. In a learning community, interdependency and mutual respect for each role is central to the generation of knowledge. In a knowledge-based society, only an academic institution capable of embracing new ideas, new visions, new ways of thinking will be able to successfully blend the old with the new.

If the African proverb, "It takes a village to raise a child," provides a sense of extended familial responsibility, then urban public university communities should develop *higher education villages* to retain students from every background. An information literacy environment could be foundational in the creation of such a "village." Without this mindset, without this way of thinking and self-reflection, institutions of higher learning will continue to drift towards extinction as other learning

organizations, sensitive to the educational needs of the *village,* begin to usurp their present position in society.

The adoption of an information literacy infrastructure across the institutional landscape may contribute significantly to increased student retention, particularly at urban public universities still morally sensitive to their status as emerging *new* institutions of higher learning, capable of providing innovative leadership to the citizens they promise to serve. Only through an information literacy infrastructure and more active collaboration among all units on a campus centralized around a student learning philosophy, can student retention goals be actually realized.

9. Information Literacy Program Models

Various approaches have been prescribed with the expressed purpose of institutionalizing information literacy programs within academic institutions. Many institutions have adapted or are in the process of adapting some or all the following components in the design of an information literacy program:

- CD-ROM: use of reference-related compact discs
- Course-Integrated Instruction: discipline specific integrated with library use instruction
- Drop-In Workshops: specific library use sessions
- Handouts and Guides: subject specific fact sheets and operational workbooks
- Kiosks: an interactive, informational media station
- On-line Web Based Instruction: electronic library instruction
- Stand Alone Courses: courses devoted to bibliographic instruction methodologies
- Subject Specific Instruction: discipline focused bibliographic instruction
- Tours: library tours offered by staff, audiotape, and/or self-paced
- Video Presentations: various instructional methodologies offered through multimedia

(http://dizzy.library.arizona.edu/infolit)

Of course, each component has its advantages and disadvantages, but the development of information literacy programs really depends on the campus climate and administration, faculty, and staff receptivity to the philosophy of information literacy and the need for its integration across disciplines. A number of diverse public and private institutions offer a form of *information literacy* courses/programs for credit. Brescia College, Georgia Southern University, Slippery Rock University, Rice University, Iowa State University, Pennsylvania State University, Rutgers University, the University of Alaska-Anchorage, the University of Colorado, and Western Kentucky University are just a few of these institutions. (See Appendix C.)

The following programs offer substantive models that could be replicated, depending on the character, environment, and mission of the institution and/or organization:

California State University at San Marcos

In 1995, the general education program was revised at California State University at San Marcos, the newest member of the California State University system. The policy change required that every general education course incorporate an information literacy component.

> The program aims to infuse in each College, within each Program and throughout the curriculum, teaching/learning modules which will develop in the University community those skills necessary for accessing, analyzing, and using information, regardless of where that information may be found. (CSUSM, 1995)

In addition to the required information literacy course component, CSUSM also offers supplemental classes, workshops, and specific information literacy seminars as well as a Summer Bridge program for community college and transfer students.

The University of California at Berkeley-The Teaching Library

Established in 1993, the mission of the Teaching Library at the University of California at Berkeley is to provide direct support to undergraduate education by bridging the gap between the classroom and the Library's resources. This is accomplished by ensuring that by graduation each student knows how to use the information resources and tools within their major and is able to conduct a search strategy in his or her field.

The Teaching Library conducted a survey in 1994 that reconfirmed the need for this type of program on Berkeley's campus. It surveyed graduating political science and sociology majors and learned that over fifty percent of the graduates could not conduct a successful subject search or identify key print and electronic reference sources in the social sciences.

The core of the Teaching Library's program is collaboration with humanities and social science faculty in the development of appropriate classroom strategies for the inclusion of information sources. Unfortunately, faculty cooperation with the mission of the Teaching Library is still marginal, or in the words of the Director Ellen Meltzer " ...always an uphill battle." However, the program is deemed an "overall success" because of its high visibility on campus and strong administrative support.

Minnesota State Library System and Undergraduate Education

In 1990, a blue ribbon commission was established to advise the state university system and the people of Minnesota concerning the needs to prepare state graduates for the challenges of the new century. In response to the recommendations of the Commission, the Minnesota legislature awarded the university system $200,000 to develop a detailed plan for the academic library of the future. The principles of information literacy were adopted by the Blue Ribbon Commission as the essential skills for undergraduate programs of the future. The Commission believed quality of learning was dependent on the quality of resources available and the ability of students to access

and manage these resources.

The Minnesota State University system, with substantial input from its academic libraries, is focusing on revising its general education curriculum with the intent of changing its approaches to teaching and learning in order to reflect the needs and skills of the Information Age. (Jones, 1992)

Cornell University-Upper Division Course Integrated Program

One of the original land grant institutions established under the Morrill Act of 1865, Cornell University began its information literacy program in 1986. The Albert Mann Library, the second largest library at Cornell University, focused the development of its information literacy program on certain disciplines within the College of Agriculture and Life Sciences, the College of Human Ecology, Division of Biological Sciences and the Division of Nutritional Sciences.

Specific courses were targeted for integrated instructional activities and freshmen participation was excluded. The academic librarians conducted an intensive screening of the courses and included student interviews to determine the level of interest of the faculty in information literacy issues. If faculty interest was low, student interest was low or the course content questionably connected to information literacy principles, the course was not selected by the information literacy instructional team. An extensive canvassing of the academic community was also done to ensure that adequate support existed for academic instructional activities.

Concurrent classes were offered to sophomores, juniors, and seniors in selected courses and up to 600 students participated in the Mann's information literacy program at any one given period of time.

Florida International University- A Growing Information Literacy Community

The academic libraries at Florida International University, in collaboration with the Academy for the Art of Teaching, launched an ambitious information literacy initiative in 1996 based on two guiding principles: 1) the need to reach every student, and; 2) the belief that information literacy skills are learned best within the context of an academic course.

With a campus population of over 28,000 students and over 200 undergraduate and graduate degree programs, Florida International University developed a comprehensive information literacy program that includes a sequence of information literacy classes such as "Critical Thinking in the Information Age" and "Research Strategies". These two classes, in conjunction with the Freshman Composition Program, constitute the Library Certification Program. Student participation in the Library Certification Program is required. Other information literacy instruction courses are also being designed sequentially for lower as well as upper division core classes representing a range of academic departments/programs. Designing these instructional sequences allows for a significant amount of collaboration between the academic librarians and academic departments. In fact, because of the information literacy collaboration, the faculty senate at FIU voted to include librarians as eligible for "Excellence in Teaching" awards. Administrative support has been strong as evidenced by an increased library departmental budget to expand information literacy services and the completion of a new $23 million dollar library building at University Park. Clearly, the seedlings of an information literacy culture are being firmly established at Florida International University.

Wayne State University (WSU): UGE 1000, An Uncommon Collaboration

In 1996, the University Libraries and the Division of Student Affairs at Wayne State University piloted a joint project to redesign an "orientation" course for newly

matriculated undergraduates. The purpose of the course was to introduce new students to the student and library resources at WSU. Student dissatisfaction and faculty apathy with the structure of the course lead to its redesign. Under the guidance of Dr. Patricia Senn Breivik, Dean of University Libraries and the UGE 1000 Redesign Planning Committee, *UGE 1000--The University and Its Libraries: Information Power at WSU* was created. The course was to be interactive and integrated into the new student's first year experience, utilizing the instructional and human resources of the University Libraries, the Division of Student Affairs, and the faculty, and apply the instructional strategy of the debate format. A prominent member of the Communications, Fine & Performing Arts department at WSU, designed the debate format used in UGE 1000.

By integrating the information literacy skills development within an academic library, student support services, and debate format context, the UGE 1000 exemplifies the creative use of the existing campus resources, and underscores the importance of developing solid research and presentation skills, *at the outset* of a student's intellectual journey. This philosophy contributes to the university-wide student retention efforts. UGE 1000 is a campus-wide general education requirement for all undergraduates attending Wayne State University and presently enjoys tremendous success camp-wide. According to ninety-two percent of the UGE 1000 students surveyed, course content received "good grades" and was found useful for their undergraduate experience.

In keeping with university-wide retention efforts, in the Fall of 1997, Wayne State University opened a new undergraduate library. The uniqueness of this library is not only its ergonomic architecture and environment, but also, its institutional mission. The David Adamany Undergraduate Library is dedicated to building a community of learners, through the intellectual empowerment of undergraduate students within an *information literacy* framework.

Commission on Higher Education--Middle States Association of Schools and Colleges

Leading the way in developing information literacy skills is the Middles States Association Commission on Higher Education. The Middles States Association is the crediting agency for colleges in New York, New Jersey, Pennsylvania, Delaware, Maryland, the District of Columbia, the Virgin Islands, and Puerto Rico. In its 1994, *Framework for Outcome Assessment*, CHE underscored the significance of requiring the development of library-based research and information literacy skill objectives for all courses within the academic curriculum. CHE believed that a commitment to developing information would be exercised by instituting mandatory assessments within the teaching and learning infrastructure of the Middle State Association.

In 1995, CHE, in cooperation with the Association of College and Research Libraries and the National Forum on Information Literacy, sponsored a series of symposia to discuss expanding the concept of information literacy among the region's constituency. Introduced into the discussion were the results of a national survey conducted in 1994 by the Association of College and Research Libraries (ACRL). This survey queried 830 institutions across the country on the status of their promotion of campus wide information literacy initiatives. After tabulating the data, the Middle States region clearly lead the other regions in developing information literacy initiatives. Of the 830 institutions surveyed, thirty one percent (31%) responded from the Middle States, twenty two percent (22%) from the Western Association, nineteen percent (19%) from the North Central, seventeen percent (17%) from New England, fifteen percent (15%) from the Northwest, and fourteen percent (14%) from the Southern Association. (See Figure 2.2)

Figure 2.2. Regional Response Profile of ACRL Survey

Region	# of Respondents	# with Functional Information Literacy Programs	Overall Ranking
Middle States	259	79	1
New England	36	6	5
North Central	213	40	3
North West	46	7	4
Western	85	19	2
Southern	191	26	6
Total	830	171	

1995 Commission on Higher Education; Middle States Association of Colleges and Schools

Although the survey had limitations in regard to institutional perceptions, usage, and definitions given to such terms as functional program, computer literacy, library instruction, not to mention information literacy itself, it presents a clear snapshot of the slow growth of information literacy programming nationally. It also substantiates the concerns of many, in and out of education, of the expanding digital divide that continues to overwhelm teaching and learning within American society.

Accrediting agencies are watchdog institutions, assuring compliance with standards and principles of excellence agreed upon by its constituency. In its 1994 version of *Characteristics of Excellence in Higher Education: Standards for Accreditation*, the Middle States Commission was the first to adopt an information literacy standard as part of its overall institutional assessment criteria. It was also the first higher education accrediting agency to join the National Forum on Information Literacy which defines information literacy as "a subset of critical thinking skills which consists of individuals' abilities to know when they have an informational need and to access,

evaluate, and effectively use information."[13] The Commission's advocacy and commitment to the philosophy of information literacy illustrates the importance of pro-active involvement from all educational agencies and organizations committed to improving our national teaching and learning infrastructure.

The above models are not ideal programs because a total institutional-wide commitment, endorsement, and/or integration of the philosophy of information literacy is still in the evolving stage on the above campuses/organizations. The ideal program would most likely contain some element of all the components listed in addition to more extensive, collaborative efforts among administrators, faculty, librarians, and external stakeholders such as government and industry. Effective programming must reflect the character, mission, and the student body of the institution and it must require a campus-wide commitment to the principles of information literacy from all segments of leadership on campus if, in fact, a recognizable cultural shift is to be made within the institutional community.

These information literacy programs represent a diversity that clearly is American. Passion, commitment, and a vision towards the future characterize the essence needed in designing effective information literacy programs capable of serving the teaching and learning needs of New Majority students. These program models demonstrate the capacity of American higher education to engineer enclaves of systemic change and to do so successfully. What is presently needed is a wholesale adoption and inclusion of the philosophy of information literacy at every level of the academic curriculum. Entrenched in academic tradition and wary of any new thinking that does not originate within liberal arts, the higher education community, as a whole, is not yet ready to actively promote this new habit of mind as a source of systemic change. Farmer

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[13] Commission on Higher Education, Middle States Association of Colleges and Schools, *Information Literacy: Lifelong Learning in the Middles States Region,* 1995.

(1992) writes:

> The term of information literacy has come to summarize the underlying principles of quality undergraduate education for the new century. Information literacy involves: recognizing a need for information, identifying what is needed, locating it, evaluating it, organizing it, and using it effectively.

Informed decision-making and access to the intellectual tools essential in making those decisions are critical to the future success of New Majority students. Until a sincere willingness develops within the entire higher education community to intensify the value and appreciation of all knowledge, regardless of the discipline, and to trust the richness, diversity, and creativity of its own internal resources, then their contribution to the expansion of the *Digital Divide* will be significant. (Vanderbilt University, 1998)

Chapter Three

RESEARCH DESIGN

Overview

Triangulation methodology frames the research design of this study by using two data collection instruments: the survey questionnaire and the personal interview, in conjunction with a purposeful sampling strategy technique. Triangulation methodology is the process of combining several types of data collection instruments such as interviews, tests, surveys with appropriate sampling strategies to examine a single issue or problem. (Bodkin & Bilkin, 1982) Using several different kinds of data collection techniques establishes an analysis and procedural framework for cross validity checks. Patton (1990) believes that using triangulation methodology protects the researcher from accusations of personal bias, simplicity of research methodology, and questionable validity of research findings. A data planning matrix assisted in formulating the questions developed for the survey as well as for the interview guides. (See Appendix D.)

Restatement of the Research Problem

The purpose of this study is to examine the impact that information literacy may or may not have on the undergraduate experience of New Majority students attending an urban public university. The specific research question addressed in this study is: *How is the ability to manage information resources critical to the undergraduate experience for the New Majority student attending urban public universities?*
The following goals govern the parameters of the study:

- To hear the voices of some New Majority students regarding the importance of managing information resources during their undergraduate educational experience

- To identify the importance of information literacy as a new "habit of mind" in need of integration within the undergraduate curriculum at urban public universities
- To investigate the relationship between information literacy and the various educational policy issues that directly impact the undergraduate experience at urban public universities
- To determine if information literacy should be the praxis for designing an integrative national teaching and learning infrastructure capable of producing competent, independent, lifelong learners and contributors

This chapter will also include a discussion of the institutional setting for this study, the methodology, description of the survey participants, the pilot survey, the survey, the personal interviews, and the data collection and analysis procedures.

The Setting - University of Massachusetts at Boston

One of those leaders was Dr. Paul Gagnon, the first Dean of Faculty at the University of Massachusetts, Boston. A respected historian and a former UMass Amherst undergraduate with a Ph.D. from Harvard, Dr. Gagnon believed that in order to secure the foundation of this newly emerging institution, three aims had to be satisfied:

- Build a university in the ancient tradition of Western Civilization
- Gather an academy of scholars devoted to intellectual freedom and integrity
- Preserve and extend knowledge and wisdom while teaching both as well as they could[1]

Although these aims reflected, on the surface, a traditional elitist perspective, Dr. Gagnon also recognized the "special burden" carried by an urban institution in providing high quality, low cost public higher education to economically and socially disadvantaged students:

> Any state university that does not actively recruit the able children of the Negro, the Puerto Rican, the unskilled or migratory laborer, is not doing its job in the middle of the 20th century, is not bringing the

Morrill Act up to date.[2]

As a result of Gagnon's "special burden" perspective, a special admissions program, pro-active in its recruitment efforts within the urban community, was established at the Boston campus. This was reflective of a growing, national trend within higher education, and, a perhaps grudging sensitivity to the issues of access and equality of educational opportunity. Ironically, Dr. Gagnon's *special burden* designation conjures up the infamous *white man's burden* phraseology. When one looks at the fact that predominately White males were responsible for the establishment of this emerging institution, one cannot help but question the sincerity of its purpose as well as the reality of its vision. Nevertheless, Dr. Gagnon and his faculty were committed to establishing the "Harvard for the Poor" so much so, that one also wonders about the consideration given to the actual impact of poverty and urban K-12 schooling on the academic preparedness of undergraduates at the Boston campus.[3]

The next four years were trying times for faculty, staff, and students at the Boston campus, analogous to the vision of building an airplane while actually flying it. Yet, two hundred and ninety-five students from the original class of 1200 did, indeed, survive the growing pains of this new institution and were graduated in its first class in 1969.[4] The student yearbook reflects the dedication of this charter class and how they felt about being a part of this historic undertaking:

> Every incoming class becomes a living entity through its individuals. We, the class of 1969, were challenged not only with forming a new student body, but also with laying the foundation for a new institution: the University of Massachusetts at Boston.
>
> For our class, tradition became irrelevant. The absence of an existing tradition enabled the class of 1969 to convert pure potential into meaningful innovation; and innovation, rather than tradition, has become our precedent for future graduating classes of the University of Massachusetts at Boston.(1969)

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[2]Ibid.

[3]Freeland, Richard. Academia's Golden Age: Universities in Massachusetts 1945-1970. New York: Oxford University Press, 1992. By 1970, forty percent of the student population represented the state's lowest income quartile and seven percent of the student population were minority group memebers.

[4]The Class of 1969 composition was fifty-two percent male; forty-eight percent female.

Although twenty-two percent of the original class had been academically dismissed and thirty-two percent had withdrawn, the University of Massachusetts at Boston, in June of 1969, graduated 388 students including transfer students and, in so doing, evolved into a permanent fixture on the city's urban educational landscape.

University of Massachusetts, Boston - Campus by the Sea

In January, 1974, after a contentious selection process for a permanent campus home, the University of Massachusetts at Boston, under the leadership of its third chancellor, Dr. Carlo Golino, relocated to its present site--a reconverted city dump, bordered by Boston Harbor, Columbia Point--an infamous predominantly African-American housing project, and the White, lower middle class neighborhoods of Dorchester and South Boston. Moving to the harbor was perceived by many as an abandonment of UMass, Boston's urban mission. Moreover, the surrounding communities feared a massive invasion of students and consequent housing and parking problems as well as ideological clashes with diverse faculty groups on campus.

Today, the campus shares the same land mass with the John F. Kennedy Presidential Library and the Massachusetts State Archives. The former Columbia Point Housing project has been transformed into a predominately upper and middle income condominium complex which is bordered by a commercial merchandise mart, a community health care center, and UMass Boston's day care center. The University currently has an enrollment of approximately 12,000 students, 2,800 of whom are graduate students. Eighty-six percent are Massachusetts residents; 34.2% undergraduates and 15.3% graduate students are people of color; average age is 26 years; 30% are traditional age college students, 18-24 years old; and 55% of the students are female. The campus, consisting of five colleges, offers 60 majors, 30 masters programs, and 9 doctoral programs. Its Carnegie classification status is that of a comprehensive

university; the University of Massachusetts at Amherst has research status.[5]

The University of Massachusetts, Boston's mission statement continues to evolve, reflecting the social, political, and economic vicissitudes of the times in which we live. The browning of America, continual erosion of public trust in government, and the fiscal downsizing of the early 90s, philosophically challenged the University of Massachusetts, Boston though the institution has been able to maintain its original purpose of providing low-cost, high quality education to eligible citizens of the Commonwealth. A recent mandate, however, to the public higher education system from the Massachusetts Board of Higher Education to institute more stringent admission requirements may become an impediment to the University's land-grant spirit of access and the equality of educational opportunity.

Since 1965, the University of Massachusetts, Boston has worked diligently to earn its place among Boston's Mt. Olympus of educational institutions. Its efforts to provide access and equality of educational opportunity through the years has, from time to time, taken on elitist overtones. These overtones are exemplified in the constant debates on the merits of the academic preparedness of the students they teach and whether or not these students have the learning capacities to thrive in an university academic environment. Ezra Cornell's philosophy of *any person...any study* does not resonate easily for traditionally trained educators faced with the challenge of managing the plethora of educational issues dominating most urban public university campuses today.

Contributing to this philosophical unrest has been the overpowering impact of the intelligent network--telecommunications and computing. It has shaken the very foundation of the K-16 teaching and learning infrastructure across this country. The shift in focus, "from having to know everything to knowing where to find everything," has become an axiom for our national teaching and learning infrastructure. Loyal to

academic tradition and often slow to respond to the reality of social change, most urban public universities such as the University of Massachusetts, Boston have yet to meet the challenge of developing an academically integrative intelligent network. Although most have recognized the phenomenon of the Information Age and its dynamic impact on teaching and learning, very few have created a supportive institutional climate that embraces this new entity. Institutional climate fosters the growth of innovation. Without a supportive climate engaged in innovation and change, the teaching and learning value of integrating the intelligent network within the institutional culture will diminish significantly. This does not bode well for the future of the New Majority student, nor for the entire academic community. (Cheek and Walsh, 1996)

The Methodology: Overview of Research Process

Many educators within the K-16 public educational system perceive information literacy as an *accomplished* outcome of a student's elementary and secondary public school experience. Consequently, the concept of information literacy often evokes the perception of a "redundancy in effort" when issues of faculty teaching and student learning arise. However, research studies, particularly those highlighting the educational experiences of students living in urban environments, document the focused development of lower order thinking skills and not the higher order thinking skills that are required by an information literacy infrastructure. (Jones and Watson, 1990; L. Scott Miller, 1995). In order to measure the validity of this perception as it relates to the research question, the survey population included middle and high school students attending urban public, and some private schools. Inclusion of the middle and high school student perspective in this study may provide future researchers and educators with a "rearview mirror" of the educational continuum in anticipation of what the future may hold in terms of potential students prepared to engage in academic inquiry and research. (Hoepfl, 1997) Research for this study was gathered at the campus of an urban public university, using the data

collection techniques of the qualitative/ quantitative survey questionnaire and the personal interview. Developing a data planning matrix was invaluable in defining the conceptual foundation for the research process itself. (See Appendix D.) Since the focus of the study was information literacy and the undergraduate experience of the New Majority student, the following groups of students were recruited to complete the survey questionnaire, with a limited number of the same students participating in the interviewing process.

Survey Participants

The diverse group of participants in this study provided the researcher with an excellent representation of Eliot's definition of the New Majority Student. (See page V111) As the coordinator of the Taylor and Carson Scholarship programs and a senior academic and career advisor in the University Advising Center, I had direct access to several groups in the survey population. Access to the Urban Scholars required permission from the staff of the Urban Scholars program. The following is a brief, descriptive profile of each group:

Taylor Scholar Undergraduates – A joint, cooperative program by the Boston Globe Foundation and the University of Massachusetts Boston, the Taylor Scholars Program guarantees five years of financial and academic support services to University freshmen who have graduated from a Boston public high school. Each Taylor Scholar was nominated by his/her high school principal/headmaster, based primarily on the student's history of educational persistence, and not on academic ability alone. At the University, Taylor Scholars must maintain continuous enrollment and good academic standing in order to remain eligible for this five-year scholarship program. Taylor Scholars range in age from 18-25 and range in grade point from 2.57-3.84.

Taylor Graduates – Since 1986, sixty-five students have graduated from the Taylor Scholars Program in a variety of majors including nursing, management, English,

psychology, sociology, economics, Spanish, etc. Taylor Graduates range in age from 24-30 and range in grade point from 2.42-3.60.

Carson Scholars - Identified by the Chancellor's Scholarship Committee as being academically talented, Carson Scholars were students of color, a group who has been historically underrepresented in higher education in America. To be awarded the Benjamin S. Carson Scholarship, a five-year tuition and fee waiver program, these students participate in a competitive application process including personal interviews with members of the scholarship committee. Final selections are made by the University's Chancellor's Scholarship Committee. Since January of 1997, eligibility to participate is no longer restricted to historically underrepresented students in higher education and any student who can demonstrate extraordinary hardship and academic talent may apply. Only eight scholarships are awarded annually. Carson Scholars range in age from 20-34 and range in grade point from 2.49-3.90.

University of Massachusetts Undergraduates/Graduates – These students, currently attending the university, were randomly selected from the student population that periodically visits the University Advising Center. Also included in this population is a small number of UMass graduate students who also attended the University as undergraduates. They do not include Taylor or Carson Scholars. UMass, Boston Undergraduates and Graduates range in age from 19-68 and range in grade point from 2.00-3.79.

Urban Scholars – The Urban Scholars Program is a college bound collaborative program sponsored by the University of Massachusetts Boston and three Boston public high schools: Dorchester High School, South Boston High School, and the Jeremiah E. Burke High School. The program also includes a component for middle school students representing a variety of Boston area middle schools. The overall purpose of the program is to support and guide academically talented Boston public school students in pursuing a college education. Presently, seventy-five high school students and 45 middle school

students actively participate in the program. Urban Scholars range in age from 13-18. Their grade point range is unavailable.

Flexible Campus Students – The Flexible Campus Program allows qualified high school students from the greater Boston area to enroll in college level courses. Credit earned from these courses may be apply to their high school programs and/or to UMass, Boston academic programs should they decide to apply and become accepted as a University of Massachusetts, Boston undergraduate. Flexible campus students participated only in the pilot survey component of this study.

Methodology Process

In addition to distributing two hundred and thirty-six survey questionnaires, the researcher conducted personal interviews using the purposeful sampling technique in selecting thirteen undergraduate students from the survey questionnaire population and members of the University faculty and staff. Thirteen student interviews were conducted either in the researcher's office or home and each lasted approximately sixty minutes.

