CONCEPTS OF INFORMATION LITERACY AND INFORMATION LITERACY STANDARDS AMONG UNDERGRADUATE STUDENTS IN PUBLIC AND PRIVATE UNIVERSITIES IN THE STATE OF KUWAIT

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The purpose of this qualitative study was to explore the experiences of undergraduate college students attending a public and a private university in the State of Kuwait to understand how they develop their understanding and valuing of information literacy and information literacy standards. Data from student and faculty interviews and student research papers were gathered and analyzed using NVivo. The students' reflections on their prior experiences with research shed light on how the students formed and shaped their concepts on information literacy and their application of selected Information Literacy Competency Standards.

Information literacy was not comprehended fully by the students and held different meanings to the participants in this study. The students articulated specific aspects of information literacy and displayed a fragmented understanding of the concept. The themes that emerged focused on the students' research experiences before information literacy instruction, definitions of information literacy, information literacy as a process, influences on developing information literacy skills, documentation, and expectations.

The study was conducted with 24 female and male students attending a private university and a public university in Kuwait. Further research needs to be conducted on larger populations locally and regionally to assess student levels and understanding of information literacy as well as the standards in order to design effective holistic approach information literacy instruction.

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Style

The style manual used in preparation of this document was the *Publication Manual of the American Psychological Association* (6th ed. 2010).

"A little knowledge that acts is worth infinitely more than much knowledge that is idle."
–Khalil Gibran

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My mother and my father who always encouraged me to pursue my education, and to reach the highest level in everything I do in life. Khalid, my husband, for being my rock when things seemed to fall apart. My daughter Jude, and my son Tareq you experienced this process with me from the very start. Moving from Kuwait to Pennsylvania was not easy for you, there were tears and there were smiles but we did it. One day you will understand why I did all this. I would also like to thank Shamsi Qarooni and Dr. Hameed Al Qaheri, who made Pittsburgh my home away from home. As I leave Pittsburgh today its memories will forever remain in my heart.

Mama Sheikha, Baba Issa, Khalid, Jude, and Tareq this dissertation is for you.

1.0 INTRODUCTION

1.1 FORWARD

As I started to shape my thoughts and ideas for this study, I recalled the first time I visited a library and checked out a book. I come from a culture that is considered non-reading and was fascinated by the notion that there were buildings that housed massive collections of books and other materials readily available for people's use. I was lucky enough to come from a household that encouraged reading. I always recalled my parents reading books whether they were in English or Arabic; books were always in our house. My siblings and I were always encouraged to read from a young age.

One summer while vacationing in the United Kingdom, my mother took me to the local public library and told me that I could choose two books. I was thrilled, but was not aware that I could check out the books and return them after I was done. So I looked across the children's book shelves, choose two books and started reading. I wanted to finish the books before my mother told me it was time to leave. My mother later explained to me that I could take the books home, read them at my leisure, and return them when I was done. I was thrilled!

This story and its memory will always remain with me and has helped shape my ideas about books, reading, learning and libraries. Now with two children of my own, a master's degree in Library and Information Science, and work experience as a Reference and Instruction

Librarian, I am interested in understanding how young people think of information literacy, and how their experiences and stories help them shape their understanding of the concept of information literacy.

1.2 OVERVIEW OF STUDY

This interpretive study implements a narrative inquiry approach to explore how undergraduate students attending both public and private universities in the State of Kuwait describe and define their concepts and understanding of the term "Information Literacy (IL)." The study seeks to understand how undergraduates describe certain events, experiences, and people that have helped them shape their understanding of information literacy. Furthermore, the study examines how these students are meeting the Association of College and Research and Libraries (ACRL) Information Literacy Competency Standards for Higher Education to gain a better understanding of how these standards shape concepts of information literacy and strategies for curriculum design and instruction.

This study uses several of research methodologies and subject demographics used in a 2008 study conducted by Lisa Anne Hermann Stock with community college students in the United States to understand how students define their understanding of information literacy. It attempts to build on several aspects of this study with undergraduate students attending public and private universities in the State of Kuwait, to examine how cultural, linguistic, and instructional differences affect students' understanding and valuing of information literacy, information literacy standards, and instruction.

This study examines how well undergraduates understand and are able to apply Standard Two, Standard Three, and Standard Five of the ACRL Standards. Standard Two states "The information literate student accesses needed information effectively and efficiently" (p. 9) Standard Three states "The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system" (p. 11). Standard Five states "The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally" (p. 14). (Association of College and Research Libraries, 2000). These three Standards have been selected because this study's aim is to evaluate the students' application of these specific standards in their research projects. The aim is not to examine the quality of the content of their papers, but rather to assess the process of retrieval, selection, and evaluation (Standard 2), analysis of information (Standard 3) and documentation of sources (Standard 5).

Information literacy (IL) is a term that is widely used across many disciplines and, in particular, the field of library science. The term "information literacy" was first introduced in 1974 by Paul Zurowski, at that time President of the Information Industry Association in a proposal submitted to the National Commission on Libraries and Information Science (NCLIS). He stated that

> People trained in the application of information resources to their work can be called information literates. They have learned techniques and skills for using the wide range of information tools as well as primary resources in molding information solutions to their problems. (Eisenberg et al, 2004, p. 3)

Given the wide use of the term information literacy, several alternative definitions have emerged from professional organizations, educational institutions, and individuals to explain the

concept better. These alternative definitions came about in response to the dynamic growth of information available and to the increasingly difficult navigation through this information overload to make sense and meaning. In the 1980s when computers and their technologies became more widespread, there was a stronger need for knowledge in the organization, retrieval and manipulation of information.

Today, the most widely used definition of IL is that of the American Library Association (ALA) which states “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 needed information” (Association of College and Research Libraries, 2000, p. 2).

1.2.1 Information Literacy Competency Standards

Many universities and colleges both in the U.S. and abroad use competency standards for information literacy. In 1998, the American Association of School Librarians (AASL) published *Information Power,* which included nine information literacy standards for student learning. These included nine standards in three categories were further elaborated with 29 indicators. In 2007, the American Association of School Librarians produced *Standards for the 21st-Century Learner* stating that "The definition of information literacy has become more complex as resources and technologies have changed. . . Multiple literacies, including digital, visual, textual, and technological, have now joined information literacy as crucial skills for this century" (American Association of School Librarians, 2007, p. 3).

The majority of American universities use standards as a basis for information literacy instruction. *Information Literacy Competency Standards for Higher Education,* were developed by the Association of College and Research Libraries (ACRL). These standards were reviewed

by the ACRL Standards Committee and approved by the ACRL Board of Directors on January 18, 2000, at the Midwinter Meeting of the American Library Association in San Antonio, Texas. These standards were also endorsed by the American Association for Higher Education (October 1999) and the Council of Independent Colleges (February 2004). To complement the *Information Literacy Competency Standards for Higher Education,* ACRL published *Characteristics of Programs of Information Literacy that Illustrate Best Practices: A Guideline.* In this document, ACRL established the guidelines for what components are required for a valid information literacy program assessment (Diller and Phelps, 2008).

In ACRL a task force was established to revise *the Information Literacy Standards for Higher Education*. The task force consists of educators and librarians from the United States involved in information literacy development and instruction. The revision will incorporate new advances in teaching and technology and focus on the student as a "creator" and "curator" of information in a multi-faceted, multi-format, media-rich environment. The new revised standards are to incorporate "Metaliteracy", which Mackey and Jacobson define as:

> . . . An overarching and self-referential framework that integrates emerging technologies and unifies multiple literacy types. This redefinition of information literacy expands the scope of generally understood information competencies and places a particular emphasis on producing and sharing information in participatory digital environments.
> (Mackey & Jacobson, 2011)

The updated and revised standards will apply a more holistic framework for information literacy; if approved the revised standards will be implemented in June 2014.