Two interview guides were developed, one for selected undergraduates and one for the faculty and staff. Each provided an appropriate, consistent questioning format for the diverse population interviewed. The series of questions in each quide reflected a particular aspect of the survey questionnaire and/or the research question, with each question serving as a validity check-point during the analysis process. Using the probing technique proved to be somewhat intrusive in trying to maintain a naturalistic environment during the student interview process. The probing technique appeared to disorient the students' sense of comfort level. This became evident whenever this technique was introduced. Consequently, throughout the student interview process, efforts were made to use the probing technique judiciously, so as not to disrupt the delicate balance of guiding the interview while trying to elicit spontaneous responses and reactions to each question asked. Only in cases where responses were unclear and ambiguous, was the probing technique used.

Two faculty and two administrators who could provide a knowledgeable university perspective on the research question were also interviewed. Their viewpoints and professional experiences provided a framework of observation that could be representative of their peers at other urban public university campuses across the country. The interview guide provided the consistency of questioning needed during this series of interviews, with two members being interviewed in their offices and two in the researcher's office. The probing technique was not problematic with this group of respondents. Every interview lasted approximately sixty minutes.

Pilot Survey Questionnaire

Data collection for this study began in December of 1997 by creating a pilot survey questionnaire to measure the appropriateness and the clarity of the questions being asked on the survey. (See Appendix F.) The survey questionnaire was distributed to ten individuals: four male high school students; two female and two male undergraduates; and two female alumnae. The four male high school students were randomly selected from the University of Massachusetts Boston's Flexible Campus Program, a program designed to encourage qualified high school students to register for selected college level courses.

At the time of this research, the Flexible Campus Program was administered by the University Advising Center, allowing direct access to thirty Flexible Campus high school student profiles during the Spring '98 registration period. From the thirty student profiles, the researcher randomly selected six candidates, two female and four males, to telephone for the purpose of participating in the pilot survey. Six students, living in the immediate area of the University, were called and each candidate was given an explanation for the purpose of the pilot survey. Each was assured anonymity in exchange for their participation. Four students, with compatible interviewing schedules, agreed to participate. The four male students agreed to come to the University Advising Center

and complete the pilot survey. Each candidate completed the survey, taking approximately forty minutes to do so.

For the undergraduate population participating in the pilot survey, four undergraduates (two males and two female) and two alumnae, were randomly selected from the Taylor Scholars population. Each was mailed a copy of the pilot survey along with a cover letter explaining its purpose and a self-addressed stamped return envelope. All the surveys were completed and returned. All of the participants in the pilot survey basically approved of the questions on the survey, recommending only minor changes in the student demographic section and questions relating to educational experiences. Based on the results of the pilot survey, two surveys were developed and distributed; one for the middle school population and one for the remainder of the survey participants. (See Appendix G.)

The Survey

Two surveys resulted from the pilot survey: one slightly modified version for the middle school Urban Scholars and another for the remaining survey population. The survey consisted of twelve qualitative and thirty-one quantitative questions specifically designed to elicit spontaneous responses that could determine the level of familiarity with the concept of information literacy and the conscious use of critical thinking skills. This approach to question development was based on library science research that illuminated higher education's assumption that undergraduate students, for the most part, have acquired these skills during the K-12 educational process. (See Chapter Two.) The survey was divided into the following sections:

1. Biographical Data
2. Educational Experience
3. Individual Learning Style Profile
4. Perspective on Library Literacy

5. Perspective on Computer Literacy

Sections One and Two provided biographical and educational data on how students perceived themselves and their experiences--personally and academically. Section Three focused on the student's perception of his/her individual learning style in relation to their educational experiences. Several questions were aimed at soliciting the student's understanding of the value of critical thinking, information, and knowledge. Section Four was designed to gain a self-assessment of the scope of the students research and library literacy skills. Section Five asked each student to analyze his or her facility with technology as a method of satisfying academic and personal expectations.

In February,1998, two hundred and thirty six surveys were distributed. A cover letter explaining the purpose of the survey was mailed along with a survey to seventy-one Taylor graduates and undergraduates and twenty Carson Scholars. (See Appendix H.) Surveys with attached cover letters were distributed to twenty randomly selected UMass, Boston undergraduates and five UMass, Boston graduate students. The Taylors returned twenty-six surveys and the Carson Scholars returned ten, producing response rates of 37% and 50% respectively. The UMass, Boston students were recruited randomly at the University Advising Center during the Fall 1998 advising registration cycle. As a senior academic and career advisor in the University Advising Center with a caseload of approximately 600 students, I had the opportunity to select randomly advisees who, once approached, expressed an interest in completing the survey. Anonymity was guaranteed for participation. Twenty-five randomly selected UMass students received surveys and nineteen completed and returned them, producing a response rate of 76%.

One hundred and twenty surveys were distributed to the Urban Scholars population. In order to have the full cooperation and participation of the Urban Scholars, a meeting with the Director of the program was held to explain the purpose of the survey and to ask for her cooperation. The Urban Scholars Director requested a copy of the survey to distribute among the Urban Scholars staff for commentary. Another meeting

with the six members of the Urban Scholars staff was held to address concerns regarding the content of the survey and to discuss methods of distribution to ensure maximum participation.

It was agreed that the coordinators of the 75 high school and the 45 middle school Urban Scholars would be responsible for the distribution of the survey. The survey had a cover letter explaining its purpose and requesting a return date of March 6, 1998. Scholars were to return completed surveys to the Urban Scholars office. (See Appendix I.)

As an added incentive for the Scholars to complete and return the survey, the researcher offered the opportunity to be in a drawing for two $25 dollar gift certificates from Tower Records, one for a middle school student and one for a high school student. The coordinators gave the surveys to the Scholars during a supervised study hall session at the University. Thirty-one high school surveys were returned, of which sixteen were acceptable for analysis. Twenty-two middle school surveys were returned and all were acceptable for analysis. Thus, one hundred and twenty surveys were distributed to Urban Scholars and the responses of thirty-eight Scholars, producing a 32% response rate, were included in this study. Names of the thirty-eight Urban Scholars were submitted to the Urban Scholars office to hold the gift certificate drawing. The names written on slips of folded paper were put into a glass jar. With the assistance of the middle school coordinator, the researcher randomly selected from the jar two winners, one middle school and one high school student, from the pool of survey entrants.

The Personal Interviews

The purposeful sampling approach was used in selecting candidates for personal interviews from the pool of survey participants. Purposeful sampling allows for in-depth analysis of a small number "*information rich cases*" that will illuminate the research question. (Patton, 1990) Maxwell (1996) believes that the typicality of individuals is best

represented by the use of selected small samples. In that way, selecting a small, relatively homogeneous population increases the likelihood that the conclusions may be more representative of the population at large than would be reflected in a large random sample. In the case of this study, one of its major goals was to highlight the voice of the New Majority student as it relates to the research question. Using a maximum variation technique helped to select thirteen student interviewees who represented the diverse New Majority student profile. (See Figure 2.1, Wayne State University Student Profile.) Maximum variation sampling strategy permits analysis from two vantage points: 1) describing and understanding the variations of diverse experiences; and, 2) uncovering common patterns and outcomes among diverse cases and/or individuals. (Patton, 1990) The goals of this study provided the foundational guidelines needed for developing the interview guide questions. All interviews were recorded and 11 student interviews were conducted in the researcher's office. Two others were conducted in the researcher's home. Each student interview took approximately 60 minutes to complete. Prior to the interview, each student was assured that his/her participation would be kept confidential and each interviewee was also provided an information release form to complete. (See Appendix J.)

In May 1998, the administrative interviews were conducted with two faculty and two administrators. Each received an email requesting an interview and explaining the purpose of the interview. Participating interviewees were: the Director of General Education Program, the Faculty Chair of the English Department also serving as Chair of the University-wide General Education Reform Committee, the Director of Healey Library, and the Associate Director of Healey Library also serving as a member of the General Education Committee. A week prior to each interview appointment, each interviewee was sent a copy of the interview guide in preparation for the interview. (See Appendix E.) The goal of the administrative interview guide was to solicit an overview perspective as it related to the research question. The interviews conducted with the

Director of General Education Program and the Associate Director of Healey Library took place in the researcher's office. The other interviews were held in their individual offices. As a fellow administrator, I was able to assure each interviewee that all information would be kept confidential and/or anonymous where appropriate.

Data Collection and Analysis Procedures

Data for this study was collected by using two research techniques: the survey and individual interviews. Inclusive within the survey instrument were qualitative as well as quantitative questions. The survey instrument contained five sections consisting in total of twelve qualitative and thirty-one quantitative questions, to be completed by the respondent. Although a number of excellent data analysis software packages exist today, the researcher decided that this particular survey required the manual tabulation of the data, offering the most direct route for the researcher to begin the process of experiencing the student voice. As the process progressed, each section of the 93 returned surveys or approximately 3999 pieces of data were sorted and analyzed. Each data set was categorized by question within each student group. Descriptive statistics of the survey results presented percentages, frequencies, mean, standard deviation, and cumulative percentages where appropriate. Within the qualitative portions of the survey, the researcher recorded each response, looking for common themes and patterns among the different student populations.

Six of the student interviews and the four faculty and administrative interviews were transcribed professionally. Each interview averaged twenty-five double-spaced pages of transcription, for an approximate total of three hundred and twenty-five pages for coding and analysis. To maintain a sense of continuity with the survey analysis process and cognizant of accurately representing the student voice, the researcher transcribed the remaining seven student interviews.

HyperRESEARCH, a software content analysis tool, also aided the researcher in coding and analyzing the student, faculty, and administrative interviews. This content analysis tool provided the researcher with the flexibility to use multiple approaches in coding and analyzing the interview data, documenting the differences as well as the similarities among the different interview data sources. This research tool was extremely helpful with the identification of themes and patterns throughout several iterations of the interview analysis process. The following four themes emerged during the survey and interview analysis process:

- Academic experience
- Modes of inquiry/Critical thinking
- Information resources management
- Workforce preparation

These four themes provided the framework for the integrative analysis of the results from the survey data with those from the interviews.

Chapter Four will present the results of the student survey, provide an analysis of the interviews, and conclude with an integrative analysis of the survey and interview data, highlighting the perspectives of the New Majority student.

Chapter Four

PRESENTATION AND ANALYSIS OF DATA

The survey and interview participants in this study either attended the University of Massachusetts, Boston or were affiliated with it. Two hundred and thirty-six surveys (236) were distributed, 93 surveys (39%) were returned. Thirteen students and four faculty and/or staff were interviewed for this study. The expressed purpose of this study was to evaluate the proposition that information literacy may be an undervalued, critical component in the undergraduate experience for New Majority students attending urban public universities. This chapter will describe the findings of the student survey, present profiles of students interviewed, and provide an integrative analysis of the student and faculty/administrative interviews in conjunction with relevant survey data. This process will introduce the perspectives of New Majority students, highlighting their voice in relationship to the significance of integrating information literacy within their own educational experience.

The information revolution in print and electronic media will require a new way of thinking about managing information resources. (Tapscott, 1999; Buchanan, 1999) By exploring the intellectual preparation of New Majority students in managing information resources during their undergraduate experience, this study hopes to increase the research interest and participation among liberal arts faculty in designing a teaching and learning infrastructure within an information literacy framework.

Survey Analysis

Table 4.1 provides survey response statistics, 236 surveys were distributed, 93 students returned the survey, 55 were university students distributed across various categories, and 38 were Urban Scholar students, 16 high school students, and 22 middle school students.

Table 4.1 Survey Response Statistics

Survey Respondents	*# of Surveys Distributed*	*# of Responses*	*Percentage Rate*
Taylor Undergraduates	56	18	32%
Taylor Graduate	15	8	53%
Carson Undergraduate	20	10	50%
UMass Students	25	19	76%
Urban Scholars High	75	16(31)[1]	21%(41%)
Urban Scholars Middle	45	22	49%
Total	236	93	39%

The survey was divided into five sections. The data charts provided in the appendices reflect the percentage and number of students surveyed who responded to each question. A summary of each section's data highlights will be presented before a discussion of its findings:

1. Biographical Data
2. Educational Experience
3. Learning Style Profile
4. Library Literacy
5. Computer Literacy

The survey consisted of twelve qualitative questions and thirty-one quantitative questions. (See Appendix G.)

[1] Number of acceptable surveys for use in study. In parenthesis, number of actual surveys returned.

Summary Section 1. -- Biographical Data

Personal background data was collected on each respondent to verify the use of Eliot's definition of the New Majority student in this study. Responses to the survey questions reflected views and opinions from an age group ranging from 13-70 years old.

General Characteristics of Survey Population:

- 66% First Generation College Attendees
- 61% female; 39% male
- 17% high school Urban Scholars
- 24% middle school Urban Scholars
- 59% University undergraduates/graduates
- 62% employed part-time
- 12% employed full-time
- 63% U.S. citizens
- 34% Permanent Residents
- Ethnic Background:
  - 19% African American
  - 19% Asian American
  - 12% Caribbean American
  - 4% Cape Verdean American
  - 20% Hispanic American
  - 14% White American
  - 4% Other
  - 6% Do not wish to report

Table 4.2 highlights the New Majority student demographics of the survey population that typify urban public universities. (See Wayne State Student Profile on page 75)

Table 4.2 Student Demographics

Survey Respondents (N)		*Gender* *(N) M*	*(N) F*	*Age Range*	*1st Generation (N)*	*GPA Range*
Taylor U	(18)	(5) 9%	(13) 24%	18-25	(12) 67%	2.57-3.84
Taylor G	(8)	(1) 2%	(7) 13%	24-30	(6) 75%	2.42-3.60
Carson U	(10)	(3) 5%	(7) 13%	20-34	(4) 40%	2.49-3.90
UMass	(19)	(5) 5%	(14) 15%	21-70	(13) 68%	2.00-3.79
Urban H	(16)	(10) 26%	(6) 16%	16-18	(12) 75%	Unavailable
Urban M	(22)	(12) 32%	(10) 26%	13-16	(14) 64%	Unavailable
Total	93	(36) 39%	(57) 61%		(61) 66%	

Table 4.3 demonstrates the ethnic composition of the survey population and also reflects a current national trend, the browning of America.

Table 4.3 Ethnic Composition of Survey Population

	(N)Taylor U	*(N)Taylor G*	*(N)Carson U*	*(N)UMass*	*(N) Urban H*	*(N) Urban M*	*(N) Total*
Afri/Am	(2) 2%	(1) 1%	(2) 2%	(3) 3%	(2) 2%	(8) 9%	(18) 19%
Asia/Am	(7) 8%			(1) 1%	(5) 5%	(5) 5%	(18) 19%
Carb/Am	(3) 3%		(1) 1%	(5) 5%	(1) 1%	(1) 1%	(11) 12%
CaVe/Am		(1) 1%		(1) 1%	(2) 2%		(4) 4%
Hisp/Am	(3) 3%		(7) 8%	(1) 1%	(4) 4%	(4) 4%	(19) 20%
Whit/Am	(1) 1%	(5) 5%		(5) 5%		(2) 2%	(13) 14%
Other				(3) 3%		(1) 1%	(4) 4%
Do not wish to report	(2) 2%	(1) 1%			(2) 2%	(1) no response 1%	(6) 6%
Total	(18) 19%	(8) 9%	(10) 11%	(19) 20%	(16) 17%	(22) 24%	(93)

Several of these ethnic groups represent the historically underrepresented groups in higher education. Not only have most of these groups experienced some form of substandard academic preparation in meeting the intellectual challenges of a university education, but also have not benefited from the generational affect of attending a college or university. (L.Scott Miller, 1996)

During the analysis process, an effort was made to differentiate between the African-American and Caribbean American educational experience. In many instances,

the respective educational experiences of the two groups widely differ and those differences may have an impact on performance in an academic setting. Too often these groups are treated as homogeneous in research studies and institutional reports, when, in fact, both groups have strong, individual cultures which speak to differing views on the purpose, value, and need for education. (Ogbu, 1991) Many New Majority students, coming from diverse cultures and backgrounds, have had limited exposure to the library and using information resources. (Sarkodie-Mensah, 1986) (See Appendix M)

Summary Section 2. -- Educational Data

The educational experience section of the survey offered the respondents the opportunity to express their individual perspectives on the academic aspects of schooling. Their choice of favorite and least favorite academic subject represented a wide range among the respondent population and offered no particular concentration in any one given subject area. Thirty-eight percent (38%) of the University student population acknowledged being first generation college attendees; 28% of the Urban Scholars claimed first generation status. The grade point average range for the undergraduates was 2.00-3.90. Grade information on Urban Scholars was unavailable.

The academic levels of the survey participants were as follows:
- 17% Graduates
- 18% Seniors
- 10% Junior
- 13% Sophomores
- 1% Freshmen
- 17% Urban Scholars-high school
- 24% Urban Scholars-middle school

Top Five Undergraduate Majors:
- 22% Management
- 16% Biology
- 11% Undecided
- 7% Nursing
- 7% Political

Table 4.4 shows the diverse range of academic levels of the survey population. (See

Appendix K.) It provided an appropriate template to examine the range of experience among these two categories of survey participants: University students and Urban Scholars. It also allowed for the usage of the maximum variation sampling technique in the selection of candidates to be interviewed. (See page 113)

Summary Section 3. -- Learning Style Profile

The learning style profile explored the respondents' preferred styles of learning and their experiences with information searching. Questions 1-11 in this section attempted to measure the students' awareness of the process of learning and how they valued that process. What is particularly noteworthy in this section was the students' responses to questions 7 – 11 which focused on definitions of information, knowledge, and critical thinking. According to Christina Doyle, a particular set of intellectual skills is needed in order to perform effectively within an information literacy environment. (Doyle, 1995) Of the 93 students surveyed, only 49% analyzed; 44% questioned; 43% evaluated; and a striking 8% synthesized information during the process of thinking critically. A number of the descriptive tables discussed in this section will be listed in the Appendices for further reference.

Historically, students' learning styles and learning preferences have not been customarily included in the curriculum planning process, particularly within higher education. Student involvement in curriculum reform dates back to the late 18th and early 19th century, when students who desired to expand their learning experiences beyond the realm of the trivium and quadrivium,(See page 65) developed extracurricular activities such as literary societies and companion student libraries to satisfy their need for real world learning.[2] (Collins, Catlett, & Collins, p. 21-23,1994; Rudolph 1984; Cremin,

[2] Contrary to the Greek and Latin content of university library holdings at the time, student libraries contained reference works, popular fiction and non-fiction, and journals that assisted students in preparing for debates with rival literary society.

1992) Student involvement in curriculum reform, for the most part, has remained extracurricular ever since.

In Section 3, the respondents were first asked to identify how they like to learn best. Seventy-one percent (71%) of the respondents selected the reading/discussion category. This supports the contention of Cross(1997), Guskin (1997), Terezini, and Pascarella (1990), that the student must be actively engaged in the learning process if learning is to occur in an academic environment. Questions 2, 3, and 4, addressed the students' perceptions about reading, with 45% acknowledging that they read for school, work, and pleasure; 47% of the survey population enjoyed reading, with 43% enjoying it occasionally. Thus, over half of the respondents used active reading as a method of learning.

In Table 4.5, 72% of the respondents selected magazines as their favorite reading material. (See Appendix L.) The explosive growth in the publication of periodicals raises concerns regarding the ability of these students to synthesize and evaluate large and diverse information resources. (See page 60) Many new students entering urban public universities are unfamiliar with the process of distinguishing between primary and secondary sources and the importance of doing so.(Wesley, 1986) Ten percent of the respondents in this study acknowledged reading academic journals.

Question 6, 7, and 8 directly address student information searching techniques, asking students how they went about looking for information, what sources they used, and what methods they used to research a particular topic.

For many of these students, the library is synonymous with information seeking and 87% of the respondents selected the library as one of their primary information seeking resources. Table 4.6 also indicates that the Internet is not far behind.

Table 4.6 Respondents Most Used Information Resources

	Taylor U (N)	*Taylor G* (N)	*Carson U* (N)	*UMass* (N)	*Urban H* (N)	*Urban M* (N)	*Total* (N)
Library	18	6	7	18	14	18	(81) 87%
Internet	17	4	6	13	13	16	(69) 74%
Teachers	12	3	7	15	8	9	(54) 58%
Family	10	4	2	11	7	12	(46) 49%
Friends	13	6	5	12	6	3	(45) 48%

This reinforces concern about the ability of New Majority students to develop the intellectual skills necessary to manage and use effectively a variety of information resources. Most understood the concept of "information" to mean some type of data. However, the responses to question 8, "How do you validate newly acquired information?" indicated that over 80% did not validate newly acquired information; those who did validate it, used a variety of information resources to do so. Most student definitions of "knowledge" (question 9) focused on the concept of learned information through books, media, and/or personal experience.

Question 10 provided the respondents with a list of critical thinking skills that could be used in accessing information.(Paul, 1992) Table 4.7 shows the skills selected most by the respondents:

Table 4.7 Most Selected Critical Thinking Skills

	Taylor U	*Taylor G*	*Carson U*	*UMass*	*Urban H*	*Urban M*	*(N) Total*
Analyze	11	3	2	8	10	12	(46) 49%
Listen	9	1	3	5	11	15	(44) 47%
Question	7	3	1	6	10	14	(41) 44%
Evaluation	7	3	3	8	10	9	(40) 43%
Synthesis	2	1	-	1	2	1	(7) 8%
All	8	4	4	9	4	5	(34) 37%

In comparing the University student population with the Urban Scholars, it is striking to note that in Table 4.7, only 45% of the University students and 24% of the Urban Scholars selected the "all of the above" category. Even more glaring is that only 7% of the University students and 8% of the Urban Scholars selected "synthesis" as a critical thinking skill, a primary intellectual skill needed in the intelligent management of information resources.

In responding to question 11, "Do you consider 'critical thinking' an asset or a liability?" the following responses exemplify the range of comments given. The purpose of this question was to measure the students' understanding of how they were expected to perform intellectually in an academic environment:

" An asset because the amount of information that is readily available is useless unless a person can critically think about it and use it."
Taylor Grad

" An asset--critical thinking forces you to analyze and assess things carefully rather than making impulse decisions, a skill you can use throughout life."
UMass Student

" A big asset because you need the skill to be able to understand lectures, textbooks, and passages."
Carson Scholar

"Critical thinking is an asset. At the very most it helps you to better understand and remember what you have studied, at most, it can help you identify and reject erroneous thought processes and conclusions."

Taylor Scholar

"It pays to know how to think critically."
Urban Scholar

"Yes, because, it lets you see things in many ways."
Urban Scholars

Most considered it an asset however there were one or two respondents who felt differently:

"Yes, no – its very boring and not very useful. Liability, we don't do it very often."
Urban Scholar

" Both: as an asset it helps to make judgments, Liability: other people tend to put you down and think that you are being superior."
UMass Student

Summary Section 4. -- Library Literacy

Library literacy is a major component of information literacy within an academic environment. This section used a series of questions to measure the level of the respondents' knowledge and usage of the academic library and its basic resources. This research illuminated the limited research skills of the respondent population. Over 80% of the respondents identified having learned minimum research skills either at the high school and/or college level. In order to be effective in the information search process, one should have an understanding of how knowledge is organized. Very few of the respondents were able to define the Dewey or Library of Congress Classification systems. Both are central to understanding how knowledge is organized worldwide. Forty-five percent of the respondent population felt competent using the resources of the library, twenty-four percent of the students acknowledged using *all* the research skills required to perform effective information searches listed in question 15.

Knowing how information is organized and how to use the information resources of a library are essential characteristics of being designated as information literate. This section of the survey measured the knowledge level of both in the respondent population.

Question 12 addressed the respondents' first memory of using a library to find information. Over 60% of the population acknowledged using the library for the first time during elementary school. Question 13 measured the level of frequency of usage for research purposes. Twelve percent (12%) of the Urban Scholars and 40 % of the University population indicated using the resources of the library frequently. This finding corroborates Boyer's (1986) concern about the limited use of the library by undergraduates. Very little progress has been made in this area.

Questions 14 and 15 asked the respondents to identify at what educational level did they learn research skills and what research skills did they use most often. The data in Table 4.8 indicates a progressive learning experience for both groups.

Table 4.8 Learned Research Skills

	University Students (N)	*Urban Scholars* (N)	*Total* (N)
Elem. School	(12) 22%	(2) 5%	(14) 15%
Middle School	(16) 29%	(8) 21%	(24) 26%
High School	(31) 56%	(13) 34%	(44) 47%
College	(44) 80%	--	(44) 47%
Graduate	(2) 4%	--	(2) 2%
Never	(10) 18%	--	(10) 11%

One of the major findings in numerous library science studies on research skills is that most faculty expect students to come to college already equipped with research skills. (Maio, 1995, Breivik,1997) The respondents' experience, however, clearly demonstrates the opposite. As Table 4.8 illustrates, eighty percent of the university student population, primarily upperclassmen, identified learning research skills while attending college. The quality of the skills learned is questionable given the students' responses to later questions focused on library research skills. Although most faculty

consider the instruction of library research skills the province of the academic library, academic librarians can no longer do the job alone. (Smith, 1997)

Library research skills are an essential component within any information literacy infrastructure. The traditional approach of learning them in isolation from substantive content does not develop a new habit of mind nor does the adjunct approach of including them as an ancillary component to the academic curriculum. Moving beyond the traditional and embracing the challenge of change can bring about new ideas, new habits of mind. Information literacy is a habit of mind that envelopes the processes of critical thinking, research skills, and engaged teaching and learning. This will require a more systemic, collaborative effort between faculty, librarians, and administrators if New Majority students are to learn and perfect the intellectual skills necessary in the management and integration of information resources within their learning experiences.

The skills listed in Table 4.9 are those needed in any information search process and are also those defined by Doyle (1995) as attributes expected of an information literate individual. (See Appendix M.) Only forty percent of the University students and eleven percent of the Urban Scholars selected the "all" category in response to this question. It should be noted that most of the University students were upperclassmen who, theoretically, have had ample opportunity to develop these skills during their course of study. This finding also negates the general perception of the faculty that these skills are learned during the K-12 educational experience.

Question 16 asked the respondents to define a bibliography. A bibliography is a key element in writing a research paper. Given their limited experience in writing research papers, ninety-one percent of the University students and seventy-six percent of the Urban Scholars correctly identified this essential component of research paper writing. Question 17 asked the respondents to identify *The Reader's Guide to Periodical Literature*. Unlike the responses to the bibliography question (#16), only twenty-nine percent of the University students and twenty-four percent of the Urban Scholars were

able to identify this basic resource. According to Bopp and Smith (1995), *The Reader's Guide to Periodical Literature* is a general index of over 240 English language periodicals. The findings to this question reflect the limited knowledge and use of basic library reference sources and research skills by undergraduates. This condition is recognized but largely ignored by the higher education community. Question 18 provides us with the students' somewhat narrow perceptions on what they consider their most effective research skills:

"Locating information"
Taylor Scholar

"When I do it myself"
UMass Student

"Using the encyclopedia or other books related to topic"
Urban Scholar High School

"Computer Knowledge"
Carson Scholar

"A very inquisitive and analytical mind"
Taylor Graduate

Table 4.10 shows the information resources regularly used by the respondents.

Table 4.10 Regularly Used Information Resources

	(N) University	*(N) Urban Scholars*	*(N) Total*
Internet	(30) 55%	(31) 82%	(61) 66%
Book	(35) 64%	(26) 68%	(61) 66%
Encyclopedia	(26) 47%	(28) 74%	(54) 58%
Librarians	(27) 49%	(18) 47%	(45) 48%
Electronic Resources	(32) 58%	(10) 26%	(42) 45%

The Internet, book, and encyclopedia, for example, are information resources that require the ability to evaluate and analyze primary and secondary resources. As discussed earlier, most of these students have received cursory exposure to discerning primary and secondary sources and the consequences of using them inappropriately. This lack of knowledge makes students vulnerable to the practice of plagiarism. This concern also applies to student use of the Internet as well. .

Table 4.11 shows that over 40% of the University students and 50% of the Urban Scholars felt confident in their ability to use library resources. (See Appendix N.) This question can be viewed either as the glass half-empty or the glass half-full. The glass half-empty view presents the perspective that sixty percent of the University students and fifty percent of the Urban Scholars are anxious about their ability to use library resources. The glass half-full perspective is that forty percent of the University students and fifty percent of the Urban Scholars are confident library users. In either case, based on the responses and comments to previous questions about learning style and library literacy, both groups of students clearly indicate their limited knowledge and understanding about using library resources and the importance of the search process.

The data in Table 4.12 presents the students' experience in writing research papers and their perspective on faculty support in using library resources. (See Appendix O.) Fifteen percent (15%) of the University respondents and 37% of the Urban Scholars were frequently encouraged by faculty to seek library resources. Only thirty-three percent (33%) of the University students felt that they had substantial experience in writing research papers. Given that the University survey population consisted of upperclassmen, the fact that only thirty-three percent acknowledged having substantial experience in writing research papers corroborates Maio's (1996) research on several Connecticut institutions including the University of Connecticut. In her study, Maio (1996) found that students attending the large institutions that she surveyed had limited experience in writing research papers. Limited experience in writing research papers does not encourage the sophisticated growth of the intellectual skills needed in managing a vast variety of information resources. Another study, completed by the University of California at Berkley's Teaching Library, found similar findings among graduates of the University. (See page 91)

Questions 25-29 focused on the students' depth of understanding of how knowledge is organized. Eighty-nine percent (89%) of the University students and 29% of the Urban Scholars correctly identified the reference sources in question #25; however, only 33% of the entire survey population was able to identify correctly a major on-line search tool, Boolean logic[3]. The *how knowledge is organized* questions - #27, #28, #29 were identified correctly by 30%, 24%, and 9% respectively. To know how knowledge is organized--once the domain of the librarian--is a critical asset needed by New Majority students to manage the plethora of information resources available to them today.

[3]Boolean Logic is a mathematical concept that allows for combining and creating data sets in on-line computerized searches that meet criteria specifically designed by the user. In the library world, it is the language of use in controlling information searching. Most college and university libraries no longer use card catalogues as their main information databases. Unlike traditional card catalogues, Boolean logic gives the user more flexibility to manage large and diverse databases in search of specific information. By knowing how to use basic Boolean operators, AND, OR and NOT, the learner is empowered to explore more fully the computerized world of knowledge and information. (Bopp & Smith, 1995)

Summary Section 5. -- Computer Literacy

Computer literacy is another component crucial in the management of information resources. Survey questions designed for this final section measured the students' familiarity and comfort level with using computers. The respondent population was comfortable with using technology. Although ninety-one percent had no fear using computers, only forty-seven percent felt competent about their skills in using them. It was interesting to note that forty-nine percent of the survey population owned a computer and a modem. Of those who did not own a computer, thirty-one percent of the university students and thirty-four percent of the Urban Scholars had access to computers either through friends, family, or the school/university system. This reflects the expansion of our technological environment. The final question on the survey addressed the students' perspectives on the importance of having the ability to manage information resources. Seventy-eight percent of the University students and seventy-four percent of the Urban Scholars firmly endorsed the concept that it was important to know how to manage information resources during their educational experiences. During the student interviews, the common refrain from each respondent was the need for the University to institute a mandatory course, one that focused on developing the intellectual and technical skills critical to the effective management of information resources within their undergraduate experiences.

Over forty-seven percent of the respondents considered themselves skilled users of the computer. Eighty-nine percent of the respondents liked using computers, and ninety-one percent had no fear at all in using them. Those who had fear felt if left to their own devices, they might "screw up something" or felt the need for an instructor to " help me to understand". Sixty-three percent of the respondents had computers at home; forty-nine percent of the computer owners had modems as well. Given the concerns raised by

Digital Divide, a study done at Vanderbilt University in1998,[4] it would appear that this population is making significant progress in closing that gap on the UMass Boston campus. These percentages do raise the question of access to personal computer ownership, topics in need of further investigation and action.

Questions 35-37 focused on the participants' awareness of computer use within their school environments. Seven percent (7%) of the University students indicated little technological activity within their classrooms; whereas, 42% of the Urban Scholars acknowledged computer activity in the classroom. The University students' responses reflect the campus culture, and, more importantly, the faculty's limited classroom use of information technology. This is one of the underlying causes for the slow acceptance by faculty of information literacy as a viable teaching and learning philosophy.

Thirty-nine percent (39%) of Urban Scholars acknowledged awareness of a computer skills requirement for graduation. The Massachusetts Curriculum Frameworks has instituted a computer skills requirement as a prerequisite for high school graduation beginning in 2001. Forty-two percent (42%) of the University students acknowledged awareness of a computer skill requirement. However, there is no university-wide requirement presently in existence, although several colleges within the University do have a computer skill requirement as part of major collegiate requirements. The College of Arts and Sciences, the largest college in the University, does not have a computer skills graduation requirement.

Question 37 measured computer use in school by the respondents. Table 4.13 demonstrates that 53% of the University students and 32% of the Urban Scholars used computers frequently in school. (See Appendix P.)

Question 38-39 addressed the issue of computer usage and employment. Fifty-two percent (52%) of the survey population was required to use the computer on the job,

[4]*The Digital Divide*, Vanderbilt University, 1998. This study investigated the impact of technology on society. It found that with computer ownership among high school and college students, less than a third of Black students own a home computer whereas 73% of White students own computers.

with 38% indicating that it was mandatory for their current position. Each percentage reflects current employment trends, computer proficiency being required at low level jobs, which a significant number of the survey population presently hold.

Question 40 identified the most common uses of the computer by the respondents. As shown in Table 4.14, word processing, library research, and the Internet were the most frequently used computer activities. (See Appendix Q.) Eighty-five percent (85%) of the University students used computers for electronic mail as well. Clearly, the acquisition of computer skills by the students is outpacing the acquisition of university faculty computer skills as evidenced by the research discussed in Chapter Two. The fact that seventy-one percent of the Urban Scholars play computer games and fifty percent of them have access to computers through classroom activities predicts their easy adaptability to a technological environment. The teaching and learning world of the survey respondents is technological on many levels – both academic and personal and their ease of acceptance of this new world makes them receptive to knowing how to manage the information that governs that world.

Answers to questions 41-43 reflect the level of knowledge about our current technological environment exhibited in the respondent population. In contrast to their limited statements on Dewey Decimal System and the Library of Congress Classification System, most had a good grasp of the meaning of the Internet and website. Seventy-six percent (76%) felt that it was important for students to know how to use and manage all types of information resources. Several comments from the respondents articulate this viewpoint:

"Knowledge can be found anywhere and everywhere, but without certain skills to find them, it becomes difficult." *Carson Scholar*

"As the world is becoming more globalized, and more, and more countries and people are using the same technologies, and resources, students must not only be computer literate, but must be able to utilize all kinds of information sources." *UMass Student*

" I like many other students, only used the library to get what I needed specifically at a certain time. I often avoided the library. If I had better knowledge on how to use the library, I would have treated it as an asset; not as an enemy. I think it should be required subject early in high school." *Taylor Scholar Graduate*

"When you know how to use more than one type of resource, you're not limited. You will be able to get a lot more information on your topic." *Taylor Scholar*

"I think it is important because they may need it in their future to help them." *Urban Scholar-Middle School*

"They could do research themselves without anybody's help and it could help them in college." *Urban Scholar-High School*

"It is the only way to acquire true knowledge and be able to think critically. On the practical side, how else can they do a good job on their research assignments...Library research skills should be a mandatory part of every student's education." *UMass Graduate*

Student, Faculty, and Administrative Interview Analysis

The purpose of the qualitative interview in this study was to augment the student's voice in relationship to the survey data analyzed in the previous section. Thirteen university students and four faculty/administrative staff were interviewed for this study. Interview guides containing a series of questions were developed by the researcher for each interview group of students and faculty/staff and provided the directional guidelines needed to conduct each interview in a consistent manner. Each recorded interview lasted approximately 60 minutes. The students selected, using the purposeful sampling technique, offered the researcher the breadth, depth, and richness of experience exemplified by the New Majority student population. The student interviews enhanced the quantitative aspect of the survey data, providing appropriate measures for validity checks against the survey data collected.

The faculty interviewed are regarded as well respected members of the University community who have the ability to offer balanced perspectives on the current educational climate and culture at the University of Massachusetts, Boston. Both faculty members have also held administrative positions at the University and provided a well-rounded

element to their observations. The Director of the Library and the Associate Director, who also served on the University-Wide General Education Committee, offered expert testimony as well on the current role of information literacy within the university environment.

Student Voices ... Faculty and Administrative Perspectives

Individual profiles of the student interview population will be presented in this section of the analysis. Prior to each interview with the respondents, I reiterated the purpose of the research, acknowledged using an interview guide, and reminded each interviewee that natural responses/reactions were the most appropriate during the course of the interview process. I also emphasized with each respondent that self-censorship would defeat the purpose of the interview.

With all of the students interviewed, I have had either a prior instructional or a formal/ informal academic advising relationship. This enabled me to interact with the respondents on more than one level. Sometimes I spoke as an instructor and with authority, sometimes the questioning and conversation was more peer-like. Most of this role switching occurred unconsciously though it was evident on the tapes and in the transcripts in humor and verbal interaction.

The nature of our personal/professional relationship had a tendency to relax the interview environment, although several interviewees showed initial anxiety at participating in the interview process. These individuals were concerned with giving me the "right" answer. After I assured each respondent that the goal of the interview was to record their natural responses/reactions to the questions, the demeanor of respondents visibly softened. Later, the interview proceeded quite naturally until I began to probe, then interviewees exhibited anxious tendencies again. Thus, I probed only when absolutely necessary, keeping in mind the importance of the natural response in illuminating the student's voice.

Views expressed by faculty and staff are representative of the academic culture at

the University and are not intended to reflect the opinions of the entire faculty and administration. I am certain that a diversity of opinion is present on the Boston campus regarding the importance of the research question, as exists on most campuses across the country. However, the results from the survey and the interview address a level of consciousness about educational issues all too often relegated to the remedial realms of teaching and learning by college and university faculty when, in fact, these issues are central to the on-going intellectual process of knowledge creation.

As the researcher for this study, I was acutely aware of the pitfalls of researcher bias and made every conscious effort to abide by the research protocol that was established at the outset of each interview.

The next section presents brief biographical profiles of the university students interviewed. Faculty and staff interviewed requested anonymity; consequently, their biographical profiles will not be included in the interview analysis section of this chapter.

Student Profiles

In addition to the following student profiles, table 4.15 provides the student demographics of the undergraduates who were interviewed for this study. This group of respondents was chosen by using the purposeful sampling technique which allowed for the selection of "information rich cases" that would represent the New Majority student undergraduate experience.

Table 4.15 Demographics of the University Student Interview Population

Name	*Status*	*Ethnic*	*Gender*	*Age*	*GPA*	*Major*	*Group*
Ayfer	Soph	Syrian	F	45	2.63	Undec	UMass
Constance	Junior	Greek/Am	F	20	3.11	MGT	Taylor
Marc	Grad	Irish/Am	M	32	3.71	Engl	UMass
Kiah	Senior	Afri/Am	F	29	2.81	HumSer	UMass
Scott	Grad	Hisp/Am	M	30	3.12	E.Asian	Carson
Dorene	Grad	Bard/Am	F	28	2.76	Econ	UMass
Maria	Junior	Port/Am	F	22	2.13	Math	UMass
Melina	Senior	Greek/Am	F	21	3.47	Biol	UMass
Myrtle Jane	Senior	Afri/Am	F	32	2.42	BlkSty	UMass
Nicole	Grad	Haiti/Am	F	27	3.55	PolSci	UMass
Phil	Grad	CapVer/Am	M	26	2.77	Econ	Taylor
Samantha	Senior	Hisp/Am	F	32	2.93	Crim/Soc	Carson
Yvonne	Junior	Asian/Am	F	23	2.14	Undec	UMass

Marc Boulder

Born and raised in Cambridge Massachusetts, Marc, an Irish American, attended Cambridge Public Schools, graduating from Cambridge Rindge and Latin High School in 1987. Raised in a "dysfunctional" family environment, Marc had become a rebellious teen, turned alcoholic, and was in the fast lane on the road to self-destruction. Expelled from community college during his first year, Marc was urged by caring friends and family to join the military where he experienced a personal renaissance that basically saved his life. Spending four years in the Navy helped Marc come to terms with the imperfections of his childhood and growing teen years. Marc married, returned to

UMass, Boston, participated in the Veteran's Upward Program and majored in English. Marc wanted to return the kindness of those who continued to believe in him as he was going through his travails and decided to become a teacher. Graduating summa cum laude in 1997, Marc is now happily teaching in central Massachusetts at a school for children with special needs.

Melina Onassis

Melina, the oldest of three children, grew up in a strong traditional Greek family, attending Fontbonne Academy, a Catholic high school, before coming to the University. Throughout her educational experience, Melina has been acutely aware of the paradoxical nature of the woman's role in Greek culture, balancing her desire to achieve her professional goals while, at the same time, maintaining her deep sense of respect and commitment to Greek culture and traditions. Just prior to beginning her freshman year at the University, Melina's family suffered a severe financial setback. Her father lost the family business along with the family assets. At 18 years old, Melina assumed total financial responsibility for her college education, securing scholarships and working approximately 30 hours a week. In her last year at the University, Melina, a biology/pre-med major, is on the Dean's list and plans eventually to attend medical school.

Myrtle Jane Johnson

Myrtle Jane Johnson is a single parent with two young sons, ages 6 years old and 9 months old. She moved to Boston, Massachusetts at the age of 9 from Greensboro, North Carolina. According to Myrtle Jane, attending elementary school in Boston was an intellectual setback. She had already covered a great deal of the curriculum in her Greensboro schools. Myrtle Jane went to Dorchester High, graduating valedictorian of her class. When asked by her guidance counselor what she hoped to do in her chosen profession, Myrtle Jane responded enthusiastically, "A veterinarian." The guidance counselor asked if she wouldn't prefer to be a housekeeper. That exchange, among

others, steered Myrtle Jane away from pursuing college directly after high school. After several years working at various jobs, Myrtle Jane finally began her college career at Bunker Hill Community College, eventually transferring to the University of Massachusetts, Boston.

Extremely youthful in appearance, this thirty-two year old mother has been working diligently to complete her undergraduate education and to support herself and her children. Although her professional interests lie in the field of finance, her undergraduate major is Black Studies. She is presently working full-time at BankBoston as an account controller. Myrtle Jane recently took time out from her education to give birth to her second child. She will resume her studies this spring, completing her undergraduate degree by September 1999.

Kiah Webb

A former Wellesley METCO[5] student graduating from Wellesley High School, Kiah began her college career at Bridgewater State College. Not sure why she was attending college or whether or not she really wanted to be there, Kiah dropped out of Bridgewater State in Massachusetts after her freshman year. For the last 10 years, Kiah has been pursuing her undergraduate degree at various institutions, while working at variety of dead end entry level administrative positions. Finding professional advancement difficult because she lacked a bachelor's degree, Kiah found employment at the University of Massachusetts and began to concentrate on completing her undergraduate degree. An English major, Kiah found the pressures of working full-time and carrying a full academic load of 12 credits overwhelming and not satisfying intellectually.

After several semesters of this pressure, Kiah decided to transfer from the College of Arts and Sciences into the College of Public and Community Service, with a

[5]METCO, created in the 1970s, is a state supported K-12 educational busing program, linking surburban neighborhoods with Boston urban children seeking an alternative to Boston Public schools.

competency based curriculum, to focus on a human services undergraduate degree. Kiah found the college community and curriculum more empathic with the personal and academic needs of the adult learner, particularly those who must work full-time. Happy with her transfer decision, Kiah will be graduating from CPCS in December of 1999.

Yvonne Chung

Yvonne immigrated from Taiwan to the United States, as a young child. Contrary to the stereotypic "Model Minority," Yvonne typifies the confused, young undergraduate unclear about her purpose in attending the University and insecure about her ability to do competent collegiate work. An academically challenged student, Yvonne went to elementary and secondary public school in suburban Boston and at UMass, Boston has accumulated over 70 undergraduate credits without declaring a major. Her course selections have had no particular focus, although she once desired to transfer to the College of Management, but could not earn the 2.75 grade point average necessary for entry. Yvonne has met with a variety of career counselors and advisors to discuss her dilemma, but continues to flounder in the College of Arts and Sciences, struggling to decide what academic major she will eventually pursue.

Philip Acosta

A self-described "Cape Verdean," Phil Acosta's is one of those urban stories that epitomize the beauty of a strong will and self-determination. Phil's low key, unassuming demeanor belies a street savvy that borders on the dangerous and criminal. Estranged from his single parent mother, Phil was living independently at the age of sixteen. Basketball and the watchful eye of his high school principal eventually became Phil's lifeline to a University education. Becoming a Taylor Scholar opened options for Phil that had been historically available to only academically talented White students. An academically marginal student by choice, Phil was determined to rise above his underclass experiences. During his sophomore year, Phil was hospitalized with gunshot

wounds. He was required to take a semester off from the University but the experience was Phil's wake up call. Phil returned to UMass, Boston more determined than ever to graduate and to make a substantial contribution to society. Phil completed his bachelor's degree in economics and is now pursuing a master's degree in Education at UMass, Boston. His ultimate goal is to become a lawyer, representing troubled youth.

Constance Pathos

Connie attended Boston Latin Academy, a public examination school, prior to enrolling at the University of Massachusetts, Boston. Winning the Taylor Scholarship was a considerable honor for Connie, who had worked diligently during her Latin Academy experience. UMass, Boston was Connie's first choice for undergraduate school because her older brother was already attending and gave her the "inside scoop" on the advantages of attending the University. Thus, Connie was mentally ready to handle the intellectual challenges of a UMass, Boston education. Recently, Connie suffered the loss of her father, leaving her and her brother to help mother who is also disabled. Working was once optional for Connie and her brother. Now both must work more than twenty hours per week while attending school full-time. A student in the College of Management, Connie is looking forward to pursuing a career in management information systems after a 2001 graduation.

Ayfer Mollensky

Born in Syria in 1954, Ayfer Mollensky immigrated to the United States as a young teen. Married at the age of 22, Ayfer spent the last 20 in the traditional role of wife and mother of one son. Twenty years her senior, her devoted husband passed away in June of 1996, leaving Ayfer and her son devastated. With little formal education, Ayfer successfully completed her GED in 1997 and enrolled in the University of Massachusetts after participating in the University's mandatory pre-admissions program. A highly intelligent woman, Ayfer found the academic rigors of the University

overwhelming and invigorating.

The financial strain of being a single parent and the limited resources of her husband's estate finally took its toll and Ayfer found the need to seek full-time employment. Having little work history, Ayfer embarked on a job search with trepidation, finding employment as a bank teller at a local area bank. Committed to a promise she made to her dying husband, Ayfer was insistent on continuing her education. She transferred from the College of Arts and Sciences to the College of Public and Community Service(CPCS) in order to accommodate her work schedule while continuing her education. Ayfer is presently reconsidering her decision to transfer to CPCS, finding the structured nature of Arts and Sciences more conducive to her style of learning.

Scott Gutierrez

Scott began at the University in his mid-20's afraid, intimidated, and unsure about his place within the Academy. Graduating from Somerville High School in the mid-1990s, Scott viewed himself as a minimalist, "Minimal work for maximum results." Having spent several years working a variety of menial jobs, Scott felt the need to attain an undergraduate degree. Although he felt academically unprepared to take on such an undertaking, Scott knew he had no alternative if he was going to achieve the standard of living he often dreamed about. Unsure of his readiness and his motivations for attending college, Scott's grades for the first two years at the University reflected his uncertainties.

While an undergraduate at the University, Scott married, divorced, and spent a summer in Japan. His Japanese experience helped him to focus his life goals and he came back to the University declaring an independent major with a concentration in East Asian Studies. Scott graduated in December of 1998 and plans to go back to Japan in June of 1999 to teach English for several years.

Samantha Hidalgo

Born in Corpus Cristi, Texas, Sam is from a large Chicano family and pursuing a sociology/criminal justice degree at the University. A classic "late bloomer," Sam earned her GED a year or so prior to her entry into the University. A Carson Scholar, Sam's enthusiasm and determination to succeed convinced the scholarship committee that she was a worthy candidate to receive the Carson Scholarship. (See page 106)

As an adult learner, Sam possessed the motivation to pursue an undergraduate degree even in light of her limited exposure to the rigors of academic study. Sam was one of the few in her family to pursue any form of education beyond the 8th grade and that legacy continued to haunt Sam while pursuing her studies at the University. Sam recognized her academic shortcomings early on and took appropriate steps to remedy them. While attending the University, Sam worked full-time as a waitress in a seafood restaurant. Sam is scheduled to graduate in June, 1999 and her career goal is to combine education and criminal justice and work with young people.

Maria Pires

Having graduated from high school several years ago, Maria spent her freshman and sophomore year at Boston University. The financial strain of private education forced Maria to seek other alternatives. Maria got a sales job at a gift specialty chain store in the local mall and quickly rose to the ranks of store manager. Maria comes from a family with a strong educational background. Her mother holds several masters' degrees in education. Maria embodies an old soul within a young mind. She is very perceptive and extremely opinionated about whatever issue is presented. Having an educator as a parent, Maria has had the opportunity to witness her mother's professional stress. Extremely proud of her Portuguese heritage, Maria minces no words when issues of racism and affirmative action arise; having witnessed her mother's repeated loss of opportunities

because she was considered White, making her ineligible for teaching positions slated for ethnic minorities.

Maria began attending the University two years ago, wanting to major in mathematics and go into the education field to "right the wrongs" inflicted by the educational bureaucracy on talented individuals. Maria, however, was accustomed to full-time employment and decided to accept a higher paying position in a realty firm to save money. She is hoping to return to school full-time to pursue a degree in English. Education is still her career goal and in order to pursue that interest, Maria is presently taking courses in continuing education.

Nicole L'Ouverture

Graduated from the University in 1993, Nicole majored in political science. Born in Haiti and raised in New York and Boston, Nicole's upper middle class background is clearly evident by the sophisticated level of her varying views. In Haiti, she attended the best Catholic elementary school and her conversations are peppered with occasional references to her Haitian household and the 'family help.' A self-professed rebel as a teen, Nicole believes that her elementary school education in Haiti provided her with the solid academic skills to skate through middle school and the beginning of high school in the United States. She stated that students, in her Catholic school in Long Island, New York, were forever being sent to the library to engage in research and learning activities. Nicole's American educational experience, however, exacerbated her rebellious nature and her grades began to suffer greatly. Recognizing Nicole's self-destructive course, her family sent Nicole back to Haiti to complete her first three years of high school.