Furthermore, the ACRL has developed the Institute for Information Literacy (ILL), which is responsible for maintaining, updating, and educating librarians in the area of information literacy. The Institute offers training programs on IL continuously, in addition to

holding an annual Information Literacy Immersion program with competitive admission that has become highly popular with librarians. These standards have been developed to provide a framework and a benchmark for people working with information literacy.

It is important to determine whether students are accessing the information they need in an effective and efficient way, whether their analysis of the information is following a logical pattern, and if they are using this information in an ethical way. This researcher used document analysis and semi-structured interviews with undergraduates in this study to shed light on whether the students are aware of these standards as a component of their information literacy instruction. Pre and post-instruction interviews were conducted with students attending a public university and a private university in the State of Kuwait enrolled in an information literacy class. The interviews held with all students provide a deeper understanding of how students view information literacy in the Kuwaiti culture, whether they are receiving the proper information literacy instruction, and whether there are any cultural values or issues that affect the importance of information literacy in their lives. To analyze the documents from a student research project, the researcher used a rubric developed for this study. This analysis highlights whether or not the core information literacy standards were being applied by students in the universities studied, thus indicating if there is a need to implement or integrate the standards into the curriculum.

1.3 STATEMENT OF THE PROBLEM

Undergraduate students in academic institutions are faced with the daunting task of searching for information. They are faced with the challenges of finding information using various traditional and more advanced technological media. According to a recent study titled

“Project Information Literacy (PIL)” in which undergraduates were asked how they used technology during crunch time

> More than any other task, students (81%) said they had checked for messages using a variety of different devices in order to keep up on email, Facebook, IM, and/or texting while they were in the library in the previous hour (Eisenberg & Head, 2011, p. 3).

The Online Computer Library Center (OCLC) report *Perceptions of Libraries 2010: Context and Community* states that in academic libraries “Search engines continue to dominate, topping the list of electronic sources most used to find online content (93%), followed closely by Wikipedia (88%)” (p. 52). This report indicates that there is a decline in student use of library websites to access online journals and databases. Students opt for faster ways of obtaining the information needed to complete their assignments. (OCLC, 2010)

Mbabu et.al, state that "Studies have shown that about three quarters of undergraduate students conduct their research over the Internet as opposed to being physically in the library (Jones, 2002; Tenopir, 2003). Web resources included search engines, Web portals, course-specific Websites, and the campus library Web site" (Mbabu et.al, 2012). That the majority of undergraduates are using search engines, Wikipedia, and social media tools to find their information indicates that students are not receiving adequate instruction in developing the information literacy skills required to conduct research using credible and viable resources. Students want the “easy” way or the “fast” way to find information because they are comfortable with searching the Internet rather than searching online databases.

1.3.1 Information Literacy in Kuwait

Limited research exists on the status of information literacy among undergraduate college students in the State of Kuwait and the Gulf Cooperation Countries (GCC) as a whole. The State of Kuwait currently has 600 libraries and information centers that serve a total population of about 3.8 million (1.2 million Kuwaiti nationals and about 2.6 million non-Kuwaitis). Teresa Lesher, Associate Professor in the Department of Library and Information Science at the Public Institute for Applied Education and Training in Kuwait points out that with this number of libraries there is a strong role in the community and a promising future for the LIS field. She also describes the level of post-secondary instruction of library and information skill education as "minimal" in Kuwait, indicating that resources are strongly needed to instruct users and equip them with the necessary IL tools they need. Al-Othaimeen advocates more intensive bibliographic instruction and orientation training for students in the use of the library and formal instruction courses on information retrieval (Lesher, 2004).

A study conducted by Marouf and Rehman in 2006 titled "New Directions for Information Education: Perspectives of the Stakeholders" assessed the information literacy skills of 19 masters-level students attending the program at Kuwait University. The study was based on the perceptions of professionals, academics, librarians, students, and employers to provide a broader picture of where the LIS program was heading. Among the 15 proposed strategies for change (most of which were curricular), "Information Literacy Initiatives" and "Interdisciplinary Collaboration" were mentioned as the most proposed strategies. Participants in this study pointed to the need for a strong information literacy awareness campaign because the basic information literacy skills were lacking. In their conclusions, the authors stated that

> The MLIS academic program and curriculum need to be redesigned in order to add new tracks or coursework that are related to Information Management, Knowledge Management, Information Technology, and other specializations. This is a major challenge for DLIS and it would also require major adjustments in academic structure, curriculum, faculty and resources. (Marouf & Rahman, 2007, p. 206)

A recent doctoral dissertation by Al-Moumen, from Kuwait University, examined the graduate student population in Kuwait and information literacy among these students. In the scant literature on information literacy among populations in Kuwait, Lesher examined the high school population, and Marouf and Rahman and Al-Moumen examined the graduate student population. There is very limited literature on information literacy among the undergraduate student population in Kuwait. Therefore, a close examination of this very important segment of students sheds light on how these students perceive and define information literacy, information literacy standards, and instruction. This study provides insight into the state of information literacy in Kuwait and how instruction and integration of standards into the curriculum can enhance student understanding of information literacy and academic performance.

The GCC countries have tried to keep abreast of the global trends, with some institutions gaining more momentum than others in the area of IL and its development. A major driving force behind this initiative is institutional support, without which no IL program or initiative could succeed. A movement away from the traditional teaching methodology of memorization and repetition needs to be established, using new techniques that inspire student creativity and critical thinking both in and out of the classroom. More investment needs to be made in developing the LIS programs in the GCC. As the literature points out, although the demand for teaching IL is there, the resources are lacking. Slow but steady strides are underway to develop IL and incorporate it across all areas of the curriculum in the GCC, but a massive effort still lies ahead. A lack of literature regarding IL practices in Kuwait and the region as a whole calls for

further study and research in this particular area. A complete literature review is included in Chapter 2.

1.4 SIGNIFICANCE OF THE STUDY

The purpose of this study is to explore the experiences of undergraduate students in public and private universities in Kuwait in an effort to understand how they develop their understanding of information literacy and how they measure against IL standards. A close examination of information literacy standards and their use also sheds light on information literacy instruction and curriculum design. Gaining a better understanding of how students think about information literacy and what the term means to them, can help librarians develop instruction and incorporate information literacy standards across the curriculum.

1.5 RESEARCH QUESTIONS

Given the current state of research in the area of information literacy among the undergraduate population in the State of Kuwait, the following questions guided this study:

- How do undergraduate students enrolled in public and private universities in the State of Kuwait describe their concepts of information literacy and the value they place on information literacy before they begin a research project and after they complete the research project, and if these change, how do they change by the end of the research process?

- How do the concepts and valuing of information literacy of these undergraduate students compare with three of the Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education? How are students able to demonstrate that they have met the three selected information literacy standards in their completed research project?

1.6 THEORETICAL FRAMEWORK OF METHODOLOGY

"Constructivism" is defined as a psychological theory of knowledge that is concerned with the ways in which people construct their worlds from personal experience.

> Constructivism states that learning is an active, contextualized process of constructing knowledge rather than acquiring it. Knowledge is constructed based on personal experiences and hypotheses of the environment. Learners continuously test these hypotheses through social negotiation. Each person has a different interpretation and construction of knowledge process. The learner is not a blank slate (*tabula rasa*) but brings past experiences and cultural factors to a situation. (Learning-theories.com, 2012)

Constructivist teaching and learning theories highlight the learners' active role in constructing knowledge. Williamson states that:

> Constructivist researchers investigate constructions or meanings about broad concepts such as cultural values, or more specific issues or ideas, such as the possible ingredients of the dynamic, creative public library of the future and how to create it. (Williamson, 2006, p. 85)

1.6.1 The Zone of Proximal Development ZPD (Lev Vygotsky)

The influence of constructivist thinking is also evident throughout LIS literature. An example of this thinking is Lev Vygotsky's (1978) Zone of Proximal Development (ZPD). Vygotsky states that

> ZPD is the distance between a student's ability to perform a task under adult guidance and/or with peer collaboration and the student's ability solving the problem independently. According to Vygotsky, learning occurred in this zone. (Driscoll, 1994).

Vygotsky examined connections between people and the sociocultural context in which they act and interact in shared experiences (Crawford, 1996). According to Vygotsky, humans use tools that develop from a culture, such as speech and writing, to mediate their social environments. Initially children develop these tools to serve solely as social functions and ways to communicate needs. Vygotsky believed that the internalization of these tools led to higher thinking skills. Vygotsky also described the possibility of learners to understand concepts not previously understood through the assistance of more capable individuals (librarians). Vygotsky's notion was later adapted by Kuhlthau (1994) (Montiel-Overall, 2007).

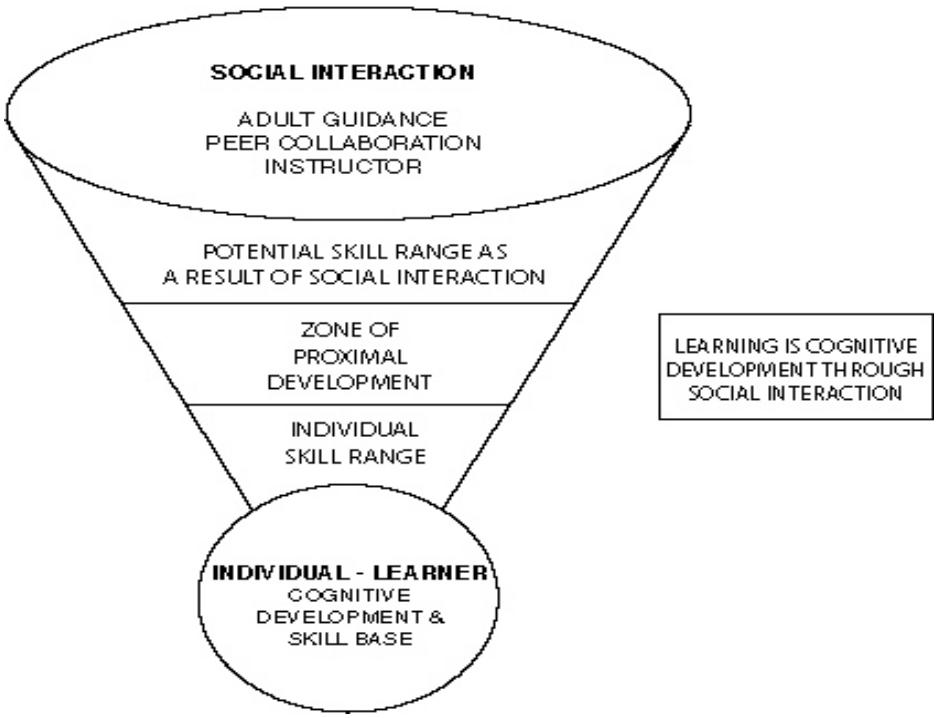


Figure 1. Vygotsky's Zone of Proximal Development
(http://tip.psychology.org/vygotsky.html)

Social learning theory is closely related to the work of Jerome Bruner who wrote about the constructive nature of knowledge and the notion of "schema," which in 1973 he defined as "that integrated, organized representation of past behavior and experiences which guides individuals in reconstructing previously encountered material which enables people to go beyond evidence, to fill in gaps to extrapolate" (p.5) The roots of social learning theory state that people learn through interactions with each other (Bandura, 1977). It is important to understand that the roots of social learning theory stem from the work of Jerome Bruner.

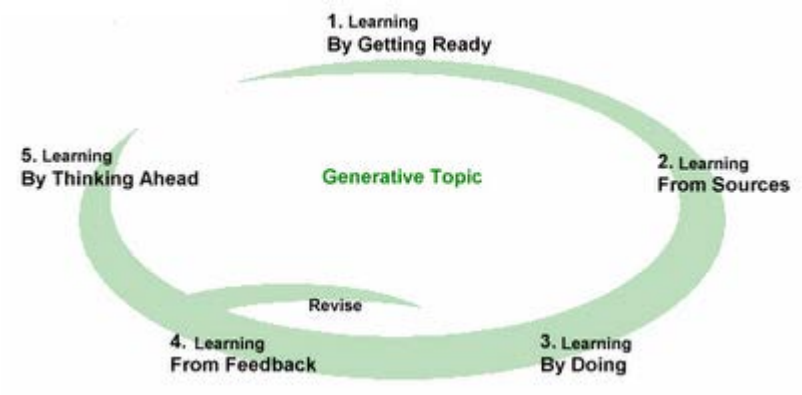


Figure 2. Bruner's Learning Spiral
(http://educ6040fall10.wikispaces.com/Constructivism)

1.6.2 Social Learning Theory (Albert Bandura)

Social Learning Theory posits that people learn through observing the behavior and attitudes of others and the outcomes of those behaviors. “Most human behavior is learned observationally through modeling: from observing others, one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action” (Bandura, 1977). Social learning theory explains human behavior in terms of continuous reciprocal interaction between cognitive, behavioral, and environmental influences. The Information Literacy process is tightly structured and formalized by a set of standards (Association of College and Research Libraries [ACRL], 2000). In attempting to develop these concepts and

skills in students, sharing the process among other students and giving them repeated chances to learn is essential to the development of their skills.

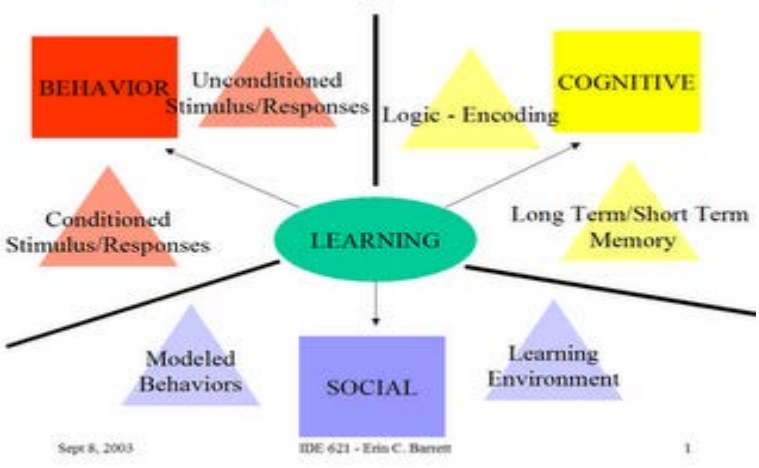


Figure 3. Albert Bandura's Concept Map
(http://www.learning-theories.com/constructivism.html)

The Learning Theories knowledgebase website considers the following necessary conditions for effective modeling:

1. Attention: various factors increasing or decreasing the amount of attention paid. This includes distinctiveness, affective valence, prevalence, complexity, functional value. One's characteristics (e.g., sensory capacities, arousal level, perceptual set, past reinforcement) affect attention.
2. Retention: remembering what one paid attention to. This includes symbolic coding, mental images, cognitive organization, symbolic rehearsal, and motor rehearsal.
3. Reproduction: reproducing the image. This includes physical capabilities and self-observation of reproduction.