Nicole completed her senior year at Brockton High School in Brockton, Massachusetts before attending the University of Massachusetts, Boston. The University was a new academic world for Nicole and she recognized that her rebellious ways in high school compounded her difficult adjustment to the rigors of a university education. She

attributed much of her university success, however, to her elementary Catholic school education, her political science faculty relationships, and her strong sense of determination to succeed. Nicole spent her first couple of years out of college working as a school-to-work counselor with Brockton High School students. Certified to teach high school, Nicole began to develop a deep commitment to helping young people, particularly those who exhibited talent but lacked the proper supports to develop that talent. Nicole now works at the University in the Career Services office pursuing her commitment to help young people at the collegiate level. Nicole is currently pursuing a master's degree in Education at UMass, Boston and hopes to return to the high school classroom in the very near future.

Lorna Weekes

Another 1993 UMass, Boston graduate, Lorna majored in Economics. She came with her family from Barbados to the United States in the late 1980's to complete her university education. Attending an American university was a culture shock for Lorna who had been accustomed to the British system of education. Lorna had little exposure to libraries of any type and very little preparation in developing appropriate research skills for university studies.

After graduating in 1993, Lorna accepted a staff position with the University Career Services Center, responsible for, ironically, the Career Services library which houses college and university catalogues and various employment and job-seeking reference materials. While working in this position, Lorna has become aware of a very large number of university students, either incapable of or with limited experience in searching for basic job reference materials. With the introduction to the Center of the Internet and computerized job search systems, the lack of these skills among University students has become even more compelling. As a result of her observations of the limited research skills of prospective graduates in the Career Center, Lorna is currently

investigating the possibility of obtaining a certificate in management information systems at the University to diversify her work experience background.

The University students interviewed provided the "information rich cases" needed to illuminate the importance of the research question as it applies to the educational experiences of New Majority students. (Patton, 1990) The following interview analysis section discusses the four themes that emerged from the survey and interview analysis process. Discussion of the themes is integrated throughout, with viewpoints expressed by the faculty, staff, and students on each issue.

Interview Analysis

In addition to the survey, thirteen university students and four faculty and staff were interviewed. The interview guides used in this study contained a series of questions, each reflecting a particular aspect of the research question and each serving as a validity checkpoint during the interview and survey analysis process. From several iterations of the analysis process, the integration of the student interviews with the survey data consistently produced four dominant themes: academic experience, critical thinking/modes of inquiry, information resource management, and workforce preparation. Each theme represented the strong sentiments (native concepts) expressed by the respondents in relationship to the research question. Tabulating the results from the interview coding process and the survey produced the four themes listed above. (See Appendix R.) These themes also provided an appropriate template for the integration of the faculty/administrative perspectives as well. Relevant charts will also be included. Thus, student observations, illustrative charts, and faculty/administrative perspectives will be interwoven throughout the presentation of the interview analysis process.

Theme 1: Academic Experience

The academic experience of New Majority students is expansive and diverse as reported in the survey data. As stated earlier in this study, a major assumption made by

most college faculty is that students come to college prepared to engage in academic research. It appears as though faculty at University of Massachusetts, Boston may possess similar mindsets:

UMass Faculty

> ...at the entry college level, students need to know how to use a library, need to know how to gain access to information, need to know how to make intelligent assessments about the reliability of it and that it's a building block for future learning.

When questioned about their academic preparation to attend college including their ability to conduct research, the respondents offered the following observations:

Philip, Graduate.

> ...Before I got here I was pulling c's, c-'s and what not. I learned on my own basically that you should take school more seriously, but I never had like a structured way of doing it. Even in high school...No, it just more like, here read this, answer these questions, and study for the test...[high school preparation] taught me how to read, taught some arithmetic, and that's pretty much it. As far as discipline and learning when to hand things in on time and the importance of doing that, I learned everything here.

Maria, Junior

> ...When I was a freshman at B.U. and I realized and I saw what it was to teach and be taught, that's when I went aha! What I missed in high school...it wasn't that I'd never had an experience that says to me, wow this is so deep. It was like wow, this is what I should have been doing all along. You know, that was my aha! And that sort of what made me, that's what inspired me to be a teacher...high school, it was sort of like, these are the things you need to learn to be liberally correct and politically correct and not to offend anyone. So I don't think they ever taught me how to survive in the real world. And therefore, they never taught what it is that I wanted to do in the real world, which I feel that I lacked when I went to college, therefore when I went to college I was very lost. I didn't know how to take in all the information that I was learning and use it to figure out what I was interested in, because of what I lacked in high school. I think all of the things put together, it was just a bad experience.

Lorna, Graduate

> ...No because the system is different and what I learned here wasn't the same thing I learned over there (Barbados) It's difficult because I am trying to think of the two different systems and trying to relate and it's not working.

Nicole, Graduate

> ...I've lived on both sides of the world. I've lived the privileged life and I've lived a very underprivileged life. And I see the difference between the two. It is, it is only natural that the kids with the more resources are going to do better because their level of what is low, is in another context high. You know. And so far for me, whether or not your heart is willing or your mind has the potential, it doesn't really matter if you don't have the tools, then you are not going to make it, you know. And that's really what it is.

Yvonne, Junior

> ...First of all, when I was in middle school, my friends went to high school with me, all together. So we had the same friends, so we basically learned things together at the same time. And college, it seems like, boring to learn...it's like, you don't have the friends that you had from the last semester. You don't have the friends long enough to really feel like friends throughout college or maybe you will eventually find someone. But so far, for me, it's like, it's like, I'm on my own. It's like, I don't have no friends that can help me through college or each class that I'm taking. Instead of college, in high school and middle school you have a whole bunch of friends that you talk to during class, but your friends help with school work when you needed help. So, it's just like work. You do your own job and that's it.

Transitioning from "academic" habits acquired in high school to those required in college proved to be a daunting experience for each respondent. Boyer's (1986) desire for a seamless K-16 educational experience is, in reality, an abyss for many of these students, particularly when proper intellectual supports such as information resource management are not provided at the collegiate level to assist them in nurturing the development of their intellectual skills.

The above observations represent the sentiments of the majority of the respondents except in the cases of Melina and Constance. Both Melina and Constance had experienced intense drill in research paper writing during their junior and senior

years in high school. Both students felt that their high school experiences prepared them intellectually to meet the academic expectations of college faculty. The remaining respondents had limited experience in writing research papers and rarely used the resources of their high school libraries prior to entering college.

Theme 2: Critical Thinking/Modes of Inquiry

A 1995-96 study conducted by UCLA's Higher Education Research Institute polled 33,986 full-time faculty and 74.4% of those at public universities ranked student intellectual development among the highest priority within their individual institutions. (Chronicle of Higher Education, 1998) This is paradoxical given the fact that the faculty's perception of intellectual development does not necessarily include the building of foundational cognitive skills. This study's survey data indicates a limited use of higher order thinking skills in the educational experiences of some New Majority students. Sixty-two percent of the students interviewed, indicated in question14 that they learned the skills to conduct academic research primarily in college. Yet, only thirty-seven percent of the students interviewed selected the *all* category when asked to identify the critical thinking skills most used by them in conducting research. (See Table 4.7). To conduct research requires the ability to use higher order thinking skills, skills essential in the process of intellectual development; this ability cannot be mastered effectively at the undergraduate level without critical thinking skills, modes of inquiry, and information resources.

UMass Faculty

Member #1

> ...Well, I think there is a strong sense that certain critical intellectual activities such as grouping, comparison, and comparing the part to the whole , the whole to the part, inductive and deductive reasoning cut across all kinds of disciplines. So there is a view that, there is more similarity between, say science and humanity, than there is difference because whether you are, you know, taking samples of water in the harbor

> or reading a novel, when you go about explaining and understanding it, you're basing what you say on evidence, on reasoned arguments, on the ability to look at inconsistencies which then lead you to generate new ideas that you wouldn't have had otherwise . And so in general, the issues about critical thinking , reading and writing and all that, has cut across what seems to be the kind of methodologies of disciplines. And because other than the purely creative writer, almost every one feels that there are standards of logic and rhetoric and evidence that has to be brought there so that you just say whatever you feel like saying and feel like your voice or opinion is as valid as anyone else's.

Member #2

> ...You teach and you do research and that doesn't really mean that you transmit your knowledge in a way that is functional for the students.

The students responded to a series of questions focused on critical thinking, modes of inquiry, and problem solving. Most could not answer confidently that particular series of questions either within their own disciplines or in others. The vagueness of their responses revealed their uneasiness with the questions. Each was visibly disturbed at not being able to provide "textbook" answers to the questions. The following responses represent the frustration many felt at being unable to define critical thinking, and modes of inquiry:

Marc, Graduate

> ...Education was by rote. They wanted you to regurgitate whatever they told you...I'm definitely not a math minded person, so I don't know how to think mathematically. I am aware that there is a certain level of logic you have to apply to all areas of education because you can't just jump from A to Z without some natural steps in between. And I, I would say that critical analysis can get you into trouble because you might think about something too much. But just analysis in general is something you should apply to everything.

Kiah, Senior

> ...I am able to go in and find certain things for my particular major (Human Services), but none that the Human Services people incorporate that...I guess, for the most part, they talk about advocacy. So I guess from that point of view depending on what the problem is because its gearing you towards, and they want you to do an internship with some sort of advocacy agency. So everything is advocate, advocate, advocate for whatever particular area of services you are going into.

Samantha, Senior

> ...It's a I'd have to say where people, where is this person coming from? Where are these people, you know in terms of how do you think.... I guess, I'm not sure, I'm not sure...Thinking? Academics. Like critical analysis, you mean. I love that one. To be able to constructively and critically analyze something or what somebody is saying has been something I've learned in the last, I don't know, three years.

Nicole, Graduate

> ...Everyone assumes that you need, that you already have it. And that's why I remember my elementary experience more so because they don't. And so they feel responsible to teach me. And I think for a lot of kids who don't get it at that point, by the time they reach high school, although the high school teachers did kinda go through it, but they expected you to already have, have been acquainted with it. By the time you get to college, they're like, 'look you wouldn't be here if you didn't know this stuff.' And so they're willing, you know, to talk about it briefly for the people they feel maybe didn't have it, but they don't feel that it's their responsibility to teach it because they assume and also think that the responsibility should fall way back. And they are right. I mean, there is no question about it. There is no way you should make it this far without knowing that. It should be in elementary school. But it is not and so you get into, like, that kind of situation.

Their problem solving techniques reflected, for the most part, their individual styles of learning. For example, Samantha was a hands on problem solver, whereas Yvonne considered avoidance her primary problem solving skill. Philip offers another example based on his empowered perception that he is entitled and able to get what he needs from whom he wants, and that he is capable of reaching his own solutions:

Philip, Graduate

> ...I'm good at it because if a problem is presented to me, and it's a challenge and it irritates me, I'll do whatever I need to solve the problem, go where ever I need to go to find the information for it, get different insights; I'll get the right assistance if I can't solve the problem; I'll go get help to assist me to a certain extent; but I wouldn't want the answer; cause I would want to figure it out on my own.

Theme 3: Information Resource Management

Questions on the survey and in the interview guide also focused on the use of information resources in an academic library. Many of the respondents' comments stated that there had been little encouragement from the faculty other than the perfunctory "make sure you use the resources of the library" comment. It is questionable whether faculty possess the skills and knowledge required to instruct and/or engage students in the use of information resources. In the world of knowledge, academic librarians are essential personnel in understanding how knowledge is organized and are quite capable of transmitting that knowledge, within a teaching and learning framework, to the university community at large. More important, most on the threshold of the digital revolution, cognizant of the dynamic growth of information resources, and understanding of the infrastructure required to manage information and create new knowledge are more than willing to share their knowledge.

One of the faculty members interviewed does advocate for the creation of partnerships with librarians to teach information resources to undergraduates. However, his endorsement and advocacy has yet to gain even marginal acceptance within the campus community. This is quite evident by the lack of any formalized information literacy faculty movement on campus, other than the efforts that come from the professionals in the academic library. If the faculty perspective offered below represents the thinking of the faculty as a whole, or even a portion of the faculty, then New Majority students are, indeed, not being adequately exposed to the most basic of information resources. The second viewpoint addresses the faculty's preference for discipline specialization and their continued resistance to new ways of teaching and, ironically, learning as well:

UMass Faculty

Member #1

...It's interesting on this campus that the faculty, that the librarians are part of the faculty staff so that librarians are regarded as faculty to a certain extent more so that the academic advisors or other professional staff. However, having said that, it seems to me that the librarians have very little impact on the role of curriculum development here. And so although there is lots of one to one connections you know, certain faculty having good relationships with librarians ....I think there is a tendency on the faculty not to give as much library work because of their feeling that students don't have the time to get to the library....And so I think that there is this tendency when teaching commuter, busy, working and sometimes part-time students to do the service and not give them enough library work under the guise that they, it'll be, it's too inconvenient for them to get that.

Member #2

...You know, management of information resources as skills is something that most of our faculty members do not really know about, much because they don't have these skills. So forcing a faculty member to teach the skills that they don't have is very hard. They learned by going to the library with their advisor maybe telling them, 'Oh just go through these journals.' Think about biology, think about physics, think about English. These people they have a very small, not very small, but they have a fine number of basic journals that they always have to scan and read...So how the hell are you going to learn how to use the library and information technology as it is right, right so readily available these days in libraries when you don't really need to. So how can you teach other people something you don't know.

Myrtle Jane, Senior

...That there was more to the library than just cutting through. Only learned about journals and library resources in my senior year; only used the library once in college and as a K-12 student, I never used the library.

Nicole, Graduate

...Managing information is being able to identify relevant resources. There is so much information, so much stuff, you know, you could just get overwhelmed. You need to know how to use the library. To be honest, I think, like, that's the most important thing – you need to know how, I don't know what they called it, but you need to know how things are organized in a library. You need to know what things a library houses and then how you can access that.

Kiah, Senior

...getting a grasp on all the information that is out there...the ability to process information...not as confident as I should, I should know more...Because I know that there is a lot more I could learn if I had the time to learn...And as much time as I spent in the library, I should have known (about resources on literary criticism), but I didn't.

Maria, Junior

...I think if I was taught to yes, because if I take to my perspective of being a manager in a store, it's totally different thing from education, well not, but you know what I mean. It's a different type of like, it's business and everything I've learned from the beginning, I've acquired and then therefore, from what I've acquired I've started to organize. And used it for resources to make my life more efficient and quicker and better. I couldn't do that since education because it was out of my hands when I was young...because if you miss the steps from the beginning and you started step three, you gonna get so confused cause you don't know where the hell and how the hell you got there you know. And with me my business, I started from scratch, so I know what are the steps that are important to cover.

Samantha, Senior

...Yeap, yes, I'm still learning absolutely, but today I just had this, you know, it just get frustrating sometimes. You know it's there and sometimes even the person who is working can't help you find it, you know find or how to get to the information that we both know is there. You know what I mean. And so it could be sometimes it could be frustrating, but resources like OPAC and SocioFile and the Extended Academic (index), you know, those are all things that I've become more familiar with that can help me find other resources.

Melina, Senior

...Of course it's important because I really don't think it is just books, if it was just books, you would not have the whole scope of it. You need to be able to have information from different people, different authors, different sites, the newspapers is going to say something differently as opposed to your textbook. Like the DNA thing everywhere but the newspaper is always making mistakes or cutting edge things where the textbooks don't have that and then it's just a different view on one thing. So you really cannot look at it in a narrow path. You have to look at all the branches, I think. It is very important. It makes learning fun..... I think professors should make a conscious effort to put this into their agendas because it is not, a professor might think, I'm going to teach you this subject and that's it. I don't think teaching is just this subject, cause okay I might learn, I don't know, um, okay, I'm learning my chemistry, but in the meanwhile shouldn't you teach me how to learn, you know...

Theme 4: Workforce Preparation

The preamble to the General Education revision objectives adopted by the UMass Boston faculty states, "... besides *providing training to pursue a satisfying career* the undergraduate curriculum at UMass Boston seeks to develop the ability of students to undertake a life time of *intellectual inquiry* in continued learning." The issue of providing training to pursue a satisfying career generates great debate within the academic community. This debate centers on the educative role of higher education and the relationship of that role to the world of work. It is interesting to note that only 20.7% of the faculty surveyed in a 1995-96 report of the Higher Education Research Institute[6] believed that the chief benefit of a college education is to increase individual earning power. This means that 79.3% did not believe the chief benefit of a college education is earning power which contradicts the perspectives held by the New Majority students interviewed. The respondents believe that faculty are supportive in providing them with the intellectual and technical skills to increase their earning power, however, according to the HERI study, the opposite is more in line with the true sentiments of college and university faculty.

Another study conducted in 1993 by the Massachusetts Institute for Social and Economic Research (MISER) supports the respondents' concerns by recommending: "... college curricula teach cognitive and analytical skills to meet the career needs of graduates... including critical thinking and career specific courses."[7] The students interviewed for this study and from their commentaries below, would have endorsed wholeheartedly this recommendation. Unfortunately, faculty would be opposed to any hint of "technical" education infiltrating academic curricula. Although the report does not advocate overall for so radical a change, it does attempt to illuminate an often harsh

[6]Cited in the Chronicle of Higher Education, Almanac Issue, August, 1998. Higher Education Research Institute, (HERI) University of California at Los Angeles, 1995-1996.

[7]Massachusetts Institute for Social and Economic Research. *Beyond 2000: Demographic Change, Education and the Workforce*. Amherst: University of Massachusetts Press, 1993.

economic reality many New Majority students must encounter on a daily basis while pursuing their undergraduate education.

UMass Faculty

Member #1

> ...A major point (in revising general education) was how to insure that students at UMass Boston were going to be in a competitive position with students from other universities in their ability to read, write, and think critically. As valuable as the technological supports are, the human supports are, are absolutely essential to, to our students' ability to succeed. And those human supports come from a number of different places. They come primarily perhaps from the teacher in the sense that the student has a lot of access to that teacher.

Member #2

> ...Skills is something that we at the University should not be teaching...They [faculty] felt that people who didn't have those skills, they should go to community colleges, build them up, or they should come from high school with them.

Philip, Graduate

> ...Well here at UMass, I was able to get that internship with the economics department specifically and it taught me a lot of stuff about economics, researching and analyzing data, and just a lot of different stuff. Basically the internship worked and I work there, well I did my internship there and then they eventually hired me. So it was kind of good that I got some kind of work experience out of college even though it was for a semester.

Kiah, Senior

> ...My education...I would have to say no cause a lot of this I've done on my own. These are things that were required through a job, or something I just decided to learn on my own and not so much during my undergraduate education.

Lorna, Graduate

> ...My current position that I'm in is not reflective of my degree. I'm doing something totally different and I don't think the education I got in college prepared me for this. I think it would be more like what I am

doing is below my educational level.

Maria, Junior

> ...It has taught me that no one will hand you anything. You have to go out and look for it yourself and you have to go out and work for it yourself. My school has taught me that the real world is based on self-acquiring skills. Nobody is teaching you anything. College, high school, anything I look at I've never been taught anything I feel is important to the real world... You study, you work hard, learn what you need to learn and you'll do well. But it's not like anybody is actually helping you to do that.

Marc, Graduate

> ...No, and I would say that their expectation as a higher learning institution is that you are going to do it on your own or you already should be aware.

Samantha, Senior

> ...Not my experience in education cause it's mostly talking about people and the sociology, the interaction of human beings, that sort of thing. So there is not a real business, academia, when I hear you say the business world or the work world outside. I think business that is what it's all about, I think. And I don't think that my field has prepared me for that.

Scott, Graduate

> ...Not really, I mean you gonna make your own way. It's not like, if they had a system where you have electives, you have core courses that you have to take. Why don't they just eliminate some of the electives, and put like mandatory. They do mandatory English, and writing proficiency, so why don't they do a mandatory like, you know, skills class to learn computers, to learn how to use the library, to learn how to gather all this information in your freshman year and , and you're going to breeze by your sophomore, junior, and senior year. You'll have nothing to worry about. Unfortunately, that doesn't exist so, cut, cut a few courses and just make those mandatory you know... whose to say it's not academic if you are learning something. It's ridiculous.

The final question on the student survey addressed the issue of the role of urban university in preparing undergraduates to manage information resources. It was surprising that many of the students interviewed felt strongly that some type of mandatory course focused on information resource management needs to be instituted at

the freshmen level.

Kiah, Senior

> ...Make an information course mandatory. It has to be. Students need to know what is out there, they need to be able to get on-line to look for information, know how to use the library. It has to be mandatory. If not, they are not going to be able to find information. Some students are just scared by walking into a library. They don't know what they are doing. They are intimidated by the library and they have no clue. And if they don't know how to get the information, where are they going to get the information from.

Scott, Graduate

> ...Like I told you, hit them with it, you know, it's mandatory and you're learning that's it, you know. You're getting something out of it that is going to help you with your education, I mean, it wouldn't be, the irony would be, it's like to have them, not they don't have these courses now and then they force you to, to write papers and do research and when you are a freshman, you have no idea and you are not basically learning, you're trying to survive... Whether I use it or not, I know it, and when I need it, I know it is there. That's how much I have choice now.... If they hit you with all the information at the beginning of high school and make you learn it, then you can just grow into it... I didn't have that, then you hit a brick wall, you know. I couldn't avoid it. It was pretty hard, the hard facts, I couldn't write, I couldn't do math, I couldn't find information if I needed it.

Melina, Senior

> ...I think it is excellent that we have all those computers in the library... that we can use, I think its excellent that they give us free email, well we pay for it in our tuition, but they provide it to us. I think that's excellent because it's people like me who don't have a computer at home. I wouldn't have email if it wasn't for the University. I think they are doing a very good job on that part. I think maybe they should have computer classes for non-computer science majors who really have no time. But they have some workshops in the library which is great, but I really can't make any of them which is not great for me. I wish they could like provide a course where somebody who is completely naïve to this field who could learn things at their own level. Not at somebody's level who is a computer science major who knows pretty much computers. That would be very good, um, what else. I guess, I guess for teachers to encourage it more, to make it, to make it a part of the course so that you kinda have to use the resources – not if you want to, this is available to you. Well, I

know its available to me but if you do not make me do it, I'm not going to do it, kinda thing. And I know we are not in grammar school, not in high school. We are grown ups, young adults, we should take things into our own hands. But like I said time is so limited, that if I don't have to do something, I'm not going to do it. I have to go to work, I have other responsibilities, I have so many other things to do. So if you are not going to make me do it, I'm not going to do it... If you gonna make me do it and it is part of my grade and I want my grade, I'm going to do it, you know what I mean... not provide them with more opportunities but combine into the agendas. There are some teachers who just can't teach. They are very, very smart people, very educated and really know their field. But what you know, if you know cannot be translated to me, then it is useless to me.

Myrtle Jane, Senior

...I think they should teach us how to manage it. First of all, urban students, we don't get decent educations from grade K-12. College is like, it's, it is a totally different experience from the K through high school years So if you are sending these urban kids into the schools, at least, train them enough so they won't go in there and go, uh, my name is Richard. I mean teach them things that they can use. Most of the time, they teach us how to be common laborers, legalized slaves, rape and murder victims, or drug dealers or my all-time favorite, dope heads or alcoholics. Teach us something we can actually use, like knowledge. Hey, here is a new one; hey what about English. Teach us things like that. They don't teach us none of that stuff and I would think kids from grade K-12 should be taught this so when they get into the college experience, we won't be getting the newspaper reports like, 'Hey John can't read past the second grade level and he's a senior in college.' I think we should be given a lot more credit due to the fact that we created this stupid America in the first place and I think they need to teach us more than how to be, how to be illegal.

Constance, Junior

...Definitely have an introductory class no matter what program you are in. Like start it out at a beginning level, or if you're more experienced, you have the opportunity to go higher level. And then like a lot of the courses have the computer stuff in them, but also have it in all of the other ones like CAS(College of Arts and Sciences) and then like before you graduate. Your last semester have some other kind of course that you are required to take like just before going into the real world experience to make sure you are up to date on everything. See what you have learned and put to use during college... and have it correspond to your degree. If you are in management, have it correspond to what you do in business, or

if you are in nursing, what kind of computer stuff do you need in nursing, in the hospitals or in the liberal arts.

Maria, Junior

...OK. Urban public, urban minority. Different cultures. Different perspectives of seeing the world. Different ways of being taught. Different ways of viewing importances. I think the most important thing is good teachers who are able to understand where the student is coming from. Once you understand where the student is coming from and how they view the world, how they were taught to view the world, then you can say all right. I understand where you're coming from and this is why it's so important for you to take this call or understand this subject. And this is the different departments that will help you understand it better because your culture has a perspective in a different, a different perspective and has a different way of seeing things you know. Once you understand where this people are coming from, you can teach them much better. It's not saying, hey you're different and this is the way you have to learn to be. That's very wrong. You have to say, this is where you are from. Let me figure it out. Let me help you with that. And this is how you can learn to be in both places. Learn to because you can never go away from your culture and you never go away from where you live.

Marc, Graduate

...I think that it should be a mandatory requirement for every freshman coming into any urban institution that they should be fully schooled in the use of the library and I am gonna say this because a lot of urban communities don't have libraries or they don't promote going to the library or there is a stigma attached if you go to the library. So a lot of children come into the university without even knowing, you know, what the Reader's Guide is or what, you know, what a card catalog is or, you know, what's in those stacks other than books. They don't know where to find any of the information. So by giving them the opportunity to take a class on just library, and it doesn't even have to be a full class. It could be a half a semester course. But, at least, you're equaling the playing field for them, so that they can find out, you know, what everybody else knows that maybe went to a suburban school with a huge library. Or at least, had the opportunity to find out what a library was.