4. Motivation: having a good reason to imitate. Includes motives such as past (i.e., traditional behaviorism), promised (i.e., imagined incentives), and vicarious (i.e., seeing and recalling the reinforced model) (Learning Theories, 2012).

Social cognitive theory builds beyond social learning theory. Social cognitive theory takes into account that humans rely on self-reflection and past experiences to shape their learning experiences (Bandura, 1986). This framework examines how students' past experiences and current experiences are related to their development of information literacy concepts and information literacy skills.

1.7 RESEARCH STRATEGY

This interpretative study utilizes the strategy of narrative inquiry. Creswell (2003) defined narrative research as a form of inquiry in which the researcher studies the lives of individuals and asks one or more individuals to provide stories about their lives. "This information is then retold or restoried by the researcher into a narrative chronology. In the end, the narrative combines views from the participant's life with those of the researcher's life in a collaborative narrative" (Clandinin & Connelly, 2000). Clandinin and Connelly also comment on the role of the researcher and stories, "The stories we bring as researchers are also set within the institutions within which we work, the social narratives of which we are a part, the landscape on which we live." (p.1)

This narrative approach is appropriate as the methodology of this study because it provides insight into how students create meanings and align value to information literacy. Their stories about places, experiences, and events contribute to an understanding of how they feel about information literacy and how they value it in their lives. Furthermore, to determine

whether information literacy standards have been applied and are of importance to the students, the researcher performed a document analysis on a research project completed by each student. The document analysis used a rubric developed specifically for this study to determine whether three of the ACRL Standards were applied and are important to the students and how these standards can be integrated into the curriculum.

The State of Kuwait is considered in the forefront of education among its neighboring countries in the GCC region. During the 1970s and 1980s many of the GCC countries such as the Kingdom of Bahrain and the Sultanate Oman used text-books and curriculum developed in Kuwait to educate students in their respective countries. These countries later built on Kuwaiti curriculum and developed their own curriculum and designed their own textbooks.

In the State of Kuwait there are three publicly funded institutions of higher education. Recently, several new private institutions of higher learning have opened in Kuwait. In this study, it was fitting to examine the Kuwaiti student population and their concepts of information literacy to develop and promote information literacy instruction in Kuwait and across the GCC region. The two institutions selected for this study were selected because they offer the best examples of information literacy instruction in the State of Kuwait. Additionally, this researcher has firsthand experience in working with information literacy at both institutions.

1.8 DEFINITIONS

Gulf Cooperation Council (GCC): The GCC countries include the Kingdom of Saudi Arabia, the United Arab Emirates, Kuwait, Qatar, the Sultanate of Oman, and the Kingdom of Bahrain.

These countries have oil-rich economies and are linguistically and culturally similar; almost all share the same educational systems and have comparable literacy rates.

Information Literacy: Information literacy is a set of abilities requiring individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information." (Association of College and Research Libraries, 2000, p. 2)

***Information Literate*:** To be information literate a person must be able to:

- Determine the extent of information needed,
- Access the needed information effectively and efficiently,
- Evaluate information and its sources critically,
- Incorporate selected information into one's knowledge base,
- Use information effectively to accomplish a specific purpose, and
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally (ACRL, 2000)

Information Literacy Standards: These are standards that were reviewed by the Association of College and Research Libraries Standards Committee and approved by the Board of Directors (ACRL) in 2000. These standards were also endorsed by the American Association for Higher Education (October 1999) and the Council of Independent Colleges (February 2004). These include five standards and performance indicators and learning outcomes for each standard.

***Private University*:** A four-year university that does not receive State or government funding and is fully funded by investors and individuals.

***Public University*:** A four-year university that is fully funded and supported by the government and does not receive external funds from investors or individuals.

***Rubric*:** "A rubric is a descriptive measurement for defining what a learner should know and can do" (Eisenberg et al, 2004). Rubrics are known as "descriptive scoring schemes" developed by educators to evaluate students' work (Moskal, 2000). In the field of education, a rubric means "a simple assessment tool that describes the levels of performance on a particular task and is used to assess outcomes in a variety of performance-based contexts from kindergarten through college" (Hafner, 2003, p.1509).

***Schema*:** "that integrated, organized representation of past behavior and experiences which guides individuals in reconstructing previously encountered material which enables people to go beyond evidence, to fill in gaps to extrapolate" (Bruner, p.5).

***State of Kuwait*:** A country located in the Middle East, in the northwestern corner of the Arabian Gulf. Its total population is 3.8 million, including 1.2 Kuwaiti nationals and 2.6 foreigners; its religion is Islam; its official language is Arabic although English is widely used. Male literacy is 82%; female literacy is 75%.

***Social Learning Theory*:** People learn through observing others' behavior and attitudes and the outcomes of those behaviors. "Most human behavior is learned observationally through modeling: from observing others, one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action" (Bandura, 1977).

***Undergraduate Student*:** A college or university student who has not yet earned a bachelor's or similar degree.

***Zone of Proximal Development (ZPD)*:** "ZPD is the distance between a student's ability to perform a task under adult guidance and/or with peer collaboration and the student's ability solving the problem independently. According to Vygotsky, learning occurs in this zone" (Crawford, 1996).

1.9 LIMITATIONS

This study was conducted in a public university and a private university in the State of Kuwait. The undergraduate students at both institutions graduated from either a government high school or a private high school in Kuwait, and almost all the students are bi-lingual in Arabic and English. Some of the students are in their freshman year of university; others might be in their graduating year based on when they enrolled in the identified course. Three of the cohorts examined received information literacy instruction in English, and one cohort received instruction in Arabic. Because of the design of the study, generalizations to the larger population of students at these two universities is not possible. The data collected and gathered through the

interviews were based upon personal experiences, beliefs, and opinions unique to each individual student.

1.10 ORGANIZATION OF THE STUDY

Chapter One of this study provides the background of the study, states the problem and its significance, lays the theoretical framework and highlights the research strategy, limitations, and definitions to be used in this study. Chapter Two is a review of pertinent literature with a bearing on the design of this study. Chapter Three lays out the methodology used and measures that were applied in this study. Chapter Four includes an analysis of the major study findings, and Chapter Five offers conclusions and provides directions for further study.

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

In the past decade the term “Information Literacy” has been used recurrently both in professional literature and discussion. It has become a pivotal phenomenon in helping shape and maintain educational systems and policies worldwide. From the Americas, to Europe and Australia, information literacy has been discussed and curricula have been developed and implemented across all educational levels. The importance of this concept has been acknowledged by governments, educators, and information professionals globally as the main precursor for developing lifelong learners and productive, functioning members of the community.

Explanations of the term "information literacy" and its definitions are highlighted in this chapter along with information literacy programs and their developers, as well as the competency standards of information literacy and core competencies. How information literacy developed over the years and its impact on education and curriculum in the field of Library and Information Science was also examined, with a particular focus on the development and practice of information literacy in Kuwait, and other Gulf Cooperation Council countries (GCC). The GCC countries have witnessed a surge in the number of institutions of higher education--both public and private--prompting these institutions to adhere to certain information literacy standards to maintain accreditation.

Universities in the State of Kuwait lack recent studies and research on the state of information literacy and on information literacy instruction across all levels. Gaining an understanding of how undergraduate students understand and form their concepts about information literacy and how they are able to demonstrate Information Literacy Competency Standards provides insight into how these students conceptualize and define information literacy. This insight can in turn help in developing and improving curricular design and instruction in the future for Kuwait and the GCC region as a whole.