Ayfer, Sophomore

...No, like I said before, I think the first semester of college, it should be mandatory; taking classes, how, most of the students don't even know where the library is and they don't even know how to find their information. So I think that's very important that the University should

> force the students to participate in this class, take a course to learn how to get your resources, you information...because it's important because not all classes, you have to buy textbooks, you do have to do researches. Therefore, you need to learn. It's very important.

Lorna, Graduate

> ...They need to train them and make the curriculum so that it is...so that it is the same as what the job market is looking for to make it compatible with the real world...definitely gear the curriculum to what is out there in the real world.

Nicole, Graduate

> ...I think particularly when you talk about urban, very few urban areas are extremely wealthy, extremely privileged. I think that if you have an urban school, and, I speak for UMass in particular. Um, an urban mission..., Um, I think as an urban university, I think, it is their duty to catch, to make students catch up. I know people, like, bark at the idea of remedial classes. I don't care what you call them, but the point is that they are not going to be able to get anywhere if they don't know the basic stuff. If they can't use a computer, if they don't know how to access information, if they don't know how to synthesize... if they don't know how to do all of those things, they are not going to get far. They may make the grade, but in terms of having, like, a base of knowledge to build on and to really explore from there, they are not going to have much. You know...Nine out of ten is not from a privileged population, you need to get them up to par, you need to get them competitive.

The student and faculty/staff interviews represented perspectives that typified those of an urban public university. Commentaries from the University of Massachusetts, Boston faculty/staff reflected the overall research findings of the Library and Information Science community detailed in Chapter Two and those of the *Urban 13 Consortium* survey discussed in Chapter One. The views of the university students appear to be undervalued and underutilized by faculty in the curriculum reform process. All thirteen student interviewees strongly voiced, independently, their opinion that a mandatory "information literacy type" course needs to be instituted at the beginning of the undergraduate experience. Although there is significant debate within the Library and Information Science community on the best method for integrating information literacy

within the academic curriculum, and very little discussion from Liberal Arts faculty, it seems as though the weight of student opinion needs to be incorporated in curricular discussions and reform if students are to validate their undergraduate experiences as intellectually challenging, professionally rewarding, and personally enriching. The student voice and experience, in many ways, *is* perhaps, the best barometer to measure the effectiveness of educational outcomes resulting from institutional reform efforts. If faculty continue to view the perspectives of New Majority students through traditional academic lens and ignore their valuable insights and life experiences, then urban public higher education will continue to lag behind in meeting the "real" teaching and learning challenges of a society whose culture is being increasingly dominated by information technology.

Conclusion

The first half of this chapter described the results of the student survey, complimenting the discussion with descriptive tables on selected questions from each section of the survey. The second half of this chapter profiled the students interviewed, analyzed the student interviews, and integrated student and faculty perspectives throughout the analysis. It appears that New Majority students attending urban public universities do understand the shortcomings of their previous educational experiences and, to a certain degree, endorse traditional approaches to teaching and learning, where appropriate. But they also demand accountability, particularly when those approaches do not provide them with the information literacy skills needed to compete successfully in the world marketplace. Chapter Five will summarize the findings of the survey and interview data within the context of the study's research goals, including conclusions, implications, and recommendations for further research.

Chapter Five

Summary

The purpose of this study was to examine the research question, "How is the ability to manage information resources critical to the undergraduate experience of New Majority students attending urban public universities?" This question was explored to provide concerned educators with a vehicle to make information literacy a vital and integrative component within the undergraduate curriculum. Very little research has been conducted in this area outside of the library and information sciences disciplines; given the cultural, intellectual, social, economic, and political ramifications of the Information Age, much more is needed.

Two hundred and thirty six student surveys were distributed, 13 student interviews conducted, and four faculty/staff interviewed to gather data in support of investigating the research question. The survey population included middle and high school students. Their participation provided a rearview perspective on the importance of the research question to the future of urban public higher education. Ninety-three students returned the surveys, producing a 39% response rate.

Four goals governed the research for this study. Each goal will be presented with a discussion of the significant findings, conclusions, and recommendations for further research.

***Goal 1*:** To hear some of the New Majority students' voice in articulating the importance of managing information resources during their undergraduate experience in preparation for lifelong learning career and personal options and opportunities.

Significant Findings and Conclusions:

What is often missing in curriculum reform movements within higher education is the voice of the student. In urban public higher education, New Majority students dominate the landscape. Keeping in mind their demographics, their educational

experiences, and their diversity, traditional approaches to teaching and learning will no longer suffice in accomplishing the task of developing the independent, well-informed lifelong learner, the democratic citizen of the learning society. Analyses of this study's survey and interview data corroborate this fact.

The implications of this research indicate that New Majority students attending urban public universities may not be learning the foundational intellectual skills required for the integration and effective management of information resources needed for lifelong learning and workplace success. For example, a question on the survey asked the participants to identify the skills used in critical thinking. Only 7% of the undergraduates and 8% of the Urban Scholars acknowledged synthesis as one of the skills used in critical thinking. Another question on the survey asked about the most regularly used information resources during research assignments; 55% of the undergraduates and 82% of the Urban Scholars selected the Internet as their second choice, the book being the first choice for both groups. The Internet, an infinite source of information , is often in need of assessment, evaluation, and, most importantly, validation. The ability to distinguish between information resources and use them appropriately is a learned task, one the survey participants appear not have learned. Library science research has already documented that many undergraduates are not able to distinguish between primary and secondary information sources nor understand the importance of that distinction to their academic programs.(Wesley, 1991; Eisenberg & Spitzer, 1993; Breivik, 1994; Fenske & Clark, 1995)

Another significant finding of this study was the fact that only 15% of the undergraduates acknowledged receiving frequent encouragement from faculty in using the resources of the academic library. This supports library science research on the faculty's limited use of information resources in the academic library.(Baker & Litzinger, 1993; Maio, 1995) Acknowledged by many within the Academy as the gatekeeper to the Information Age, the academic librarian is in a pivotal position to bring continuity to this

transformational process by engaging in teaching and learning not only with the students, but with the faculty as well. Limited use by faculty of information resources does not bode well for the redesign of our national teaching and learning infrastructure nor for the integration of information literacy within the institutional curriculum. Morner's (1993) research on education doctoral students and their limited understanding of the literature review process and use of the academic library raises concerns about other academic disciplines and the information resource management skills of their terminal degree students.

The New Majority student population mirrors the changing demographics of American society and as such, offers a richness of personal experiences and insights that could contribute significantly to the learning dynamic within the academic community. The challenge I found in interviewing these students was to capture, in print, the essence of their emotions, many reliving unpleasant memories, as they described the spectrum of their educational experiences. Clearly, their past educational experiences and my survey and interview questions evoked feelings of insecurity and inadequacy. However, their passion and their convictions in expressing their opinions about their undergraduate experiences, their professional futures, and the mission of the urban public university underscored the valuable contributions their input could make in the redesign of the academic curriculum.

Implications:

Unfortunately, higher education continues to dictate the educational needs of New Majority students, rarely paying close attention to their educational desires. The average age of students attending urban public universities is 27, not the traditional 18-year-old that many faculties may still envision when addressing the educational needs of undergraduate students. Most New Majority students today do not perceive an undergraduate education in the classical, academic sense of the" discipline and furniture

of the mind" so much as they perceive it as the primary mechanism to increase their earning power. For any student, the process of acquiring sophisticated world views, an appreciation of the arts, and an understanding of the world of knowledge requires a sense of intellectual well being which many New Majority students do not begin to develop until after they have established their economic foothold in the world of work. References to this observation are made throughout the survey and interview data. Many perceive intellectual and cultural enrichment as by-products of their educational experiences. They, for the most part, rank securing a good paying job as their primary objective for attending college. Failure of the Academy to incorporate this perspective within the context of the liberal arts tradition is evident by the interviewed upperclassmen's responses to the questions on critical thinking and modes of inquiry. Most could not articulate the standard modes of inquiry within their individual majors nor within disciplines. Moreover, many could only express limited definitions of critical thinking. Most, however, did understand that information is power and were concerned whether or not they were being adequately prepared to function intelligently in an information society. Their concern about achieving a competitive intellectual advantage in the workplace is quite legitimate, given their current undergraduate experiences. Until urban public universities adopt an information literacy infrastructure capable of providing students with the intellectual skills to achieve in highly competitive environments, then the concerns of the New Majority students interviewed will remain valid.

I will conclude this section with a quotation from a letter sent to me by one of the survey participants, a Taylor Scholar who recently earned her MBA and is currently working as an investor relations professional in New York City. (See Appendix S)

> Until I worked at my present job, I never really had such a deep understanding of how the difference in your upbringing effects the rest of your life. I knew that there were different classes in our society which separate individuals based on their incomes, but the most important factor that separates those who advance or get the most benefits available in this

> society has more to do with the lack of information than anything else...Why do lower income individuals do limited research or no research at all when other higher income individuals do the most research that they can before making an educated decision. It is a matter of being taught how to do it, where to get the information, having that information available to you and participating in a network of people who know this information."

Recommendations for further study:

- Increase research engaging the voice of New Majority students as it relates to the integration of information literacy within the broad spectrum of the academic curriculum. This research should include graduate students, as well. It should focus on assessing the effectiveness of information literacy outcomes on the intellectual development of New Majority students.
- Build on the primary motivation of New Majority students to prepare for life after college by building information literacy into their career oriented courses as well as the general education courses.

Goal 2: To identify the importance of information literacy as a new "habit of mind" in need of integration within the undergraduate curriculum at urban public universities.

Significant Findings and Conclusions:

Research shows that many educational institutions are reluctantly engaged in the intellectual metamorphosis of the Information Age, a metamorphosis that is reshaping how we think, learn, and teach knowledge, seek information. (Lynton & Elman, 1987; Schuh, 1991; Levine, 1992; Twigg, 1995; Walshok, 1995). The changing demographics of our society dictate that we must reassess how we determine intellectual talent and how that talent is nurtured in a technological culture. Information literacy, as a new habit of mind, has the capacity to provide an internal infrastructure to manage creatively and intelligently the massive volume of information being produced daily by our digital society. In fact, information literacy may be seen as the metacognitive ABC's of intellectual empowerment. Library science research has shown that it has the capacity to

satisfy the core of any curriculum reform movement, providing learners with the intellectual skills to become successful in the workplace and beyond. However, in the world of higher education, there is a standard assumption that habits of mind are an outcome of the K-12 experience. The interview and survey data in this study do not support this assumption. Rather the date indicates that students have not received support to develop the appropriate habits of mind for the Information Age. This was reinforced by the faculty who, in their interviews, expressed the sentiments that teaching habits of mind was not necessarily their responsibility and should be taught at the secondary or community college level.

Implications:

As a habit of mind, information literacy could provide a critical platform for individual intellectual empowerment; it has the capacity to accommodate diverse learning and teaching styles; it has the potential to provide resources to educational organizations that will enhance society's economic, social, and political well being. Education faces three significant challenges over the next several decades: management of information, creation of new knowledge, and the development of the life long learner. Each is reliant on habits of mind sensitive to the intellectual needs of an emerging learning society. Information literacy in conjunction with the richness of academic tradition can set the teaching and learning standards to meet the intellectual demands of this society. Without this collaborative union, without higher education's recognition that "one conceptual world view is replaced by another," (Kuhn, 1962), then our ability to manage change successfully will be inhibited by its resistance to that change. For preparing New Majority students to become life long learners in a democratic environment, information literacy as a habit of mind is the paradigm of choice among those committed to educational growth, intellectual enrichment, social integration, cultural diversity, political choice, and economic security.

Recommendations for further study:

- Assess the value of current pedagogical practices from K-16 involving inquiry-based instruction, illuminating those models which use the philosophy of information literacy as its foundational framework.
- Create models in which information literacy is incorporated into general education, career focused courses, and skills focused courses such as math, foreign languages, English composition, computer science, etc.
- Evaluate the importance of information literacy and lifelong learning within the academic culture of urban public universities.

Goal 3: To investigate the relationship between information literacy and the various educational policy issues that directly impact the undergraduate experience at urban public universities.

Significant Findings and Conclusions:

Information literacy should support an institutional culture and intellectual empowerment. A culture affiliated with information literacy is present in name only on many college and university campuses as indicated by the research conducted to investigate this goal. Departmental fragmentation, territorial mindsets, limited professional development, resistance to systemic innovation, and the platitudes paid to the concept of student centered teaching and learning foster an environment hostile to the systemic integration of information literacy. Current cultures do not necessarily nurture the intellectual potential of students nor does it think it should as evidenced by its continued reliance on the use of the lecture as the primary instructional method. Faculties seem to be enslaved by traditional teaching and learning methodologies, many having not had foundational introductions to basic pedagogical practices. Yet, faculty seem adverse to systemic change and are opposed to pedagogical approaches that move beyond their own disciplines to adapt to students' diverse learning styles and needs. Research in the area of faculty development seems to support this observation. (Kolb,

1981; Katz, 1987; Katz, 1989; Thomas, 1994; Amstutz & Whitson, 1997; Gaff, 1997; Smith, 1997; Gorovitz, 1998)

Although the main thrust of the information literacy movement comes from the Library and Information Science disciplines, if information literacy, as a new habit of mind, is to impact any systemic efforts of transformational change, then active participation from a broad spectrum of campus constituencies is required. Information literacy does not focus on just the intellectual empowerment of the student community, but the *entire* campus community. In fact, its significance transcends the academic community and should be integrated within the human mindset of every occupation, organization, industry, and government office.

Reviewing the various educational policies that impact the academic lives of New Majority students strongly indicates the need to view information literacy from a broader, more holistic perspective not a more narrow lens of specific academic disciplines, culture, and traditions.

Implications:

Although the integration of information literacy may engender campus-wide ambivalence--faculty feeling a sense of powerlessness while library professionals, traditionally marginalized, feel a sense of empowerment, New Majority students' would gain multiple options and opportunities that will enhance their learning environments and experiences.

Information literacy instruction can provide the New Majority student with the opportunity to master intellectual skills, skills not currently exercised and developed in academic curricula, but assumed to have already been acquired prior to college entry. These intellectual skills are essential in developing the self-motivated, life long learner, worker, and citizen.

Recommendations for further study:

- Expand research on the effect of using inquiry-based models of pedagogy within the general education component of the undergraduate curriculum integrating information literacy throughout the process.
- Include an information literacy component within staff and faculty professional development activities, from which curriculum models, syllabi, and resources can be developed.
- Assess the practicality of including an information literacy component within teacher certification programs as well as in all academic majors, at the undergraduate and graduate levels.

Goal 4: To determine if information literacy should be the praxis for designing an integrative national teaching and learning infrastructure capable of producing competent, independent lifelong learners and contributors to society.

Significant Findings and Conclusions:

The dynamics of educational reform, our increasing interdependency as a world community, and the advent of the intelligent network are not the aberrations of whimsical social reform. Nevertheless change is not easily embraced nor necessarily desired by the higher education community. Often hierarchical by nature, didactic in educational perspective, reactionary in mission and frequently elitist in visionary approaches, urban public higher education must become more introspective about its teaching and learning role if it expects to meet the educational needs and demands of our growing multiethnic, multicultural society.

In order to transform itself successfully to meet the intellectual demands of the Information Age, higher education should adopt and engage the basic principles of a learning organization: thinking, communicating, and cooperating. It needs to focus on developing the human potential of *all* its members for the betterment of the institutional community. Faculty/administrative and staff professional development programs need to

incorporate a student centered agenda as part of their professional development activities if they are to galvanize themselves into successful learning organizations committed to a process of life long learning and knowledge creation and perpetuation. Information literacy could be a vehicle to facilitate a painless conversion to a new world view.

Implications:

Information literacy, as described in Chapter Two, offers a supportive framework for transforming a university into a learning organization. It provides the philosophical shift needed to manage our transformation into a learning society. It is student centered, encourages independence, addresses diverse teaching and learning styles, extends access, is the vehicle for technological innovation and change, and provides the possibility for bridging the widening gap between the haves and have nots by providing a level playing field for information transfer and knowledge acquisition and use. Without this type of institutional transformation, without a commitment to the on-going integration and mastery of basic intellectual skills throughout the academic curriculum and institutional culture, the foundation of our entire national teaching and learning infrastructure will not withstand the intellectual trauma of the information revolution. Adopting a learning organization model of transformation, may allow higher education to embrace new functions and concepts without abandoning old areas of expertise, resulting in a broader vision capable of serving its many publics.

In the end, information literacy may be the most appropriate avenue for our educational system to pursue if a seamless educational pipeline is to be ultimately established. It is a habit of mind that will provide New Majority students with the intellectual skills needed to enjoy the richness of making choices and taking advantage of opportunities.

Recommendations for further study:

- A top down, middle out, bottom up analysis on the organizational effects of

instituting an information literacy infrastructure within educational institutions.

- The development of an equal partnership role between the academic library and the campus community with the expressed purpose of building integrative information literacy bridges between campus units and the academic library.
- The creation of an assessment instrument to evaluate information literacy proficiency within student, faculty, and staff populations.

Conclusion

Although some aspects of information literacy have been integrated throughout the evolution of the our K-16 educational curriculum, what this study hopes to illustrate is the inconsistent development of critical intellectual skills at the undergraduate level, particularly in the management and integration of information resources within the academic curriculum. Critical intellectual skills are becoming fundamental to the process of promoting lifelong learning and independent inquiry in our growing, dynamic information society. Based on the earlier findings of the *Urban 13 Consortium* survey and those of this study, it appears that information literacy has not made significant inroads into the academic infrastructure of most urban public universities. Although it has been acknowledged by many as a vital component in the teaching and learning process, the magnitude of its impact has yet to be fully realized within the K-16 educational spectrum.

As the philosophy of information literacy struggles to gain legitimacy within the world of higher education, New Majority students continue to graduate, unprepared and/or ill equipped to meet the intellectual challenges of a rapidly changing, technologically driven society. Unfortunately, higher education in America does not inherently conform to Ezra Cornell's concept of education, "any person...any study." Its meritocratic roots are firmly planted in the elitist creed of limited access and privileged economic status.

Nevertheless, our verbal commitment to the principles of participatory democracy, the growing interdependency of the world marketplace, and the formidable intellectual challenges of the Intelligent Network, forecast the need for transformational change within all of our educational institutions. In fact, it mandates transformational change within every strata of American life. As Modesto Maidique, President of Florida International University, notes:

> "How do we teach [New Majority] students to synthesize what they have learned and to appreciate the infinite connections between different modes of thought and analysis...More than ever, because of the dynamism of modern society, [New Majority] students must have a firm grasp of the fundamental methods of intellectual inquiry in order to be equipped for lifelong learning." (Cited in Iannuzzi, 1998)

Information literacy offers the comprehensive, intellectual framework needed by urban public universities to produce informed citizens, independent lifelong learners, and creative contributors to the continued prosperity of American society. It has the capability of creating a symbiotic learning environment between students and all educators, one in which the creation and application of knowledge and information can flourish.

If, however, Talcott Parsons'(1968) method of classifying, sorting, and categorizing students by how they best fit the economic and social needs of modern society is the outcome of higher education's continued resistance to change, then New Majority students must look towards other organizations committed to investing, nurturing, and supporting the development of their intellectual potential.

Without a basic mastery of information literacy skills, New Majority students may face a future void of real choices and opportunities and will continue to perform as "simply the grease that keeps the institutions which orchestrate his or her oppression running smoothly."(Delpit, 1995)

Epilogue

"A weekday edition of the *New York Times* contains more printed information than the average seventeenth century Englishman was likely to see in a lifetime."[1] With this in mind, how do we educate undergraduates, with diverse educational backgrounds and life experiences to manage the overwhelming abundance of print and electronic information resources available today? The aggressive application of systemic critical thinking has been one of education's greatest deficits in the teaching and learning domain. Without the active integration of critical thinking within the K-16 spectrum, New Majority students will be unable to assume the habits of mind needed to maximize their intellectual potential. Developing positive self-perceptions, well-rounded world views, and the intellectual acumen to function effectively in a democratic society will depend on the ability of New Majority students to think critically, to ask the right questions, and to validate, synthesize, and evaluate information.

For the last 25 years, the philosophy of information literacy has dominated discourse within the Library and Information Science community, and has received only superficial recognition from academic faculties at most colleges and universities. Although there are pockets of information literacy activity at various campuses across the country, most have been spearheaded by library professionals, with few penetrating faculty sanctuaries of discipline and specialization. The evolution of the Information Age has revolutionized information dissemination and knowledge production and continues to expand with unprecedented alacrity. Yet, advocates of information literacy, primarily librarians--designated gatekeepers of our knowledge warehouses, struggle to convince academicians that the didactic, fundamental core of teaching and learning is insufficient to manage the intellectual impact of the information revolution. American society is in the midst of an intellectual transformation and the unfortunate reality is that our educational institutions are not meeting the challenge of the intelligent network.

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[1]Doyle,Christine. *Information Literacy*, ERIC:Syracuse, 1994.

Given the intellectual dynamics of the Information Age, the social repercussions of our digital economy, and the political expectations of democratic citizenship, the "task of education [should be] the contextualization of information."[2] If one believes this to be true, then the actualization of this task is dependent on the learner's ability to articulate the information need, evaluate a variety of information resources, and to use them effectively in the process of problem solving and knowledge construction. This will require the development of a habit of mind, an expansive, integrative way of thinking, that will encompass an understanding of the complexity and interrelationship of information.

The intent of this study was to expand investigation into the importance of information literacy within the undergraduate curriculum. It was also aimed at encouraging all faculty, particularly liberal arts faculty, to build interactive, peer partnerships with library professionals to develop an information literacy infrastructure within their college and university campus communities. The culture of knowledge construction is diverse and integrative. In an academic setting, it requires habits of mind capable of filtering, synthesizing, and utilizing a potpourri of information resources during the process of constructing knowledge, resolving problems and issues. Failure to integrate information literacy within the academic curriculum shortchanges not only the intellectual potential of students, but that of the entire academic community as well. Continued resistance by faculty will impede their professional development and eventually undermine the educational mission of urban public universities.

Information literacy, perceived as a new habit of mind, offers a new way of thinking about the process of teaching and learning. It can create invigorating classroom experiences, not only for students, but for faculty as well. It has the capacity to motivate independent learning and develop lifelong learners. It also has the capability of stimulating creativity not only within academic bureaucratic cultures, but throughout

[2]Sherman, Debora. *Thoughts on What 'Graduate Level' Work Means*, 1997.

every level of a learning society. (Candy, 1993) Information literacy is the foundation for intellectual empowerment in an information society. Without its presence throughout the K-16 educational spectrum, the issues of access, equality of educational opportunity, and academic preparedness will continue to haunt educational policy makers concerned with the academic achievement and success of New Majority students attending urban public universities.

Appendices List

APPENDIX A

Urban 13 Consortium*

1. University of Alabama at Birmingham
2. University of Cincinnati
3. Cleveland State University
4. Florida Agricultural & Mechanical University
5. Georgia State University
6. University of Houston
7. University of Illinois at Chicago
8. Indiana University-Purdue University at Indianapolis
9. University of Massachusetts, Boston
10. The University of Memphis
11. University of Missouri-St. Louis
12. University of Missouri-Kansas City
13. University of New Orleans
14. City College of New York
15. University of Pittsburgh
16. Portland State University
17. Temple University
18. The University of Toledo
19. Virginia Commonwealth University
20. Wayne State University
21. University of Wisconsin-Milwaukee

Since 1974, the Consortium has grown to include 21 members.

Student Retention and Information Literacy Survey

"The abilities to read, write, and compute are still important, but they are not enough. Everyone must be able to think critically, to use computers and other information technologies competently, to work with others productively, *and* to access and use information. Information literacy is a thematic synthesis of the skills that individuals will need to live in the Information Age." (Doyle, Information Literacy in an Information Society: A Concept for the Information Age. p.6)

Student retention and information literacy are two major public policy issues being addressed by most colleges and universities in a variety of creative ways. Both deal directly with student-centered learning issues; both involve the expertise of academic, student, and library educational professionals. Clearly, the increasing educational demands of the 21st century will call for a philosophical reassessment of our current teaching and learning infrastructure as it relates to urban students and the issues of retention.

Using a modified version (one interview cycle) of the Delphi Technique in framing this survey, I am asking you, as a major contributor in the design of your institution's curriculum and mission statement, to assist me with analyzing the importance of information literacy to the overall student retention efforts of your institution.

Please complete the attached survey and return it to me in the self-addressed, stamped envelope no later than April 21, 1997.

Lana W. Jackman
Senior Academic and Career Advisor
University Advising Center
University of Massachusetts, Boston
Harbor Campus
Boston, MA. 02125
Jackman@UMBSKY.cc.umb.edu
617-287-5500
FAX: 617-287-5525

Student Retention and Information Literacy Survey

1A. Information Literacy was added to the ERIC database, as a search term, in 1992. From your perspective, how familiar is your campus community with the concept of information literacy?