2.2 DEFINITIONS OF INFORMATION LITERACY

The American Library Association (ALA) defines information literacy (IL) as a set of abilities requiring individuals to recognize when information is needed and to locate, evaluate, and use effectively the needed information. The Presidential Committee on Information Literacy stated that, "information literacy is a survival skill in the Information Age" (ALA, 1989, p.3). Today more than ever with technological advancements, students must be confident and comfortable in their search for information. Students must be aware of the importance of libraries and their resources to fulfill their academic goals (Association of College & Research Libraries, 2000).

Globally, the development of information literacy is promoted through the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Federation of Library and Associations and Federations (IFLA) in their document *Beacons of the Information Society: The Alexandria Proclamation on Information Literacy and Lifelong Learning*, which states that literacy:

- comprises the competencies to recognize information needs and to locate, evaluate, apply and create information within cultural and social contexts;

- is crucial to the competitive advantage of individuals, enterprises (especially small and medium enterprises), regions and nations;

- provides the key to effective access, use and creation of content to support economic development, education, health and human services, and all other aspects of contemporary societies, and thereby provides the vital foundation for fulfilling the goals of the Millennium Declaration and the World Summit on the Information Society; and

- extends beyond current technologies to encompass learning, critical thinking and interpretative skills across professional boundaries and empowers individuals and communities. (IFLA, 2000)

The World Summit on the Information Society (WSIS) Forum convened in 2011 with stakeholders from more than 140 countries. The summit outcome statement highlights the importance of communication in the digital age, ethical implications, and open access to information. The WSIS was a two-phase United Nations Summit that focused on issues in information and communication technologies (ICTs) and the promotion of a structured, inclusive approach at the national, regional and international levels. The goal of WSIS is to achieve a common vision and commitment to "build a people centric, inclusive and development oriented Information Society where everyone can create access, utilize and share information." (World Summit on the Information Society, 2011)

The fostering of critical thinking skills is one of the core goals of information literacy training. Tsui (2002) supports this need for critical thinking and states the following on fostering critical thinking:

> Higher-order cognitive skills, such as the ability to think critically, are invaluable to students' futures; they prepare individuals to tackle a multitude of challenges that they are likely to face in their personal lives, careers, and duties as responsible citizens.

> Moreover, by instilling critical thinking skills we groom individuals to become lifelong learners-thus fulfilling one of the long term goals of the educational enterprise. (p. 740)

Many times the need for critical thinking goes unaddressed or underemphasized. The information process is not explored as a means to developing and promoting these critical thinking skills. Kuhlthau states, ". . . information is viewed as a thing or a product to be given out, the right answer and the right source, rather than as an impetus for learning or changing constructs" (Kuhlthau, 2004, p. 3).

Given the wide use of the term "information literacy," several alternative definitions have emerged from professional organizations, educational institutions, and individuals to explain the concept more clearly. These definitions came about in response to the rapidly dynamic growth of information available, and the fact that people found it increasingly difficult to navigate through this new information overload. When examining these definitions, it becomes evident that there is not one standard definition of information literacy, but rather a collection of definitions that encompass the ideas of recognizing, locating, evaluating, and using information. Because information may be presented in various formats (i.e., other than print) it would be difficult to have only one standard definition; therefore, the many definitions presented encompass a variety of media in which IL is implicit.

Regardless of which definition is chosen to follow or apply, it is clear from the numerous definitions asserted and the different institutions supporting IL initiatives that IL is a topic of high importance. IL is seen as an important concept both on a national level as well as on an international level. Strides to make improvements in IL are seen across all educational levels beginning with K-12 schools through higher education and encompassing the community as a whole. Seeing that the roots of IL are deeply embedded in the library field and were initiated by librarians, it is important that IL be developed and maintained within the field, but also be

reflected upon across all disciplines in academia. Interdisciplinary work in this area is a must for its growth and sustainability as a concept. Therefore, this initiative needs to be strongly supported by all parties and stakeholders for its continuity and growth.

2.3 DEVELOPMENT OF INFORMATION LITERACY PROGRAMS IN ACADEMIC LIBRARIES

The roots of information literacy were initiated by librarians in academic libraries. Over the years, academic librarians have been the driving force behind the development of information literacy as a concept. The development of information literacy programs began to emerge in the 1980s. In 1986, the *Carnegie Foundation Report* outlined the importance of an academic library program to undergraduate education by stating "The quality of a college is measured by the resources for learning on the campus and the extent to which students become independent, self-directed learners" (Lake, 1986).

> The development of modern library instruction beginning with IL in its earliest form can be traced through the various techniques and strategies of basic bibliographic instruction. Being "synchronous" face-to-face instruction (Farber, 1974) or "asynchronous" remote instructions (Dudley, 1978), bibliographic instruction is at the heart of information literacy (Grassian & Kaplowitz, 2001, p.16).

Beginning in the 1960s and continuing through the 1980s, bibliographic instruction librarians were unaware that with new advancements in technology they would be the major players in the development of IL. Bibliographic instruction (BI) is defined as the "Instructional programs designed to teach library users how to locate the information they need quickly and effectively. BI usually covers the library's system of organizing materials, the structure of the

literature of the field, research methodologies appropriate to the discipline, and specific resources and finding tools (catalogs, indexes and abstracting services, bibliographic databases, etc.)" (ODLIS, 2013). With the influx of technology in libraries, many instruction and reference librarians found themselves researching and learning new techniques that they had not received in their library school training. Within the field of Library and Information Science (LIS), the interest in information literacy began to take shape in the 1990s. With the advent of new technologies in the library, more books and professional articles began to emerge within the field. This new-found interest was ignited by mention of the term "information literacy" in a final report on information literacy by the American Libraries Association (ALA). Given this new information explosion and the need for students to become information literate, many colleges and universities were faced with the task of developing and implementing IL programs. Several IL models have emerged from within academic libraries (Grafstein, 2007).

Although its roots are firmly embedded in libraries and library instruction, information literacy is a concept important in all disciplines. In the development of trends in IL within the Library Science field, there has been a move from simple bibliographic instruction to library instruction to what is referred to today as "information literacy." This evolution has taken place within both libraries and library and information science education. The technological changes worldwide have prompted librarians and LIS programs to rethink and reevaluate many of their approaches and strategies and many times force major changes in approaches and curriculum development.

In 2001, Abby Kasowitz-Scheer and Michael Pasqualoni stated that “Information Literacy Instruction is alive and well on campuses today. However, there is much work to be done before integrated ILI across the curriculum is standard practice” (p. 5). This indicates that

there are still key challenges and issues regarding IL and its implementation. Bennett states that "librarians remain the primary advocates of information literacy on most campuses. Their advocacy often encounters a campus environment that, although rarely hostile, is often uninformed, indifferent, or occupied with other priorities" (Bennett, 2007, p.148).

The need for a more multidisciplinary approach to IL research and instruction will help pave the way for more opportunities to prepare students of the future. Some faculty members outside the LIS field have tried to incorporate IL practices into their courses; others work in collaboration with their librarians to offer IL sessions specifically focused on their discipline. The need for students to have basic IL tools is a trend that is increasingly evident across both disciplines and university campuses (Owusu-Ansah, 2007).