	Very	Quite	Fairly	Not Very
Administration	☐	☐	☐	☐
Faculty	☐	☐	☐	☐
Undergraduates	☐	☐	☐	☐
Graduates	☐	☐	☐	☐

Which of the following offices actively participate in the design of your institution's student retention plan:
(Check all that apply)

☐ Admissions
☐ Financial Aid
☐ Academic Advising
☐ Student Learning Center
☐ Career Services
☐ Academic Departments/Programs
☐ Academic Affairs
☐ Student Affairs
☐ Library
☐ Athletics
☐ Student Activities
☐ Other, specify_____

2A. Which curricular philosophy best describes your current curriculum?
(Check all that apply)

☐ A community of scholars
☐ Active learning
☐ Experiential learning
☐ General education and specialization
☐ "Great Books" concept
☐ The Multiversity concept
☐ Research and scholarship
☐ Developmental curricula and pedagogy
☐ Student-centered

3A. What is the current status of your general education component?

- ☐ Under revision
- ☐ Newly revised
- ☐ No change
- ☐ Non-existent

4A. Does your current general education program offer research skills instruction? Yes ☐ No ☐

5A. When are entering freshmen and transfer students introduced to research skills?
(check all that apply)

- ☐ Freshmen year program
- ☐ Freshmen seminars
- ☐ Freshmen English
- ☐ Advanced or Upper Division Courses
- ☐ Senior seminars
- ☐ Interdisciplinary Courses
- ☐ Independent Study
- ☐ "Across the Curriculum"
- ☐ Honors courses
- ☐ General Education
- ☐ Majors
- ☐ Other, specify_____

6A. How are undergraduates trained in research methodology?
(Check all that apply)

- ☐ Classroom instruction
- ☐ Library instruction
- ☐ Workshops
- ☐ Seminars
- ☐ Tutorials
- ☐ Self-paced modules
- ☐ Other, specify_____

7A. Are academic librarians directly involved in curriculum planning and development? Yes ☐ No ☐

If yes, please describe_____
_____

8A. On your campus, do academic librarians have faculty status?
Yes ☐ No ☐

9A. Are they actively engaged in curriculum planning and development?
Yes ☐ No ☐

10A. Academic librarians actively participate in the following:

	Not Very	Somewhat	Very
A. Pre-Freshmen Programs	☐	☐	☐
B. Admissions	☐	☐	☐
C. Student Orientation	☐	☐	☐
D. Academic Advising	☐	☐	☐
E. Learning Center	☐	☐	☐
F. Study Skills/Tutoring	☐	☐	☐
H. Residence Hall Programs	☐	☐	☐
I. Staff Development	☐	☐	☐
J. Faculty Development	☐	☐	☐
K. Career Advising	☐	☐	☐
L. Continuing Education	☐	☐	☐
M. Graduate Students	☐	☐	☐
N. Cooperative Education	☐	☐	☐

Programs			
O. Community Outreach	☐	☐	☐
P. Special Programs	☐	☐	☐
Q. Other, specify			

In "Philosophies and Aims", Barbara S. Furhmann (Gaff, p.88) offers the following concepts as reflective of the educational challenges facing higher education today and in the 21st century. Institutionally, how important are these challenges to your campus ' future? Using a five point scale, please rate the following statements:

Strongly Agree.....Strongly Disagree

1 2 3 4 5

☐ Students must learn how to manage change.

☐ Students must be technologically proficient.

☐ Students should learn to interact in a variety of cultural environments.

☐ Higher education does not precede productive work.

☐ Education is a lifelong process.

☐ The curriculum must be practical and relevant.

☐ The values of a liberal education must again become the foundation of higher education.

☐ Universities must create and discover new knowledge.

- ☐ Independent learning should be fostered.
- ☐ Career preparation is an expected outcome of a college education.
- ☐ Interdisciplinary coursework is essential to student learning.
- ☐ Teachers should facilitate rather than direct student learning.
- ☐ Colleges must be held accountable for the knowledge and skills of their graduates.
- ☐ Colleges should provide both a common core of learning and a wide variety of professional preparation.
- ☐ Interdisciplinary work and understanding must be fostered along with specialized knowledge and skills.
- ☐ Colleges should prepare all students for productive employment.
- ☐ College must prepare broadly education citizens to assume civic responsibilities.
- ☐ Student self-awareness should be developed in college.
- ☐ College should develop students' problem solving and decision making skills.
- ☐ Theories of human learning should provide the foundation for teaching strategies.

☐ Students learn in a variety of ways; all must be understood and fostered.

Comments and/or recommendations:

Thank You!

☐ **Check if you would like to receive a copy of the results of this study and please complete the information below.**

Name:

Title:

Institution:

Gaff, Jerry, Ratcliff, J. (Eds.) (1996). Handbook of the undergraduate curriculum: A comprehensive guide to purposes, structures, practices, and change. San Francisco:Jossey-Bass.

Doyle, Christina (1994). Information literacy in an information society: A concept for the information age. ERIC:Syracuse University.

3/27/97

*List of Information Literacy Terms**

Abstractionism
Bibliographic Instruction
Critical Thinking
Curiosity Satisfied-across-the-Curriculum
Gathering
Global Informatics
Hyperopism
Info "R" Us
Information Competence
Information Discovery
Information Empowerment
Information Gathering
Information Inquiry
Information Mapping
Information Research
Information Sophistication
Inquiry
IRAC(Information-Research-across-the Curriculum
Know How
Know How to Know How
Knowledge "R" Us
Library Appreciation
Library Experience
Library Instruction
Library Literacy
Macropscopism
RAFT (Reach and Find-Think)
Reading and Research
Reading-across-the-Curriculum
Research
Research Mapping
Seek and Find (Seek n'Find)
The Question Authorities
Virtuous Instruction
WHAT (Wonder, Hunt, and Think)

*Snavely and Cooper, 1997

RECENT BASIC CREDIT COURSES IN LIBRARY USE (1990-1995)

These syllabi may be borrowed by LOEX members or potential LOEX members. Contact Linda Shirato by mail, phone, fax or e-mail:

LOEX Clearinghouse for Library Instruction
Eastern Michigan University Library
Ypsilanti MI 48197
Phone:(313) 487-0168
Fax: (313) 487-8861
lib_shirato@emuvax.emich.edu

Brescia College
IDC 100 "Library Skills"
1 credit 1993

College of New Rochelle
Eng 111A "The Library as a Research Tool"
2 credit 1993

Colorado State
LI301
1 credit 1994

Cuesta College
"Introduction to Library Research"
1 credit (Required) 1993

Davenport College
Com 117 "Introduction to Library Skills"
2.25 credit 1994

Diablo Valley College
LS 120 "Introduction to Library Resources"
? credit 1993

Foothill College
Lib 50 "Introduction to Library Resources"
? credit 1990
(Self paced workbook includes glossary in Spanish/English/Chinese)

Georgia Southern University
"Use of Library Resources"
3 credit 1993

Iona College
CDS 1161 "Library Information Systems"

1 credit 1992

Iowa State University
"Library 160"
1/2 credit 1993

Mary Washington College
LS 101 "Library Resources and their Use"
? credit 1993

Marylhurst College
LIM 373 "Information Power: Accessing, Assessing and Acting upon Information in an Era of Overload"
3 credit (Required) 1994

Montgomery College
LR 110 "Fundamentals of Library Research"
1 credit 1992

Murray State University
LOR 101 "The Library and its Resources"
1 credit 1993

Northeast Missouri State University
LIB 120 "The Electronic Library"
1 credit 1994-5 (Syllabus + workbook. Covers the Internet)

Northern Michigan University
LS 101 "Introduction to Library Resources"
1 credit 1993
LS 496/Ed491 "Introduction to Electronic Resources"
1-4 credit 1993

Oakland Community College (MI)
LIB 101 "Information Research Methods"
1 credit 1993

Pennsylvania State
Library Studies 301 H "Information University Research Methods & Systems"
1 credit 1993

Pierce College
Eng 114
2 credit 1993

Peninsula College
"Information Access & Applications"
? credit 1994

Portland State University

Lib 181 "Use of the Library"
3 credit 1994

Queens College (CUNY)
Lib 1501 "Library Skills: Fundamentals of Library Research"
2 credit 1993

Rice University
Humanities 206 "Library Sources and Strategies"
1 credit 1993

Rutgers University
"Library Research"
1.5 credit 1993

Slipper Rock University
"Library Research"
1 credit 1993

Southwest Missouri State University
LIS 101 "Introduction to the Library"
1 credit 1993

SUNY-College of Environmental Science and Forestry-Syracuse
CLL 300 "Library Research Methods"
1 credit 1993

SUNY-Oswego
General Studies 300 "Library Research Techniques"
1 credit 1993

SUNY-Plattsburgh
Lib 101 "Introduction to Library Research"
1 credit (Required) 1993

University of Alabama
"Library Research"
2 credits (For external degree students)1993

University of Alaska-Anchorage
LS 101 "Library Skills"
1 credit 1993-94

University of California-Berkeley
"Information Resources: Effectively Utilizing the UC Berkeley Libraries and Beyond"
1 credit 1994

University of California-San Diego
CI 50 "Information & Academic Libraries"

2 credits 1993

University of California-Santa Barbara
INT 1 "Library Skills"
1 credit 1993
INT 100 "Library Research Bibliography 1"
2 credit 1993

University of Colorado
Bib 3010 "Bibliography 3010"
1 credit 1993

University of Dubuque
"Library Resources & Services
2 credit 1993-94

University of Oklahoma
LIS 1013 "Use of the Library/Information Resources"
1 credit 1992

University of Pittsburgh
Eng 0099 "Library Research Methods"
1 credit at Bradford (Required) 1994

University of the South
Library Science 101
1 credit 1993

University of Toledo
"Knowledge in the Age of Information 123-403"
5 credit-honors course 1993
Master of Liberal Studies 126-690 "Interdisciplinary Research Methods Seminar"
3 credit (Graduate level) 1991

Ulster County Community College
LIB 101 "Electronic Access to Information"
2 credit 1993

Weber State University
PD 101H "Library Skills, Resources and Research"
3 credit 1993

Western Kentucky University
LME 101 "Use of the Library"
3 credit (Required) 1993-

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DATA PLANNING MATRIX

Is the ability to manage information resources critical to the undergraduate experience at urban public universities and does this ability enhance the New Majority student's capability of developing into a lifelong learner?

What do I need to know?	Why do I need to know this?	What kind of data will answer the questions?
Are undergraduates familiar with information resources?	To assess their level of knowledge re: information resources	Surveys and interviews
How often do they use information resources?	To measure their level of experience using them	Surveys and interviews
Do they know how to use information resources?	To assess their library skills ability	Survey and interviews
Do undergraduate curriculums advocate the use of information resources?	To assess the level of support within the academic community	Literature review
What do students know about information resources?	To assess the depth of their knowledge	Surveys and interviews
Does using information resources enhance their intellectual capacity?	To assess the value of using information resources by undergraduates	Surveys, interviews and literature review
Does the use of information resources enhance their academic ability?	To assess the impact of using information resources on academic performance	Literature review

Do undergraduates favor electronic information resources over print?	To discover choice of usage by undergraduates	Surveys and interviews
Is the use of the academic library important to undergraduates?	To get a sense of student's perception of the academic library	Surveys and interviews
Are undergraduates proficient in research skills prior to entering the university?	To assess the research skills development of undergraduates	Surveys and interviews
Do undergraduates perceive *critical thinking* as an important intellectual skill?	To assess the students' understanding of the importance of critical thinking	Surveys, interviews, and literature review
How do undergraduates view the concept of lifelong learning?	To assess students' perspectives on the importance of lifelong learning	Surveys, interviews, and literature review
Are academic librarians active participants in curriculum design?	To assess the relationship between information literacy and curriculum development	Literature review
Do urban public universities promote information literacy?	To access its level of importance on the urban agenda	Literature review, surveys, and interviews

Time Lines for acquisition

January:
Establish student database

February:
Send survey to Urban and Taylor Scholars

March:
- Send survey to UMB Advising Caseload
- Conduct Urban Scholars focus groups
- Conduct Taylor Scholars interviews

April
- Conduct caseload interviews
- Conduct UMB focus groups
- Conduct Taylor focus groups

May
- Continue individual interviews
- Begin data analysis and assessment

June and July
- Data analysis and Assessment

Faculty and Administrators Interview Protocol

Thank you again for agreeing to be interviewed. I am interviewing a small number of faculty and administrators at the University. I will be taking notes and recording our conversation. Your responses will be kept confidential.

1. The research question that I am addressing in my dissertation is "How is the ability to manage information resources critical to the undergraduate experience for the New Majority student attending urban public universities?" Given the fact that "The purpose of our general education program is to facilitate the acquisition of the knowledge, capabilities, and attitudes which will help students form a foundation of lifelong learning.", has the issue of *management of information resources*-as it relates to students, been discussed in the deliberations of revising the general education program at UMass Boston? If yes, in what context, and if no, then why not.

2. What were the primary issues that motivated the University to pursue the design of this proposed general education program?

3. In designing the new program, what was the role of the academic library and how was that role integrated in the design of the new program?

4. What were the pervasive attitudes in the deliberations regarding its importance to the design of the program?

5. How is the use of technology integrated into the new design?

6. What were the major challenges in instituting this change?

7. The preamble to the general education revision objectives adopted by the Faculty Council in 1994 state" Besides providing training to pursue a satisfying career, the undergraduate curriculum at UMass Boston seeks to

develop the ability of students to undertake a life-time of intellectual inquiry and continued learning." What types of supports were discussed for students to actualize these objectives?

8. Modes of inquiry differ, for the most part, in each academic discipline. How is this fact incorporated in the new general education program; what is its role in the instructional process; and how is that role connected to the resources of the academic library?

9. How do you see the role of the academic library as it relates to the new general education program at UMB? From your viewpoint, how is that role perceived by other administrative areas including faculty on campus?

10. What should be the role of the academic library in the design and implementation of the university curriculum?

11. From your perspective, do you think our faculty are prolific users of information resources and technologies on campus? How is that documented?

12. From your perspective, do you think that there is a demand for bibliographic instruction on campus? How is it measured?

13 Should the academic library be engaged actively in retention activities on campus? If so, how; if not, why not?

14. Imagine student enrollment rising dramatically, technology rapidly advancing, and faculty not being trained fast enough to manage confidently either one. If a mandate was given to use the professional staff of the academic library as a teaching resource to meet the challenges of a diverse student body and the Third Wave, how would you go about instituting and completing the task?

15. Finally, what do you think should be the mission of the academic library at UMB?

Thanks again for the interview!

Lana W. Jackman

Information Resources Managment Interview Guide

Lots of people have strong opinions about such subjects as abortion, legalized drugs, Bill Clinton, the death penalty, Saddam Hussein etc. Do you have a strong opinion about any of the above issues or maybe on a different one? What is it? And how did you get and evaluate your information on which your opinion is based?

Can you share your feelings about your middle school/high school experience in preparing you to do academic work in in middle school, high school, and/or college?

Can you do the same about your undergraduate experience in meeting the challenges of a graduate experience?

In what ways has education so far prepared you for the world of work?

What do you think managing information resources means?

Is the ability to manage information resources important to you? If yes, why; if no, why not?

What kind of skills do you think you need to do this?

Do you feel confident about your ability to manage information resources?

Can you provide me with several examples of your skills?

Are you familiar with the major information resources relevant to your undergraduate and graduate discipline/major?

Please name several of them and how you use them in your educational experience.

In your major courses, how would you describe the thinking process in that area of study?

Are you familiar with any other ways of thinking in other academic areas?

Can you talk about your problem-solving skills and techniques?

What problem solving skills or techniques did you use in school and/or everyday life?

Can you recall any conversations and/or classroom discussions regarding the merits and use of information technology?

Did any of your junior and senior level course instructors encourage you to use information technology as a resource? What about the freshmen and/or sophmore level?

Do you recall during your undergraduate experience discussing how to evaluate and distinguish among the variety of available information tools?

Do you ever recall discussing strategies for information gathering, assessing, and synthesizing information?

Can you recall if research methods and library use were discussed in depth or were you given a cursory introduction with the expectation that depth was your responsiblity?

When and how did you develop your computer skills?

Do you feel that your undergraduate education has prepared you to meet successfully the challenges of living and working in an information society? If yes, in what way? If no, then why not?

When do you feel is the best time to begin the process of teaching information managment skills?

What were the primary resources that you used when research was required in a given course?

Why did you use those particular resources?

How often were you encouraged to seek the services of the reference librarians and/or the resources of the academic library and on what occasions were you encouraged?

How often did you use the services of the reference librarian and why?

How often did you use the library as a K-16 student?

Did your assignments specifically require use of library resources or did you do it on your own?

Have you ever used library resources for personal purposes other than school? If so, what?

In researching an assignment, how did you define the question i.e., what were researching?

Did you ever disagree with a teacher on an academic subject and/or assignment or textbook? If so, what did you do about it and why?

Do you feel smart in school? Why?

What do you think the urban public university should do for undergraduate students about their ability to management information resources? Why?

Thanks for the interview!

CH ✓ BM ✓ SB ✓ JB ✓ MK ✓ JF ✓ PM ✓ MC ✓

Information Resources Survey - Dissertation—DISSUR **DRAFT**

Biographical Data:

Name:_____
Last First Middle

Address:_____
Street

_____
City State

Date of Birth: Month_____Day_____Year_____

Place of Birth: City_____State_____Country_____

Citizenship: U.S.___ Permanent Resident____Immigrant____Other_____

Sex: _____Female_____Male Telephone: (Optional)_____

Current occupation/employment status:

Full-time____Parttime_____Umemployed____
Number of hours worked per week____
Current place of employment and job title:

Number of family members at home during high school years (Please identify i.e. sister, brother cousins, etc.)

Highest level of educational attainment of your Parents/Guardians:
(Check all that apply)

	Mother	*Father*
Elementary		
High School		
College		
Graduate School		

Mother's Occupation:_____

Father's Occupation:_____
Parents' marital status:

☐Married ☐Separated
☐Divorced ☐Never Married

Educational Experience

High School:

Years of attendance:

Course of study:
college____business____general____mechanical arts_____other (please specifiy)_____

Favorite high school subject:

Least favorite high school subject:

Favorite high school academic subject:

Least favorite high school academic subject:

Most challenging high school subject:

Least challenging high school subject:

College:

Years of attendance:

Undergraduate major:

Favorite college subject:

Least favorite college subject:

Most challenging academic subject:

Least challenging academic subject:

Graduate School:

Major/Degree Earned:

Are you the first person in your immediate family to (check all that apply):

- ☐attend high school
- ☐graduate high school
- ☐attend college
- ☐graduate college
- ☐attend graduate school
- ☐graduate from graduate school

Your Learning Style Profile

I like to learn best by : (Check all that apply to you)

☐Reading/discussions
☐Visualizing/drawing
☐Musical/rhythmic
☐Working alone/reflecting
☐Classifying/abstract thinking
☐Touching/moving
☐Sharing/interviewing

Do you read for (Only check those that apply to you)
☐Pleasure
☐School
☐Work
☐All of the above

Do you enjoy reading?
☐Yes
☐No
☐Occasionally

What do you read? (Only check all that apply)
☐Textbooks
☐Novels
☐Newspapers
☐Magazines
☐Work-related materials
☐Academic journals
☐Computer software
☐Other

What is your favorite type of reading material? (Only check all that apply)

☐Newspapers
☐Novels
☐Magazines
☐Textbooks
☐Work-related materials
☐Academic journals
☐Computer software
☐Other

What is information?

When looking for information, where do you go to find it? (Check only those you use)
☐Home
☐Library
☐Friends
☐Bookstores
☐"411"
☐Others
☐Yellow Pages
☐Teachers/Instructors
☐Television
☐Movies

Do you check out (validate) newly acquired information? If yes, please describe briefly how you do so.

What is knowledge?

Thinking critically involves using the following skills: (Please select all that you think apply)

- ☐evaluate
- ☐analyze
- ☐judge
- ☐assess
- ☐synthesize
- ☐clarify
- ☐listening
- ☐listening
- ☐question
- ☐refine
- ☐define
- ☐all of the above
- ☐none of the above
- ☐other

As a student, do you consider "critical thinking" an asset or a liability? Please briefly explain your answer.

Library Literacy

My first memory of using a library for research purposes was in:

- ☐elementary
- ☐high school
- ☐college
- ☐graduate school
- ☐never used the library
- ☐other

I used the information resources of the library for research purposes:

	often	sometimes	never
☐elementary school			
☐high school			
☐college			
☐graduate school			

I learned research skills in (only check those that apply to you)

- ☐elementary school
- ☐high school
- ☐college
- ☐on-the-job
- ☐graduate school
- ☐never

What is a bibliography?

☐ Table of Contents ☐I don't know
☐ A map ☐A thesaurus
☐Listing of reference sources

What is the Reader's Guide to Periodical Literature?

☐ A journal ☐ An index
☐ A reference source ☐ I don't know
☐ A dictionary

My most effective research skills are:

The information resources I used regularly during research assignments were (check only those that you use regularly)

☐Encyclopedias ☐Movies ☐Radio
☐Newspapers ☐Books ☐Other_____
☐Librarians ☐Magazines
☐Teachers ☐Friends
☐Electronic References ☐Academic journals

Imagine you were given a research topic on "Diversity in the Workplace", briefly outline the search strategy you would use to find information on this topic?

Do you feel competent in finding and using the resources of a library?

☐Yes
☐No
☐Occasionally
☐Never

How would you rate your library research skills?

☐excellent
☐good
☐fair
☐poor
☐terrible

Teachers in your classes often refer you to the library to support your classroom activities.
☐Frequently
☐Occasionally
☐Never

Your experience in writing research papers, to date, has been
☐substantial
☐moderate
☐limited
☐rare
☐non-existent

Identify the reference sources listed below:

Miller, L. Scott. An American imperative: Accelerating minority educational advancement. New Haven:Yale University Press, 1995.

Book____Journal Article_____Don't Know____

Eisenberg, M. (1993). "More effective information users". Catholic Library World, 63:2, 115-120

Book____Journal Article____Don't Know____

What is Boolean Logic?

☐New Math
☐Search Operators
☐Eastern Philosophy
☐None of the above
☐I don't know
☐All of the above

What is the Dewey Classification System?

What is the Library of Congress?

What is the Library of Congress Classification System?

Computer Literacy

What is your level of computer literacy?
☐None
☐Beginner
☐Novice
☐Intermediate
☐Expert

Do you like using computers? Yes____No____

Are you afraid of using computers? Yes_____ No____. If yes, please explain why?

Do you have a computer at home? Yes____ No____
If yes, do you have a modem? **Yes____No____ If yes**, do you or your family subscribe to an on-line service such as Compuserve, America on Line (AOL), etc? **If yes**, which one_____

If you do not own a computer, do you have access to one? yes____no____.
☐Elementary school ☐Friend
☐High school ☐Family
☐College/University
☐Neighborhood Center
☐On-the-job
☐Other_____

Does your school/college have computers in the
☐Classroom
☐Tech/Computer Laboratory
☐Library
☐Other_____

Are instructional classes in the use of computers a graduation requirement in your school/college?
☐Yes
☐No
How often do you use the computers in your school/college?
☐Frequently
☐Occasionally
☐Never

Do you use computers at your job? Yes____ No____ Unemployed____.

Is it a requirement for your job- computer literacy? Yes____No____.

I use the computer for the following purposes:

☐Word processing	☐Spreadsheets/Databases
☐Games	☐Statistics
☐Library research	☐Instructional/homework support
☐Electronic mail	☐Programming
☐Graphics	☐Work-related

☐Other_____

What is the Internet?

What is a Website?

Do you think it is important for students to know how to use and manage all types of information resources. Yes____ No_____. Please explain your answer.

Suggestions or Recommendations:

Information Resources Survey

Biographical Data:

Name:_____
Last First Middle

Address:_____
Street

_____
City State

Date of Birth: Month_____Day_____Year_____

Place of Birth: City_____State_____Country_____

Citizenship: U.S.___ Permanent Resident____Immigrant____Other_____

Ethnic Identification: ☐African-American ☐Hispanic-American ☐Asian-American ☐Native-American ☐Anglo-American ☐Carribean-American ☐Do not wish to report.

Sex: _____Female_____Male Telephone: (Optional)_____

Current occupation/employment status:

Full-time____Parttime_____Umemployed____
Number of hours worked per week____
Current place of employment and job title:

Number of family members at home.(Please identify i.e. sister, brother cousins, etc.)

Highest level of educational attainment of your Parents/Guardians:
(Check all that apply)

	Mother	*Father*
Elementary		
High School		
College		
Graduate School		

Mother's Occupation:_____

Father's Occupation:_____

Parents' marital status:

☐Married ☐Separated
☐Divorced ☐Never Married

Educational Experience

Name of Middle School:

City:

First year in attendance at middle school: Current Grade_____

	Grade
Favorite middle school subject:	_____
Least favorite middle school subject:	_____
Favorite middle school academic subject:	_____
Least favorite middle school academic subject:	_____
Most challenging middle school subject:	_____
Least challenging middle school subject:	_____

Your Learning Style Profile

I like to learn best by : (Check all that apply to you)

☐Reading/discussions
☐Visualizing/drawing
☐Musical/rhythmic
☐Working alone/reflecting
☐Classifying/abstract thinking
☐Touching/moving
☐Sharing/interviewing

Do you read for

☐Pleasure
☐School
☐Work
☐All of the above

Do you enjoy reading?

☐Yes
☐No
☐Occasionally

What do you read? (Only check all that apply)

☐Textbooks ☐Work-related materials ☐School-related
☐Novels ☐Academic journals
☐Newspapers ☐Computer software
☐Magazines ☐Other_____

What is your favorite type of reading material? (Only check all that apply)

☐Newspapers ☐Work-related materials ☐School-related
☐Novels ☐Academic journals
☐Magazines ☐Computer software
☐Textbooks ☐Other_____

When looking for *information*, where do you go to find it? (Check only those you actually use)

☐Home ☐Yellow Pages ☐Internet
☐Library ☐Teachers/Instructors
☐Friends ☐Television
☐Bookstores ☐Movies
☐"411" ☐ Radio
☐Other_____

What is information?

Do you check out (validate) newly acquired information? If yes, please describe briefly how you do so.

What is knowledge?

Thinking critically **involves using the following skills: (Please select all that you think apply)**

☐evaluate ☐listening
☐analyze ☐question
☐judge ☐refine
☐assess ☐define
☐synthesize ☐all of the above
☐clarify ☐none of the above
☐listening ☐other

As a student, do you consider "critical thinking" an asset or a liability? Please briefly explain your answer.

Library Literacy

My first memory of using a library was in:

☐elementary school
☐public library
☐never used the library
☐other_____

I use the information resources of the library for research purposes:

	often	sometimes	never
☐School assignments	☐	☐	☐
☐Everyday problems	☐	☐	☐

I use the following research skills when doing homework/research assignments:
(Check all that apply to you)

☐Focusing on the topic
☐Locating information
☐Investigating multiple information sources
☐Analyzing information sources
☐Evaluating information sources
☐Documenting information sources
☐Using information appropriately

I learned research skills in (only check those that apply to you)

☐elementary school class-Please list which ones:_____
☐on-the-job
☐public library ☐elementary school library/media center
☐at home ☐never

My most effective research skills are:

How would you rate your library research skills?

☐excellent
☐good
☐fair
☐poor
☐terrible

What is a bibliography?

☐ Table of Contents ☐I don't know
☐ A map ☐A thesaurus
☐Listing of reference sources

What is the Reader's Guide to Periodical Literature?

☐ A journal ☐ An index
☐ A reference source ☐ I don't know
☐ A dictionary

The information resources I use regularly during research assignments are (check only those that you use regularly)

☐Encyclopedias ☐Movies ☐Radio
☐Newspapers ☐Books ☐Other_____
☐Librarians ☐Magazines
☐Teachers ☐Friends
☐Electronic References ☐Academic journals

Imagine you were given a research topic on "Aids and the Young Adult", briefly outline the research search strategy you would use to find information on this topic?

Do you feel competent in finding and using the resources of a library?

☐Yes
☐No
☐Occasionally
☐Never

Do teachers in your classes refer you to the library to support your classroom/homework activities?

☐Frequently
☐Occasionally
☐Never

Your experience in writing research papers, to date, has been

☐substantial
☐moderate
☐limited
☐rare
☐non-existent

Identify the reference sources listed below:

Miller, L. Scott. An American imperative: Accelerating minority educational advancement. New Haven:Yale University Press, 1995.

Book____Journal Article_____Don't Know____

Eisenberg, M. (1993). "More effective information users". Catholic Library World, 63:2, 115-120

Book____Journal Article____Don't Know____

What is Boolean Logic?

☐New Math
☐Search Operators
☐Eastern Philosophy
☐None of the above
☐I don't know
☐All of the above

What is the Dewey Classification System?

What is the Library of Congress?

What is the Library of Congress Classification System?

Computer Literacy

What do you think is the level of your computer literacy skills?

☐None
☐Beginner
☐Novice
☐Intermediate
☐Expert

Do you like using computers? Yes____No____

Are you afraid of using computers? Yes_____ No____. If yes, please explain why?

Do you have a computer at home? Yes____ No____
If yes, do you have a modem? **Yes____No____ If yes**, do you or your family subscribe to an on-line service such as Compuserve, America on Line (AOL), etc? **If yes**, which one_____

If you do not own a computer, do you have access to one? yes____no____.

☐Elementary school
☐High school
☐College/University
☐Neighborhood Center
☐On-the-job
☐Other_____

☐Friend
☐Family
☐Public library

Does your school have computers in the

☐Classroom
☐Tech/Computer Laboratory
☐Library
☐Other_____

Are instructional classes in the use of computers a graduation requirement in your school?

☐Yes
☐No

How often do you use the computers in your school?

☐Frequently
☐Occasionally
☐Never

Do you use computers at your job? Yes____ No____ Unemployed____.

Is it a requirement for your job- computer literacy? Yes____No____.

I use the computer for the following purposes:

☐Word processing
☐Games
☐Library research
☐Electronic mail
☐Graphics
☐Other_____

☐Spreadsheets/Databases
☐Statistics
☐Instructional/homework support
☐Programming
☐Work-related

☐Classroom Activities

What is the Internet?

What is a Website?

Do you think it is important for students to know how to use and manage all types of information resources. Yes____ No_____. Please explain your answer.

Suggestions or Recommendations:

2/10/98

Thank you so much!!!!!

RETURN TO:

Lana W. Jackman
University Advising Center
McCormack Hall
3rd. Floor - RM. 625

To be included in the Tower Records Sweepstakes Drawing, survey must be completed and returned no later than 5:00pm on Thursday, March 12, 1998.

Information Resources Survey

Biographical Data:

Name:_____
Last First Middle
Address:_____
Street
_____
City State

Date of Birth: Month_____Day_____Year_____

Place of Birth: City_____State_____Country_____

Citizenship: U.S.___ Permanent Resident____Immigrant____Other_____

Ethnic Identification: ☐ African-American ☐Asian-American ☐Carribean-American
☐Ethnic/White American ☐Hispanic-American ☐Native-American ☐Do not wish to report.

Sex: _____Female_____Male Telephone: (Optional)_____

Current occupation/employment status:

Full-time____Parttime_____Umemployed____
Number of hours worked per week____
Current place of employment and job title:

Number of family members at home during high school years (Please identify i.e. sister, brother cousins, etc.)

Highest level of educational attainment of your Parents/Guardians:
(Check all that apply)

	Mother	*Father*
Elementary		
High School		
College		
Graduate School		

Mother's Occupation:_____

Father's Occupation:_____

Parents' marital status:

☐Married ☐Separated
☐Divorced ☐Never Married

Educational Experience

Name of High School:

City:

First year in attendance at high school: Current Grade_____

Course of study:
college____business____general____mechanical arts_____other (please specifiy)_____

Grade

Favorite high school subject: _____

Least favorite high school subject: _____

Favorite high school academic subject: _____

Least favorite high school academic subject: _____

Most challenging high school subject: _____

Least challenging high school subject: _____

College:

Years of attendance:

Undergraduate major:

Grade

Favorite college subject: _____

Least favorite college subject: _____

Most challenging academic subject: _____

Least challenging academic subject: _____

Graduate School:

Major/Degree Earned:

Are you the first person in your immediate family to (check all that apply) :

☐attend high school ☐attend college ☐attend graduate school
☐graduate high school ☐graduate from college ☐graduate from grad school

Your Learning Style Profile

1. I like to learn best by : (Check all that apply to you)

☐Reading/discussions
☐Visualizing/drawing
☐Musical/rhythmic
☐Working alone/reflecting
☐Classifying/abstract thinking
☐Touching/moving
☐Sharing/interviewing

2. Do you read for

☐Pleasure
☐School
☐Work
☐All of the above

3. Do you enjoy reading?

☐Yes
☐No
☐Occasionally

4. What do you read? (Only check all that apply)

☐Textbooks
☐Novels
☐Newspapers
☐Magazines
☐Work-related materials
☐Academic journals
☐Electronic games
☐Other_____
☐School-related
☐Instruction/Directions
☐Educational software

5. What is your favorite type of reading material? (Only check all that apply)

☐Newspapers
☐Novels
☐Magazines
☐Textbooks
☐Work-related materials
☐Academic journals
☐Educational software
☐Other_____
☐School-related

6. When looking for information, where do you go to find it? (Check only those you actually use)

☐Family
☐Library
☐Friends
☐Bookstores
☐"411"
☐Other_____
☐Yellow Pages
☐Teachers/Instructors
☐Television
☐Movies
☐ Radio
☐Internet

7. What is information?

8. Do you check out (validate) newly acquired information? If yes, please describe briefly how you do so.

9. What is knowledge?

10. *Thinking critically* involves using the following skills: (Please select all that you think apply)

☐Evaluate
☐Analyze
☐Judge
☐Assess
☐Synthesize
☐Clarify
☐Other_____

☐Listening
☐Question
☐Refine
☐Define
☐All of the above
☐None of the above

11. As a student, do you consider "critical thinking" an asset or a liability? Please briefly explain your answer.

Library Literacy

12. My first memory of using a library for finding information was in:

☐Elementary school ☐Middle school
☐High school
☐College
☐Graduate school
☐Never used the library
☐Other_____

13. *I used* the information resources of a school and/or a public library for research purposes:
(check all that apply)

	often	sometimes	never	school library	public library
Elementary school	☐	☐	☐	☐	☐
Middle school	☐	☐	☐	☐	☐
High school	☐	☐	☐	☐	☐
College	☐	☐	☐	☐	☐
Graduate school	☐	☐	☐	☐	☐
Everyday problems	☐	☐	☐	☐	☐

14. I learned research skills in (only check those that apply to you)

☐Elementary school
☐Middle school
☐High school
☐Library
☐On-the-job
☐Graduate school
☐College
☐Never

15. *I use* the following research skills *when doing research assignments:* (Check all that apply to you)
☐Focusing on a topic
☐Defining the question or issue
☐Locating information
☐Investigating multiple information sources
☐Analyzing information sources
☐Evaluating information sources
☐Documenting information sources
☐Using information appropriately

16. What is a bibliography?

☐ Table of Contents
☐ A map
☐Listing of reference sources
☐I don't know
☐A thesaurus

17. What is the Reader's Guide to Periodical Literature?

☐ A journal
☐ A reference source
☐ A dictionary
☐ An index
☐ I don't know

18. My most effective research skills are:

19. The information resources I used regularly during research assignments were (check only those that you use regularly)

☐Encyclopedias
☐Newspapers
☐Librarians
☐Teachers
☐Electronic References
☐Movies
☐Books
☐Magazines
☐Friends
☐Academic journals
☐Radio
☐Educational T.V.
☐Internet
☐Other_____

20. Imagine you were given a research topic on "Aids and the Young Adult", briefly outline the search strategy you would use to find information on this topic?

21. Rate your level of competent in finding and using the resources of a library?

☐Very competent
☐Competent
☐Satisfactory
☐Needs improvement
☐Poor

22. How would you rate your library research skills?

☐Excellent
☐Good
☐Fair
☐Poor
☐Needs improvment

23. Do teachers in your classes often refer you to the library to support your classroom activities?

☐Frequently
☐Occasionally
☐Never

24. Your experience in writing research papers, to date, has been

☐Substantial
☐Moderate
☐Limited
☐Rare
☐Non-existent

25. Identify the reference sources listed below:

Miller, L. Scott. An American imperative: Accelerating minority educational advancement. New Haven:Yale University Press, 1995.

Book____Journal Article_____Don't Know____

Eisenberg, M. (1993). "More effective information users". Catholic Library World, 63:2, 115-120

Book____Journal Article____Don't Know____

26. What is Boolean Logic?

☐New Math
☐Search Operators
☐Eastern Philosophy
☐None of the above
☐I don't know
☐All of the above

27. What is the Dewey Classification System?

28. What is the Library of Congress?

29. What is the Library of Congress Classification System?

Computer Literacy

30. What is your level of computer literacy?

☐None
☐Beginner
☐Novice
☐Intermediate
☐Expert

31. Do you like using computers? Yes____No____

32. Are you afraid of using computers? Yes_____ No____. If yes, please explain why?

33. Do you have a computer at home? Yes____ No____
If yes, do you have a modem? **Yes____No____ If yes,** do you or your family subscribe to an on-line service such as Compuserve, America on Line (AOL), etc? **If yes,** which one_____

34. If you do not own a computer, do you have access to one? yes____no____.

☐Elementary school
☐High school
☐College/University
☐Neighborhood Center
☐On-the-job
☐Other_____
☐Friend
☐Family
☐Public library

35. Does your school/college have computers in the

☐Classroom
☐Tech/Computer Laboratory
☐Library
☐Other_____

36. Are instructional classes in the use of computers a graduation requirement in your school/college?

☐Yes
☐No

37. How often do you use the computers in your school/college?

☐Frequently
☐Occasionally
☐Never

38. Do you use computers at your job? Yes____ No____ Unemployed____.

39. Is computer literacy a requirement for your current job? Yes____No____.

40. I use the computer for the following purposes:

☐Word processing
☐Games
☐Library research
☐Electronic mail
☐Graphics
☐Other_____

☐Spreadsheets/Databases
☐Statistics
☐Instructional/homework support
☐Programming
☐Work-related

☐Classroom Activities
☐Internet

41. What is the Internet?

42. What is a Website?

43. Do you think it is important for students to know how to use and manage all types of information resources. Yes____ No_____. Please explain your answer.

Suggestions or Recommendations:

Thank you so much!!!!!!
Return To:
Lana W. Jackman
University Advising Center
McCormack Hall, 3rd fl. rm. 625

*To be included in the Tower Records Sweepstakes, the survey must be completed and returned no later than 5:00pm on Thursday, March 12, 1998.

2/10/98

March 18, 1998

Hello Taylor Graduates,

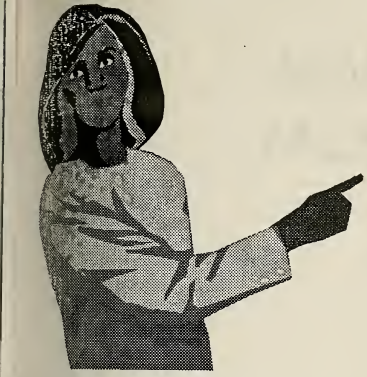
I hope all is well with you! Let me get to the point of why I am bothering you. You may remember that I, too, was a student during your time here at the University. I am a doctoral student at Lesley College and I am about to embark on writing my dissertation. I need your assistance with that effort.

I would appreciate it if you would complete the attached survey. It took my 15 year old son 30 minutes to complete it, so I assume it will not be a problem for you. Feel free to make as many comments to the topic as you may wish, particularly now since you have been in the world of work and see the importance of knowing how to find and use information effectively. Maybe you have not had that experience. In any case, please complete the attached and mail it to me no later than April 3, 1998.

I would also like to interview you, if you would not mind. Please call me at 287-5516(work) or 864-0738(home) so we may chat about the possibilities.

My goal is to be declared Dr. "J" during the November, 1998 graduation cycle. so my summer will be dedicated to writing the "great American novel" i.e. dissertation.

I really would appreciate your assistance in this effort. Looking forward to chatting with you.



ATTENTION ! TAYLOR AND CARSON SCHOLARS

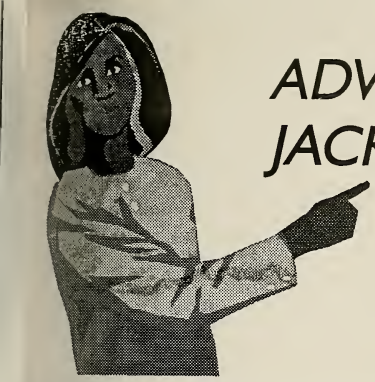
I am in need *your* assistance! I am working on my Ph'd at Lesley College and I need for you to complete the attached survey and return it to me no later than March 12, 1998. It will only take you 30 minutes.

My research topic is technology and library research skills and, hopefully, by the end of this year, you will be calling me "Dr. J."

I would really appreciate you taking the time to complete this survey and return it in the enclose self addressed envelop;e.

THANKS FOR HELPING ME COMPLETE MY DEGREE!

LANA JACKMAN



ADVISEES OF LANA W. JACKMAN

I am in need *your* assistance! I am working on my Ph'd at Lesley College and I need for you to complete the attached survey and return it to me no later than March 12, 1998. It will only take you 30 minutes.

My research topic is technology and library research skills and, hopefully, by the end of this year, you will be calling me "Dr. J."

I would really appreciate you taking the time to complete this survey and return it in the enclose self addressed envelop;e.

THANKS FOR HELPING ME COMPLETE MY DEGREE.

LANA JACKMAN

Dear

I am in the final stage of my doctoral program at Lesley College and I would appreciate it if you would complete the attached survey and return it to me by March 15, 1998. My topic, *How is the ability to manage information resources critical to the undergraduate experience for the New Majority student attending urban public universities?,* evolves from my experience working as an instuctor and advisor to a diverse student population attending an urban public university. The purpose of the survey is to gather a variety of viewpoints on this issue in hopes of evaluating the question from multiple perspectives within the undergraduate student population including graduates of the University. The results of the survey will be kept in strict confidence including the names of the participants. I may be calling you in the near future to follow up with a personal interview addressing the same topic.

I sincerely appreciate your time and interest in assisting me with this project.

Sincerely,

Lana W. Jackman

I NEED YOUR HELP!

I am a student at Lesley College conducting research on the importance of using technology and the library to complete school/homework assignments.

Please complete the attached survey.
It will only take you 30 minutes at the most.

All completed surveys returned to me by March 6, 1998 will be eligible to participate in the **Tower Records Sweepstakes.**

Three lucky winners will receive a $25 gift certificate to Tower Records.

THANKS!!!!!!
Lana W. Jackman

Please return the survey to:
Urban Scholars
3rd. Fl. McCormack Hall

Information Release Form

I authorize Lana W. Jackman to use the results of this interview for educational purposes.
I understand that anonymity will be guaranteed, unless I authorize otherwise.

_____
Name of Participant

_____
Date

APPENDIX K

Table 4.4 University Students- Class Status: Urban Scholars- Grade Level

Class Level	*Taylor U* (N)	*Taylor G* (N)	*Carson U* (N)	*UMass* (N)	*Grade Level*	*Urban H* (N)	*Urban M* (N)
Freshman	--	--	--	(1) 2%	6th grade	--	(1) 3%
Soph	(8) 15%	--	--	(4) 7%	7th grade	--	(5) 13%
Junior	(4) 7%	--	(1) 2%	(4) 7%	8th grade	--	(15) 39%
Senior	(6) 11%	--	(6) 11%	(5) 9%	9th grade	(3) 8%	--
Graduate	--	(8) 15%	(3) 5%	(5) 9%	10th grade	(4) 11%	--
					11th grade	(7) 18%	--
					12th grade	(1) 3%	--
						(1) No Response	

APPENDIX L

Table 4.5 Favorite Reading Material

	Taylor U (N)	*Taylor G* (N)	*Carson U* (N)	*UMass* (N)	*Urban H* (N)	*Urban M* (N)	*Total* (N)
Magazines	16	4	10	14	9	14	(67) 72%
Novels	13	5	5	12	10	11	(56) 60%
Newspapers	8	3	6	7	7	8	(39) 42%
Sch Related	6	2	2	8	6	5	(29) 31%
Textbooks	2	3	2	4	2	2	(15) 16%
Academic Journals	2	-	2	4	-	1	(9) 10%

APPENDIX M

Table 4.9 Regularly Used Research Skills

Research Skills	*(N)*	*University Students*	*(N)*	*Urban Scholars*	*(N) Total*
Focus	(46)	84%	(24)	63%	(70) 75%
Define	(43)	78%	(18)	47%	(61) 66%
Locate	(43)	78%	(24)	63%	(67) 72%
Investigate	(43)	78%	(13)	34%	(56) 60%
Analyze	(42)	76%	(16)	42%	(58) 62%
Evaluate	(32)	58%	(10)	26%	(42) 45%
Document	(38)	69%	(8)	21%	(46) 49%
Using Info	(38)	69%	(17)	45%	(55) 59%
All	(22)	40%	(4)	11%	(26) 28%

APPENDIX N

Table 4.11 Confidence Level in Library Usage

	(N) University Students	*(N) Urban Scholars*	*(N) Total*
Very Competent	(5) 9%	(8) 21%	(13) 14%
Competent	(18) 33%	(11) 29%	(29) 31%
Satisfactory	(23) 42%	(12) 32%	(35) 38%
Needs Improvement	(7) 13%	(4) 11%	(11) 12%
Poor	--	--	--

APPENDIX O

Table 4.12 Faculty Encouragement of Library Resources

	(N) University Students	*(N) Urban Scholars*	*(N) Total*
Frequently	(8) 15%	(14) 37%	(22) 24%
Occasionally	(33) 60%	(20) 53%	(53) 57%
Never	(9) 16%	(2) 5%	(11) 12%

Experience Writing Research Papers

	(N) University Students	*(N) Urban Scholars*	*(N) Total*
Substantial	(18) 33%	(10) 26%	(28) 30%
Moderate	(24) 45%	(17) 45%	(41) 44%
Limited	(9) 16%	(6) 16%	(15) 16%
Rare	(1) 2%	(2) 5%	(3) 3%

APPENDIX P

Table 4.13 Frequency of Computer Use

	(N) University Students	*(N) Urban Scholars*	*(N) Total*
Frequently	(29) 53%	(12) 32%	(41) 44%
Occasionally	(21) 38%	(14) 37%	(35) 38%
Never	(3) 5%	(9) 24%	(12) 13%

APPENDIX Q

Table 4.14 Purposes for Computer Use

	(N) University Students	*(N) Urban Scholars*	*(N) Total*
Word Processing	(48) 87%	(26) 68%	(74) 80%
Electronic Mail	(47) 85%	--	(47) 51%
Internet	(41) 75%	(28) 74%	(69) 74%
Library Research	(41) 67%	(23) 61%	(64) 69%
Spreadsheets	(33) 60%	--	(33) 35%
Classroom Activities	(21) 38%	(19) 50%	(40) 43%
Games	(28) 51%	(27) 71%	(55) 59%

APPENDIX R
HyperResearch Codes

```
_____ REPORT HEADER _____
This Report is on the following codes:
   College
   computer skills
   degree value
   evaluation information tools
   family values
   feeling smart
   high school
   how to define question
   how to learn
   importance of tools
   independent
   inform opinions
   information literacy
   information technology
   information tools
   know major resources
   library skills
   library skills preparation
   library usage
   Managing info sources
   middle school
   mode of inquiry dept
   negative faculty experience
   other modes of inquiry
   personal use of refer sources
   Preparation for info society
   primary resources used
   problem solving ability
   required use of refer sources
   research confidence
   research methods training
   role of university
   self directed
   use of reference services
_____ (End list of codes)
_____ END OF HEADER _____
The actual report follows:
Code, Frequency, Reference,
```

COMMENTS FOR LANA JACKMAN

Until I worked at my present job, I never really had such a deep understanding of how the difference in your upbringing effects the rest of your life. I knew that there were different classes in our society which separate individuals based on their incomes but the most important factor that separates those who advance or get the most benefits available in this society has more to do with the lack of information than anything else.

There are lower class, middle class and upper class divisions and it is not hard to understand why these boarders tend to exist. While I was in college, I was exposed to the politics of life and through Sociology, Black Studies and Business Environment classes I was able to gain a broader view of why these exist. However, I was surprised by the way that Upper Middle Class individuals at my job obtained and distributed information. In my business, investment banking, the salaries are very high. Everyone knows everyone. Not only do you know who works where, you know where they worked before that. It is a constant network that is fed by discussions within the industry. The number of minorities in these positions are almost nil and I wondered why.

It's the old school network but it is more than that. It starts from the time that you are born. Many of these highly paid individuals have nannies who care for their children. This gives the child extra care and attention as well as support that will later serve as a good foundation (this child has three people at home whereas many people only have one). When the child is ready to attend school, the parents will research which schools are the best schools and fight to get them into the school. How do they research this? Through word of mouth information. Many of these people live in expensive neighborhoods which have the resources to provide the bet schools. This continues throughout the child's education. One individual at my job is a good example. He was researching information over the Internet to find a college that would best suit his son, who is in the ninth grade. How does he know that he needs to start early in the process of college admission. My parents fully encouraged me to do the best that I could in life. They always stressed the importance of school and wanted my to go to college. But wanting your children to go to college and helping them to get in are two very distinct things. My parents just did not have the knowledge that I have today which tells me what I need to know to get into college.

Most of these people get their information from talking with other colleagues or family members. If the people that you work with or your family members are not educated then what kind of information are you getting? One example is the process purchasing a big ticket item. Two scenario's are buying a car and buying a computer. My boss was in the process of purchasing a car a few months ago. What do most middle to lower class individuals do? They flip through the newspapers, possibly talk to others about cars that they have bought and the prices, and check out adds on television by local dealers. The next step would be to go the car dealer and look at the price tags to see if there is a car you want at a price that you can afford. You think that you can haggle a little about the price because you have done your research and that's about it. That's it isn't it? That's not how upper class individuals purchase a car. My boss searched for information over the Internet, talked to colleagues and family members who were educated abut the prices, specifications and performance of the cars that interested him. He was able to break down what the actual price would be to the dealer and figure out their markup. When we go to a dealership do we know how much of a profit that the dealer will make on a new car? With this information, he was able to tell the dealer what he was going to pay based on what he believed their costs to be. This was a price that was much lower than not only the listed price tag but also lower than the price with all of the cash-back incentives or deductions.

In the scenario of buying a computer another person at my job checked around to find out the difference's in price for different computers and analyzed the cost of one vs. the other. His research was done by talking to others who had bought a computer recently and calls made to different company's. Over of period of two months he tracked the price differences and compared it to what specifications he would be getting. Most people will walk into stores and check out prices and compare them to advertisements but never really get all of the information that is available.
Why do lower income individuals do limited research or no research at all when other higher income individuals do the most research that they can before making an educated decision? It is a matter of being taught how to do it, where to get the information, having that information available to you and participating in a network of people who know this information.