Rockman and Associates state that information literacy is no longer a library issue, but rather a critical, campus-wide issue, a learning issue, and an education issue. There is a need to foster critical thinking skills in students to promote information literacy; Rockman (2002) described this need as follows:

> With internal and external public pressures for students to graduate with skills commensurate with the academic rigor of a comprehensive program of study, universities in the last decade have sought to restructure their curricular offerings to bring them more in line with current societal needs at attract and retain students, and to help students progress toward graduation with critical reading, writing, thinking, and speaking well developed. Such restructuring would integrate the co-curriculum with the undergraduate experience; emphasize information literacy as active learning process; inspire intellectual desire in students; promote the importance of continuous lifelong learning; and document to accreditation agencies professional associations, legislative bodies, and other entities that under-graduate students are graduating with skills, knowledge and abilities, viewed as valuable assets in the workplace, in graduate schools and in society at large. (p. 187)

The implementation of IL is a broad initiative that incorporates the whole institution and requires the community's involvement. Its roots may have started in librarianship, but movement has been enhanced by all members of the university. As new technologies are used,

the need to educate and prepare students to use these technologies effectively becomes crucial for their survival. In universities and colleges, librarians must take the initiative, and encourage all faculties in all disciplines to be involved in the IL movement.

2.4 COMPETENCY STANDARDS OF INFORMATION LITERACY

The American Association of School Librarians (AASL) in 2007 developed *Standards for the 21st -Century Learner* for students in K-12 schools, which include 4 standards, further developed with skills, dispositions in action, responsibilities, and self-assessment strategies. Learners use skills, resources, and tools to:

1. Inquire, think critically, and gain knowledge.
2. Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.
3. Share knowledge and participate ethically and productively as members of our democratic society.
4. Pursue personal and aesthetic growth. (AASL, 2007)

Many universities and colleges both in the U.S. and internationally use competency standards to define and set benchmarks for Information Literacy. The majority of universities and colleges in the United States use as a benchmark the *Information Literacy Competency Standards for Higher Education*, developed by the Association of College and Research libraries (ACRL) in 2000. The ACRL stated:

> Information Literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their learning. (p.1)

The following five standards were reviewed and approved by the ACRL Standards Committee:

> Standard One: The information literate student determines the nature and the extent of the information needed.
>
> Standard Two: The information literate student accesses needed information effectively and efficiently.
>
> Standard Three: The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.
>
> Standard Four: The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.
>
> Standard Five: The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

These standards were also endorsed by the American Association for Higher Education in 1999 and by the Council of Independent Colleges in 2004. This study examined how students applied Standard Two, Standard Three, and Standard Five to determine whether students could apply these three standards to their research project. These three standards focus on retrieval, selection, and evaluation of sources, analysis of information, and documentation of sources. The current Standards are under revision to incorporate and account for "Metaliteracy" and "Threshold Concepts."

Meyer and Land define "Threshold Concepts" as ". . . the core ideas and processes that define the ways of thinking and practicing for a discipline, but are so ingrained that they often go unspoken or unrecognized by practitioners" (Townsend et al, 2011). They propose the following criteria for threshold concepts:

- Transformative–causes the learner to experience a shift in perspective;
- Integrative–brings together separate concepts (often identified as learning objectives

or competencies) into a unified whole;
- Irreversible–once grasped, cannot be un-grasped;
- Troublesome–often counter-intuitive, the place where students stumble or get stuck;
- Bounded–may help define the boundaries of a particular discipline, are perhaps unique to the discipline. (Meyer and Land, 2003)

Threshold concepts are like learning objectives and provide a focus for curriculum design and instruction as well as a valuable tool to measure student learning. The incorporation of threshold concepts and metaliteracy in the revision of the ACRL competency standards will provide a more holistic framework for information literacy.

Various researchers believe that information literacy and the application of ACRL Standards should be integrated into all curricula in higher education (Holleman, 1990; Kuh & Gonyea 2003; Shapiro and Hughes, 1996). In 1996, Shapiro and Hughes called information literacy a new liberal art, and stated:

> It should extend 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" (p. 3)

The support for inclusion of information literacy into the curriculum is increasing from both internal and external stakeholders.

2.5 INFORMATION LITERACY MODELS AND CULTURE

An important development in information literacy standards for student learning has been the emergence of several information literacy models. Models such as the Big6 Model developed by Eisenberg and Berkowitz at Syracuse University, and the Information Search Process model developed by Kuhlthau at Rutgers University, are very well known models among many others

that have been developed. Internationally, two well-known models are the Seven Pillars Model for Information Literacy developed by the Society of College, National and University Libraries in the United Kingdom and the Seven Faces of Information Literacy, developed by Christine Bruce in Australia.

Continuous assessment of student outcomes in IL is key to the successful development and implementation of IL. Through various assessment mechanisms, IL professionals can ensure that their instructional programs are effective in achieving their mission. The overwhelming demand for IL has prompted librarians to prepare faculty in all disciplines to incorporate IL standards into their curricula for students to benefit fully from their educational experience. In examining the report "Confronting Challenges of Participatory Culture: Media Education for the 21st Century," Jenkins et al agree that textual literacy is still an important skill in the 21st century. Jenkins defines participatory culture as:

> . . . a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one's creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices. A participatory culture is also one in which members believe their contributions matter, and feel some degree of social connection with one another. Participatory culture shifts the focus of literacy from one of individual expression to community involvement. (Jenkins, 2006)

The basic ability to read and write is at the root of skills needed to engage fully in this participatory culture. These skills need to be cultivated as well as fostered and developed as a strong foundation for survival in the participatory culture. The new media literacy skills should be considered "a social skill" (Jenkins, 2006). Jenkins goes further to state that more needed traditional literacies need to evolve to reflect the changes that are taking place socially and technologically.

2.5.1 Theoretical Framework for Information Literacy

The *Oxford English Dictionary* defines culture as "The cultivation or development of the mind, faculties, manners, etc.; improvement by education and training" (OED, 2012). Culture plays a strong and important role in the development of information literacy. Information literacy must take culture into account to meet the challenges of a global society. Brevik states that "Information literacy (is not) teaching a set of skills but rather a process that should transform both learning and the culture of communities for the better" (Brievik, 2000). The information literacy process is tightly structured around a process, a systematic method and is formalized by a set of Standards (Association of College and Research Libraries, 2000). In attempting to develop these concepts and skills, sharing the process among students and giving them repeated chances to learn is essential to the development of their skills.

2.5.2 Models of Information Literacy

Several information literacy models have been developed over the years. These models are important because they are based on teaching and instruction. Understanding these models and how they have been developed sheds light on the pedagogical and instructional methods of information literacy. Numerous models exist and present an international perspective on information literacy: three models were developed in the United States, one model was developed in the United Kingdom, and one model was developed in Australia.

2.5.2.1 Model 1-The Big6 Skills Model (Eisenberg and Berkowitz) (1990)

The Big6 Skills Model was developed by Michael Eisenberg and Bob Berkowitz in 1990 and is one of the most well-known models that has been widely used in both the United States and internationally, particularly at the K-12 level. The Big6 Skills Model serves as a guide for students in conducting research. This model focuses "on the process of solving information problems and brings all information to the forefront" (Eisenberg, 2004), and is comprised of six stages:

1. Task definition
2. Information seeking strategies
3. Location and access
4. Use of information
5. Synthesis
6. Evaluation (Eisenberg, 2004)

Visually the Big6 Skills Model is divided in to six stages and each stage has two sub-stages.

Figure 4. The Big6 Research Process
(http://big6.com/pages/about/big6-skills-overview.php)

This model is categorized as a "prescriptive" model with a learning-focused view of the process at its core and it is specifically formulated for use in K-12 libraries. It is a developmental model in which students must go through the first stage before moving on to the next level, it is also "iterative," however, meaning that a student can go back if not satisfied with the search. Bowler describes this model and other prescriptive models as having a

> . . .focus on specific learning outcomes and describe the stages that information seekers should go through in order to gain meaning from information and effectively use it. As such, these instructional models can act as metacognitive support during the search process (Wolf et al., 2003). (Bowler, 2010, p. 30).

2.5.2.2 Model 2-The Information Search Process (ISP) (Kuhlthau, 1989)

Kuhlthau's Model of the Information Search Process (ISP) is one of the major models used to understand and examine the search process from the perspective of the searcher and employs a

holistic approach. The ISP model, based on empirical research, identifies "three realms of experience: the affective (feelings), the cognitive (thoughts) and the physical (actions) common to each stage." (p. 67). At the core of this model is the notion of "uncertainty," which usually occurs in the early stages of the search process. Kuhlthau's model is comprised of six stages of the search process: initiation, selection, exploration, formulation, collection, presentation, and assessment (Kuhlthau, 2008).

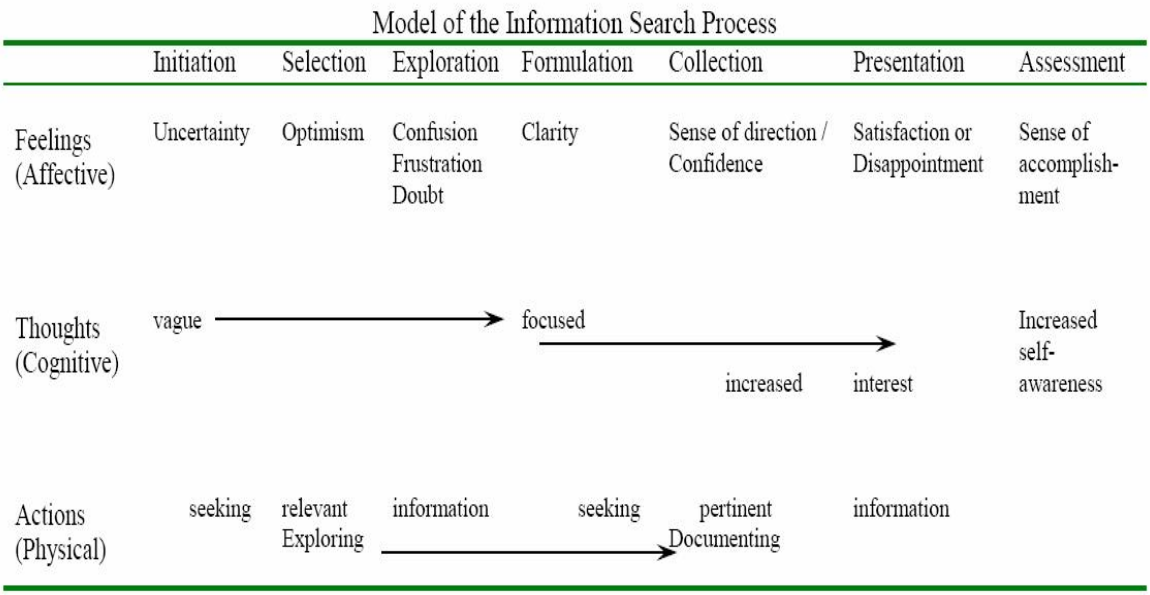


Figure 5. Kuhthau's Information Search Process Model (ISP) (2004)
(http://comminfo.rutgers.edu/~kuhlthau/information_search_process.htm)

This model has been referred to in the literature as a linear model, but Kuhlthau argues that it ". . . is a sequential model rather than a linear model" (Kuhlthau, 2012). Kuhlthau's

research model is used by students and learners in the K-12 school setting as well as by students in colleges and universities. The model incorporates the theoretical perspective of constructivism, and draws on the works of John Dewy, George Kelly, and Jerome Bruner. A drawback of this model is that it presents a longitudinal model that would not yield valid results for a short-term study. (Zaborowski, 2006) According to Bowler, this model is labeled as "descriptive," meaning that it indicates what is believed to occur during the human interaction with information based on empirical evidence. The evidence pinpoints relationships that can be assessed at a later stage. In Kuhlthau's model, as users of information progress through the process "their feelings reflect their understanding of their research topic." (p. 30)

2.5.2.3 Model 3-Stripling and Pitts Research Process Model (1998)

The work of Barbara Stripling and Judy Pitts in the 1980s focused on the need for high-level thinking in the research process. They formulated the Striplings and Pitts Research Process Model also known as REACTS, which is labeled as a prescriptive process model. (Bowler, p.30) The REACTS model has critical thinking at its core and focuses on strategies that ensure a level of high-level thinking that ultimately results in quality work. The REACTS Taxonomy includes the following elements: recalling, explaining, challenging, transforming, and synthesizing.

To accompany the REACTS Taxonomy, Stripling and Pitts designed a ten-step process to help students develop their research project from topic selection to final product. The model promotes caring, student-centered, holistic, humanistic, and realistic library practices that are respectful of the developmental ages of students. Each step includes reflective questions to help the student focus their activities:

1. Choose a broad topic
2. Get an overview
3. Narrow the topic

4. Develop thesis statement
5. Formulate questions
6. Plan for research
7. Find, analyze, evaluate
8. Evaluate evidence
9. Establish conclusions
10. Create and present final product (Stripling and Pitts, 1988)

At critical points in the process, certain reflection points direct students to evaluate the work completed. If problems exist, students revise or re-perform the previous research-process step until they are able to answer the reflection point questions with satisfaction and confidence. This model is used primarily in K-12 schools in the United States.

2.5.2.4 Model 4-The Seven Pillars Model for Information Literacy-Society of College, National and University Libraries (SCOUNL) (2004)

The Seven Pillars Model for Information Literacy is a result of research developed by the Society of College, National and University Libraries (SCOUNL) in the United Kingdom. The SCONUL Information Skills Model was originally published in 1999, and then republished as the Seven Pillars Model in 2004. This model has been adopted by many colleges and universities in the U.K. and throughout Europe. Despite the fact that this model is deemed as "too ambitious and not realizable in German libraries" (Virkus, 2003, p. 19), it has gained acceptance across Europe and serves as a template model for information literacy instruction. The Seven Pillars model presents an iterative process by which the information user reaches competency at the expertise level by practicing the skills highlighted. A drawback of this model is that it does not indicate where and how this may occur. The model recognizes that information technology (IT) skills and basic library skills go hand in hand. Visually, the Seven Pillars Model looks like this:

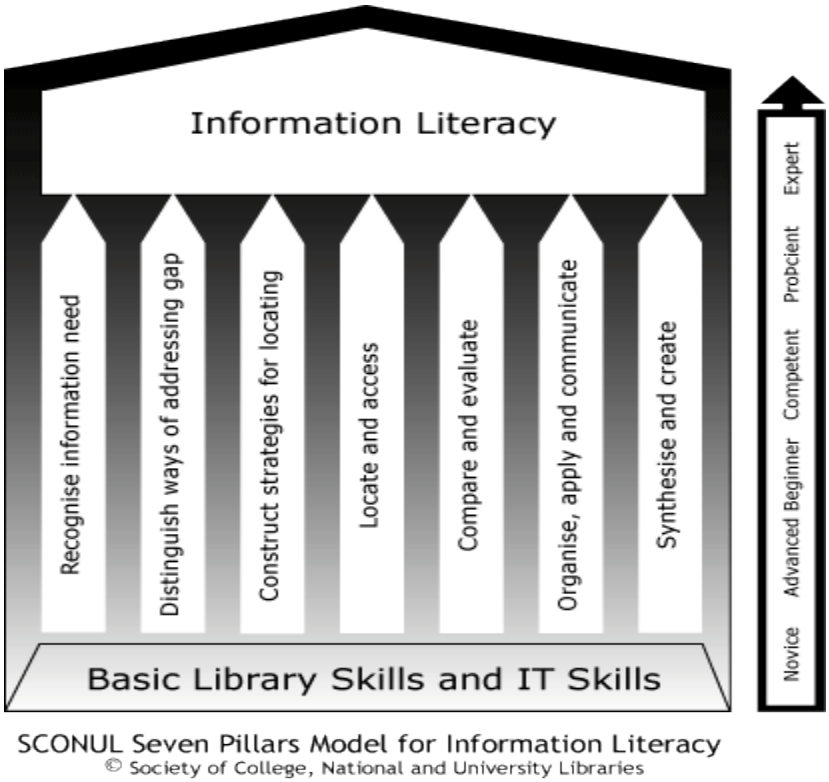


Figure 6. The Seven Pillars Model for Information Literacy (SCONUL) (http://www.sconul.ac.uk/tags/7-pillars)