Thursday, April 15, 1999

Subject: **Re: Copyright Permission**
Date: Thu, 07 Jan 1999 16:16:41 -0500
From: "Dr. Patricia Senn Breivik" <aa3237@wayne.edu>
To: "Lana Jackman" <lana.jackman@umb.edu>
CC: jean.garza@mail1.wayne.edu

Glad to hear you are making such good progress!

I touched base with our Marketing and Communications Office feel free to include in your dissertation a copy of the Wayne State Student Profile in the Faculty UGE1000 Handbook. Just say that it is included with the permission of Wayne State University and its UGE1000 Office. (We now are 100 rather than 100.) Incidentally, it might interest you to know that by the second semester UGE100 was offered, more than 92% of students who completed the survey said key ideas were clearly displayed and more than 80 percent indicated they would use what they learned.

At 12:23 PM 1/6/99 -0500, you wrote:
>Hi Jean,
>It has been a looong time since you and I had that wonderful lunch at
>the Whitney.
>I am in the middle of writing my dissertation and I wanted to secure
>from you permission to include in my dissertation a copy of the Wayne
>State Student Profile in the Faculty UGE100 Handbook. Please let me
>know what the authorization process is so that I may comply. I would
>also appreciate a copy of the first year report of UGE 100, if such a
>report was done. Happy New Year and I am looking forward to hearing
>from you,
>Ciao
>
Patricia Senn Breivik
Dean, University Libraries
Wayne State University
Tel:(313) 577-4048
FAX:(313)577-5525

A Progress Report on Information Literacy:

An Update on the American Library Association Presidential Committee on Information Literacy: Final Report

March 1998

As the Information Age became a conscious part of people's thinking, leaders in and out of education had nothing but the highest hopes for the future. Many believed that finally technology would lessen the gap between the haves and have-nots because greater access to more information for all young people would ultimately eliminate educational inequalities, and the subsequent rippling effect on the workplace and society, in general, would produce a stronger, more stable economy and a more cohesive society.

These dreams of a better tomorrow, however, seemed to many to be dependent on huge investments in technology-in computers and networks. In response to this challenge, national, state, and institutional leaders began the difficult task of looking for the funding necessary for the infrastructures. When it became clear that so many schools and communities lacked the needed resources, the federal government-in its support of the Information Highway-made an unprecedented promise to link all schools, colleges, and public libraries so that, indeed, there would be equal access to information for all.

Around the same time, a small group of national leaders-primarily from education and librarianship-articulated their own vision of a productive, thriving people in the new Information Age. That vision was eventually published as the American Library Association Presidential Committee on Information Literacy: Final Report. In that report, the authors:

- explained the enormous impact of the information explosion on all people: in their individual lives, in their businesses, and even in their functions as American citizens.

- emphasized repeatedly the need for all people to become information literate, which means that they are not only able to recognize when information is needed, but they are also able to identify, locate, evaluate, and use effectively information needed for the particular decision or issue at hand. The information literate person, therefore, is empowered for effective decision making, freedom of choice, and full participation in a democratic society.

- stressed that this nation's economic independence and quality of life was becoming increasingly dependent on all of its citizens becoming lifelong learners-something that would have to start with a basic change in the way young people learn. "To respond effectively to an ever-changing environment," the report concluded, "people need more than just a knowledge base, they also need techniques for exploring it, connecting it to other knowledge bases, and making practical use of it. In other words, the landscape upon which we used to stand has been transformed, and we are being forced to establish a new foundation called information literacy."

Progress as a Result of the Report

The Report went on to make six recommendations, whose joint goal was "to reap the benefits from the Information Age by our country, its citizens, and its businesses." One of the major purposes for this update is to outline the astounding progress that has been made toward the reaching of these recommendations in such a relatively short period of time, with little financial support, and largely through volunteer and grassroots efforts. The following highlights of the progress that has been made in each recommended area are presented within the context of the outstanding work still needing to be addressed.

RECOMMENDATION 1:
We must all reconsider the ways we have organized information institutionally, structured information access, and defined information's role in our lives at home, in the community, and in the workplace.

Progress:
This is an ongoing, and a primary focus for the work of the member organizations of the National Forum on Information Literacy. (See Recommendation 2 for more information about the Forum.)

Recommendations for Further Progress:
There needs to be an emphasis on communicating that quality education requires not only investments in technology, but also in programs that empower people to find, evaluate, and use all information effectively. It is also recommended that information literacy be promoted as a priority for all areas of education including workforce training.

RECOMMENDATION 2:
A Coalition for Information Literacy should be formed under the leadership of the American Library Association, in coordination with other national organizations and agencies, to promote information literacy.

Progress:
The National Forum on Information Literacy (Forum) was established in direct response to this recommendation. This organization, which has been operational since 1989, has grown from a beginning membership of less than a dozen to a current membership of over 65 national organizations that represent business, government, and education-with total combined membership of more than five million. (To obtain more information on the Forum contact The National Forum on Information Literacy, c/o Association of College & Research Libraries, 50 East Huron Street, Chicago, IL 60611, or call 1-800-545-2433, ext. 3248, or send a fax to 312-280-2520.)

Recommendations for Further Progress:
The Forum should reach out to additional organizations representing government, business, and education.

RECOMMENDATION 3:
Research and demonstration projects related to information and its use needs to be undertaken.

Progress:
Although there needs to be much additional work in this area, there have been some outstanding projects that have already been completed or are currently in progress-such as the following:

- A 1994-95 national survey measured the extent to which information literacy has been assimilated into the curriculum of post-secondary institutions. Because it was

conducted throughout the 3,236 accredited colleges and universities within the regions of the six U.S. accrediting agencies, it provided a snapshot of the institutions varied progress.

- Individual Forum members served as part of a Delphi group for a 1992 dissertation by Christina Doyle that related information literacy to the National Education Goals.

- The ERIC Clearinghouse on Information and Technology is establishing an information literacy web site, Infolit.org, to showcase scenarios of information literacy at the school and college levels and to provide other information on the topic and the Forum to the general public.

- Three Forum members (i.e., the American Association of School Administrators, the American Association of School Librarians, and the National Education Association) collaborated on the Western Technology Dream with funding from United States West Foundation. The project involved a competitive bid process with schools submitting descriptions of a major learning need at their school that they believed technology could help address. Winning schools were assisted in making their dreams come true.

Recommendation for Further Progress:
The Forum and its member organizations should continue to encourage, support, and track research and demonstration projects on information literacy.

RECOMMENDATION 4:
State Departments of Education, Commissions on Higher Education, and Academic Governing Boards should be responsible to ensure that a climate conducive to students becoming information literate exists in their states and on their campuses.

Progress:
Since 1989, Forum organizations have targeted members within their own organizations to promote leadership for information literacy efforts within schools and colleges. This effort has often taken the form of programming at their national conferences, articles in their publications, and the formation of special interest groups. Following are some specific examples.

The Commission on Higher Education (CHE) of the Middle States Association of Colleges and Schools continued its information literacy efforts by publishing questions for evaluators on visiting teams. One set of questions on outcomes assessment in general is based on the Commission's 1996 "Framework for Outcomes Assessment," a handbook which strongly articulated the need for information literacy as a critical ingredient in students' general education. Another set of more specific questions on libraries appears in its 1997 "Guidelines for Librarian Evaluators."

The American Association for Higher Education (AAHE) created an action committee and now regularly offers programming on information literacy at its annual conferences. At its 1998 spring conference, for example, AAHE sponsored a special session on information literacy for academic vice presidents and librarians.

The National Education Association (NEA) incorporates information literacy into its Teacher Education Initiative Program that brings together higher education and K-12 partners to promote both school and teacher education reform. In 1998, NEA also published a book about information literacy that is targeted at elementary school principals.

The National Association of Secondary School Principals (NASSP) devoted an entire issue of its journal, NAASP Bulletin, to the topic of information literacy in 1991 and 1998.

The Association of Supervision and Curriculum Development (ASCD) passed the ASCD Resolution of Information Literacy of 1991. This action required each of its units to report annually on what it has done to support and promote information literacy. Among its activities to date are featuring information literacy in its journal, Educational Leadership, two newsletters, and the establishment of a special interest group.

The National Council for the Social Studies (NCSS) included two listings of essential skills (i.e., acquiring information and organizing and using information) in Expectations of Excellence: Curriculum Standards for Social Studies. The Council further supports the development of information literacy skills for effective citizenship through various partnerships (Library of Congress Center for the Book, Newspapers in Education, and National Issues Forums), professional development programs, publications (Handbook on Teaching Social Issues) and resources provided by its information services department (teaching controversial issues, essential social studies skills).

The American Association of School Librarians (AASL) developed a "Statement on Information Problem Solving" that was endorsed by many Forum members. In collaboration with the Association for Educational Communications and Technology, AASL will soon release "Standards for Student Learning" which clearly delineates the information literacy skills which all students should master before high school graduation.

The ERIC Clearinghouse on Information and Technology has established "information literacy" as a search term. It has also sponsored several publications on information literacy including the 1992 Libraries for the Education Goals by Christina S. Doyle.

Recommendations for Further Progress:
The Forum and its member organizations need to explore and implement ways to better disseminate information on existing models to key policy groups.

RECOMMENDATION 5:
Teacher education and performance expectations should be modified to include information literacy concerns.

Progress:
None

Recommendations for Further Progress:
The Forum and its member organizations must develop a plan for working with teacher education programs and the National Council for Accreditation of Teacher Education to infuse information literacy requirements into undergraduate and graduate programs of teacher education.

RECOMMENDATION 6:
An understanding of the relationship of information literacy to the themes of the White House Conference on Library and Information Services should be promoted.

Progress:
Completed. As background for representatives at the second White House Conference on Library and Information Services in 1991, the Forum commissioned three background papers that focused on information literacy in relation to democracy, economic

development, and education. These were distributed to all who attended.

Progress Made Independently of the Forum

A major confirmation of the work that the National Forum on Information Literacy has done and still is doing has been the independent projects and undertakings that have arisen within the United States and throughout the world. The people and organizations behind these projects were spontaneously and simultaneously also responding to the enormous challenges of the Information Age. In some cases, their efforts paralleled some of those previously mentioned in this update, but others covered new ground from which people everywhere will benefit. Following are just some of the outstanding examples that have come to the Forum's attention over the past several years.

The Colorado and Utah Departments of Education encourage student competence in information literacy throughout all school districts.

- In Colorado, where local control is highly valued, many district Boards have adopted information literacy as part of their media/technology plans, or woven the principles of information literacy into their own locally written curriculum standards.

- In Utah, information literacy is implemented through the Information Literacy Across the Curriculum Project. School teams of educators, the principal, the school library media specialist, and classroom teachers are trained in writing and teaching thematic units of integrated curriculum. Once unit instruction is completed, each team hosts a community open house to inform the public of highlights and successes of the implementation project.

- Regional accrediting agencies not formally associated with the Forum have been supportive of information literacy. The Executive Director of the Western Association of School and Colleges has published articles and spoke about the need to incorporate information literacy as a core learning competence for all undergraduate and graduate programs, and to establish the library as a central center for student learning. In addition, workshops and/or programming on information literacy have been held by the New England and North Central Accrediting Agencies.

- In 1993, the Washington State Community College system developed a position paper supporting "information competency." It has subsequently been endorsed by the Council of Instructional Deans and the Presidents of the 32 community and technical colleges in the state. In a 1995 survey, 26 of the 32 colleges indicated progress toward implementing information competency skills into core courses.

- The California State University system is committed to developing information literacy competence among all its students and measuring those skills through performance-based testing. It has also funded two system-wide conferences and a number of multi-campus projects including research to benchmark undergraduate information literacy skills.

- In 1996, the California Community College system announced the development of an Information Competency Plan as a prerequisite for the completion of a community college certificate.

- According to the U. S. Department of Labor Secretary's Commission on Achieving Necessary Skills (SCANS), information literacy is one of five essential competencies for solid job performance. The SCANS report mandates the need for developing high-performance skills to support an economy characterized by high skills, high wages, and full employment.

- President Bill Clinton called for a highly skilled workforce in his National Technology Policy for America, and the recent federal initiative to define information technology literacy may well help to provide greater visibility for people's need to become information literate.

- In 1995, a consortium of five universities in the Cape Town region of South Africa received a million-dollar grant to collaboratively develop information literacy programs.

- A 1994 Australian government study on preparing citizens for lifelong learning underscored the need for the mastery of information literacy skills as a part of the education process. Three national conferences on information literacy have been held in that country.

- A 1994 article by South African Shirley Behrens provides a comprehensive, conceptual analysis and historical overview of information literacy.

- Researchers in Australia and Singapore are pioneering definitions of information literacy in the workforce.

Challenges Yet To Be Met

Now nearly a decade after the publication of the American Library Association Presidential Committee on Information Literacy: Final Report, Forum members-after monitoring America's progress in addressing the issues raised in the Report of the Information Age-believe that there needs to be a national re-evaluation of the seemingly exclusive emphasis on and enormous investments in computers and networks. They believe that the technology alone will never allow America to reach the potential inherent in the Information Age in not only its schools but also in its businesses. In fact, they believe that the dreams of a new and better tomorrow will only begin to be realized when all young people graduate into the workforce with strong information literacy skills.

Forum members, therefore, are resolved more than ever before to promote information literacy as a means of empowering individuals and enhancing the educational potential and economic goals of communities everywhere. In order to accomplish that goal, Forum members have agreed upon the following recommendations for priority action in the new millennium.

RECOMMENDATION 1:
Forum members should encourage and champion the growing support of accrediting agencies.

Progress:
The efforts made so far by the regional accrediting agencies on behalf on information literacy as a means of promoting a more active undergraduate learning experience that will

ultimately prepare students for lifelong learning is to be applauded. The Forum will support such efforts and seek to extend them to specialized and professional accrediting agencies.

RECOMMENDATION 2:
Teacher education and performance expectations need to include information literacy skills.

Progress:
Continuing this crucial recommendation from the original report, Forum members will pursue two specific courses of action: (1) to encourage leaders in existing school reform movements to incorporate information literacy skills into their efforts and (2) to more aggressively partner with national teacher education organizations to get information literacy on their agendas. Key to success in this area will be the integration of information literacy efforts throughout the curriculum.

RECOMMENDATION 3:
Librarian education and performance expectations need to include information literacy.

Progress:
Forum members need to work with the Association for Library and Information Science Education and the Committee on Accreditation of the American Library Association to ensure that the beginning professional degree for librarians prepares them for working collaboratively with teachers, faculty and community members on information literacy programs.

RECOMMENDATION 4:
Forum members need to identify ways to illustrate to business leaders the benefits of fostering an information literate workforce.

Progress:
Efforts need to be directed not only toward job training, per se, but also at school reform efforts in which businesses are collaborating.

RECOMMENDATION 5:
There needs to be more research and demonstration projects related to information literacy and its use.

Progress:
There are many significant directions that information literacy research needs to take. Among the most pressing research agendas are (1) how best to benchmark information literacy abilities and progress, (2) how to measure the effectiveness of information literacy programs on individual's performance, and (3) how information literacy is manifested in work settings and the degree to which it enhances workplace productivity.

An Invitation

As the National Forum on Information Literacy continues to promote information literacy as a means of individual empowerment within today's Information Society, its members are well aware that it has been and will continue to be the effort of the growing number of individuals across the country who are propelling success in this important endeavor. The Forum supports and encourages such grassroots initiatives and invites leaders in such efforts to keep the Forum apprised of their undertakings so that overall national progress can be monitored and, even more importantly, so that information on both failures and

successes can be shared with others who can benefit from such experiences. The result of these combined efforts will be a citizenry which is made up of effective lifelong learners who can always find the information needed for the issue or decision at hand. This new generation of information literate citizens will truly be America's most valuable resource.

On behalf of the National Forum on Information Literacy, this progress report was researched and written by Patricia Senn Breivik, Vicki Hancock, and J. A. Senn.

For More on Information Literacy

American Library Association, *American Library Association Presidential Committee on Information Literacy: Final Report.* Chicago, Illinois: American Library Association, January 1989. (To obtain a single free copy, e-mail: acrl@ala.org or patricia.breivik@wayne.edu)
Written by a group of leaders from education and librarianship, this report defines information literacy within the context of the higher literacies. The report examines the importance of information literacy to student achievement, quality of life, business, and citizenship in a democracy.

American Association of School Librarians, "Position Statement on Information Literacy: A Position Paper on Information Problem Solving." Chicago, Illinois: ALA, 1996.
This statement, which was endorsed by many organizational members of the National Forum on Information Literacy, delineates the skills all students should develop as part of an information literacy curriculum, provides eight scenarios of information literacy in action, and briefly discusses the respective roles principals, teachers, and library media specialists should have in the curriculum.

Australian National Board of Employment. Education and Training: Developing Lifelong Learners Through Undergraduate Education. Commissioned Report No. 28, edited by Philip C. Candy, Gary Crebert, and Jane O'Leary: Australian Government Publishing Service, August 1994.
This study, conducted to determine whether Australian higher education produces effective lifelong learners, offers many useful outcomes including a working definition of the lifelong learning concept, expresses needed teaching methods to produce lifelong learners, and highlights the responsibilities of the institution to the student. It points to information literacy as one of the essential skills required for lifelong learning.

Behrens, Shirley. "A Conceptual Analysis and Historical Overview of Information Literacy," *College and Research Libraries* , 55, July 1994.
Behrens' historic examination of the information literacy concept spans library literature from the 1970's to the 1990's. In addition to identifying the major trends of the 1990's, Behrens discusses the expanding competencies and skills required for information literacy proficiency for students and librarians.

Breivik, Patricia Senn. *Student Learning in the Information Age* . American Council on Education and Oryx Press. Phoenix, Arizona: 1998.
Breivik examines information literacy as it relates primarily to higher learning. By focusing on resource-based learning as an important paradigm in education and by providing examples of information literacy as part of curricula on campuses across the country, Breivik offers a comprehensive guidebook for educators and librarians who recognize both the importance of information literacy and the immediacy of need for the implementation of resource-based learning in today's classrooms.

Breivik, **Patricia Senn and J.A. Senn**. *Educating Children for the 21st Century,* 2d.ed. NEA Professional Library. Washington, DC: 1998.
Now in its second edition, this text addresses school principals, teachers, media specialists, and other school leaders in implementing information literacy/ resource-based learning programs into school curricula. This practical guide provides examples of successful programs and insights from educators in the field, as well as examining the efficacy of resource-based learning on student retention and achievement.

Bruce, **Christine**. *The Seven Faces of Information Literacy* . Adelaide: Auslib Press, 1997.
Bruce's work is a critical examination of the theoretical foundation of information literacy-but with a twist. By applying a relational model to information literacy education and research as opposed to the traditional behaviorist model, Bruce presents a fresh approach to the study of information literacy and its place in education at large. She also provides an extensive bibliography for further study.

Colorado **Educational Media Association**. *Information Literacy Guidelines, Colorado State Department of Education.* State Library and Adult Education Office. Denver, Colorado ED 381 163 (September 1994).
The guidelines in this book establish information literacy competencies for students and include the desired role of the school library media specialist in the teaching and learning process. Among the outlined competencies are the ability to construct meaning from given information, to create a quality product, to learn independently, to participate effectively in groups, and to use information technology responsibly and effectively. Also discussed is the rationale behind each of these basic skills.

Commission on Higher Education, Middle States Association of Colleges and Schools. *Information Literacy: Lifelong Learning in the Middle State Region.* A Summary of Two Symposia. ED 386 157 (1995).
The symposia, sponsored by the Commission on Higher Education, Middle States, consisted of teams from campuses that made early progress toward institutionalizing information literacy. The educators and administrators who attended identified barriers, recommended factors needed to successfully overcome these barriers, and especially emphasized the commitment levels necessary to implement new and innovative paradigms into academic settings.

Doyle, **Christina S.** "Information Literacy in an Information Society: A Concept for the Information Age." ERIC Clearinghouse on Information and Technology. Syracuse, New York ED372 763 (1994).
This article discusses information literacy as an important concept for modern society. Doyle outlines the evolution of the information literacy concept and discusses two major events during that process: the SCANS report and the establishment of the National Education Goals. She also discusses the impact of technology on information literacy and includes an annotated bibliography.

Hancock, **Vicki**. "Information Literacy for Lifelong Learning," ERIC Digest EDO-IR-93-1 (May 1993).
Hancock reiterates the necessity of resource-based learning environments to promote student achievement in self-directed activities. This article, with its rich citations, discusses the view that learning is a process, rather than an acquisition; and it proposes that the changing role of teachers to facilitators is a major factor in producing information literate students and lifelong learners.

Hancock, Vicki. "Information Literacy, Brain-based Learning, and the Technological Revolution: Implications for Education," *School Library Activities Monthly* 12, 1: September 1995.
Hancock presents the twelve principles of brain-based learning and discusses the implications in using these principles in selecting instructional programs on education. Teaching information literacy skills and the use of multimedia technologies are also discussed.

Shapiro, Jeremy and Shelley Hughes. "Information Technology as a Liberal Art," *Educom Review* (March/April 1996): 31-35.
Information literacy, as a technical skill, is a highly valuable competency. However, as the authors point out, information literate individuals should not only have the ability to critically examine the information acquired but also to reflect on the nature of information as a whole. By incorporating information literacy as a multi-dimensional liberal philosophy and by incorporating it into the general curricula, the authors argue that higher education plays a larger role in the betterment of society and serves more justly its role in societal improvement and equality.

Information Literacy Skills

The abilities to know when there is a need for information, to identify information for that need, and to be able to locate, evaluate and effectively use that information are not new abilities that have emerged as a result of the Information Age. In fact, these abilities have always been important to success and quality of life. The only thing that has changed is the amount and variety of information that is now available. Fifty years ago, people had limited sources from which to obtain needed information: books, newspapers, radio, journals, community experts, and government offices.

Today, however, information is not only available from those sources but also from television, CD-ROM, online databases, the Internet, multimedia packages, and digitized government documents; and the amount of information from all of those sources is staggering. Although there has always been a need to find, evaluate, and effectively use information, the abilities needed to do so have just grown larger, more complex, and more important as the volume of available information has mushroomed beyond everyone's wildest imagination.

Information Literacy and Today's Businesses

The workplace of the present and future demands a new kind of worker. In a global marketplace, data is dispatched in picoseconds and gigabits, and this deluge of information must be sorted, evaluated, and applied. When confronted by such an overload of information, most workers today tend to take the first or most easily accessed information-without any concern for the quality of that information. As a result, such poorly trained workers are costing businesses billions of dollars annually in low productivity, accidents, absenteeism, and poor product quality. There is no question about it: for today's and tomorrow's workers, the workplace is going through cataclysmic changes that very few will be prepared to participate in successfully and productively unless they are information literate.

Subject: **Re: Copyright Permission**
Date: Thu, 15 Apr 1999 15:13:42 -0700
From: "Dr. Patricia Senn Breivik" <aa3237@wayne.edu>
To: "Lana Jackman" <lana.jackman@umb.edu>

Thought about you at ACRL when I chaired a round table discussion! Ours was a happy meeting.

Congratulations!!!!!

Yes, you have permissionto include the March 1998 progress report on information literacy in your dissertation.

Let me know your plans--after your break. Best wishes....

At 11:50 AM 4/14/99 +0100, you wrote:
>Hi Patricia,
>Hope all is well with you and yours. I have almost completed my
>dissertation. I passed my defense and now it is in the hands of an
>editor. I want to include in the appendices a copy of the Forum's 1998
>report. The title of my dissertation is "Information Literacy: An Issue
>of Equity for New Majority Students" and it has been quite a journey.
>Commencement is May 24 and I am looking forward to shutting down for a
>while and reconnecting with family and friends. You must be taking a
>few days respite from the ACRL conference. Give my regards to Clyde and
>the UGE 1000 Team and I look forward to chatting with you in the
>future. Ciao for now.

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Senior Academic and Career Advisor - University Advising Center, 1990 to present
Associate Dean - Enrollment Services, 1980-1990
Director of Student Financial Aid, 1974-1980

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Assistant Director - Office of Student Financial Aid, 1970-1974

ACADEMIC APPOINTMENTS

Adjunct Faculty, University of Massachusetts at Boston, 1990 to present

PROFESSIONAL/COMMUNITY ORGANIZATIONS/HONORS

Chairperson, Boston Globe Foundation Scholarship Committee, 1992 to present
Board of Trustees, Benjamin Banneker Charter School, 1997-1998
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Member, Peabody Community School Council, 1993-1996
Peabody Parents' Advisory Council-Cambridge Library Power Program, 1993
Board of Directors, Cambridge YWCA, 1991
Women in Politics (W.I.P.S.), 1980-1989
Campaign Coordinator, Committee to elect David Blackman to Cambridge School Committee, 1981
Board of Directors, Jobs for Youth, 1981-1987
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Black Achiever Award, Greater Boston YMCA, 1978
Member, National Association of Student Financial Aid Administrators, 1974-1980
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PROGRAM PARTICIPANT/ PRESENTATIONS

Speaker, presenter, panel participant at state, regional and national conferences. Planned and participated in workshops and seminars on financial aid, admissions, student retention, career services, office management, the disadvantaged and minority student, and library/information literacy.
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Panelist, Black Caucus of the American Library Association Conference, 1994