2.5.2.5 Model 5-The Seven Faces of Information Literacy (Christine Bruce, 1997)

In 1997, Christine Bruce proposed a model called the "Seven Faces of Information Literacy," which is a "relational model based on a phenomenological study of information literacy practices." (Catts, 2005, p. 19) The model identifies seven related phases that make up interrelated components of the phenomenon. This is a relational model of information literacy that serves as an alternative to the behavioral models that dominate information literacy education and research. Bruce's Seven Faces Model constitutes the following:

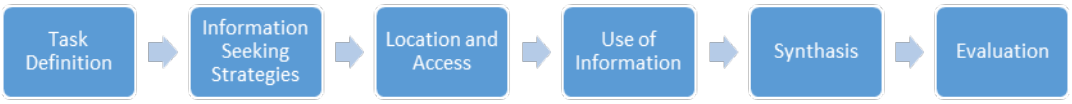
Face 1: the information technology conception
Face 2: the information sources conception
Face 3: the information process conception
Face 4: the information control conception
Face 5: the knowledge construction conception
Face 6: the knowledge extension conception
Face 7: the wisdom conception

Bruce states:

> As a phenomenon, information literacy includes the full range of experience, and students need to be enabled to experience information literacy in these ways. They also need to reflect on the variations in experience which they encounter and understand which forms of information literacy are relevant to different situations (Bruce, 1997).

The Seven Faces that Bruce identifies are drawn from the experiences of students in colleges and universities in Australia. The First Face is viewed as using information literacy for information retrieval and communication. The Second Face focuses on the use of resources and on finding and locating information sources. Face Three views information literacy in terms of executing a process. Face Four deals with control of the information by using the brain or memory to form links and associations. In Face Five, information literacy is seen as building a personal knowledge base in a new area of interest. Face Six deals with gaining insight through working with knowledge. Finally, Face Seven has “values” at its core and focuses on the ability to use information wisely for the benefit of oneself and others (Bruce, 1997).

TheBig6(Eisenberg& Berkowitz)



Information Seeking Process (Kuhlthau)

Research Process (Pitts/Stripling)

SCOUNL (Seven Pillars Model)

The Seven Faces of Information Literacy (Bruce)

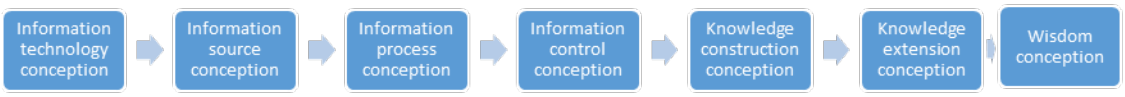


Figure 7. Comparison of Information Literacy Process Models

Numerous information literacy models have been developed over the years as a result of research; many of the models incorporate theoretical perspectives and ideas. It is important for both educators and librarians to understand these models and how they can be used as guides in developing information literacy programs. Because these models are dynamic and robust, some are better suited in the K-12 environment while others are more suited for higher education. Some models can be applied across both learning environments, as well as in the workplace. Careful planning and matching of instructional strategies need to be established, in addition to continuous assessment and evaluation of students' information literacy skills. Multiple research studies have been conducted to assess the effectiveness of information literacy instruction; some examine the instructors, others focus on the students. Most studies employ a combination of qualitative and quantitative techniques to gather data. A deeper understanding of the student's conceptualization of information literacy is needed as a critical aspect of research related to information literacy. Given the diversity of the models and settings in which the information literacy instruction occurs, researchers need to design and structure their research according to the environment and the context that they are examining.

2.6 INFORMATION LITERACY IN KUWAIT AND THE GCC

In the Arab world, there are two major obstacles for the advancement of library science education. One obstacle is the level of access to education; the other obstacle is the quality of education offered (Bou Jaoude, 2006). Outdated teaching methods and curricula still exist in

some countries. The overemphasis on teaching through memorization is a barrier to creative and critical thinking among students.

The GCC countries of the Kingdom of Saudi Arabia, the United Arab Emirates, the State of Kuwait, Qatar, the Sultanate of Oman, and the Kingdom of Bahrain have oil-rich economies, homogeneous populations, and are linguistically and culturally similar. Almost all share the same educational systems and have comparable literacy rates (GCC, 2013). These countries have invested greatly in their education systems, especially in their higher education institutions. In Kuwait students are expected to enroll in post-secondary study, which is provided by the government. Students have the option of choosing to study in either a public or private institution. In addition to traditional government-based universities and colleges, new private colleges and universities have been established across all GCC countries over the past ten years. These private universities have formed affiliations and partnerships with institutions from across the globe from the U.S. to Australia.

Figure 8. The Gulf Cooperation Council (GCC) Member States (http://www.fanak.com)

LIS education in the GCC countries is underdeveloped, with Kuwait being the leader in providing LIS education. A close examination of Kuwaiti programs provides an example of the future of LIS education in the GCC. A profile of LIS programs in the GCC indicates that LIS education at the master's level is offered at only two schools: one in Saudi Arabia and one in Kuwait. The MLIS program at Kuwait University is the only program offering instruction in English, and it follows the model of the ALA-accredited LIS programs in the U.S. Schools in Qatar, Oman, Bahrain and the United Arab Emirates offer LIS education at the bachelor's level and several schools offer a two-year diploma. (Hunt & Birks, 2004)

In the United Arab Emirates (U.A.E.) there is no formal LIS program, although a strong IL initiative is underway. Universities such as the American University of Sharjah and Zayed University have made efforts to ensure that IL competencies are met at their institutions. ACRL

recently recognized Zayed University as one of the top ten institutions worldwide for its efforts in promoting information literacy. Birks and Hunt note that “A common barrier to integration with the curriculum is different perceptions on campus of what the term 'information literacy' means.” (Hunt & Birks, 2004, p.31)

Qatar offers an LIS program at the bachelor’s level at Qatar University. The Qatar Foundation’s Education City now has universities such as Weill Cornell Medical College, Texas A & M University, Virginia Commonwealth University, Carnegie Mellon University, Georgetown University, and Northwestern University on campuses in Doha, Qatar. These U.S.-based universities in Qatar must meet the same national accreditation standards as they would in the United States, which include an information literacy standard (Qatar Foundation Website, 2013).

Kuwait has also witnessed the development of private universities that are affiliated with prestigious universities in other countries. The American University of Kuwait is affiliated with Dartmouth College; the American University of the Middle East is affiliated with Purdue University; and the Gulf University for Science and Technology is affiliated with the University of Missouri. The Australian College of Kuwait has various affiliations with wholly-owned Australian governmental training institutions: the University of Tasmania, the Tasmania Polytechnic, the Central Institute of Technology in Western Australia, the Kangan Institute in Victoria, and Skills Tech Australia (Brisbane) (Australian College of Kuwait, 2013). Because of their national affiliations, these universities located in Kuwait must meet the accreditation standards of their countries to maintain their affiliations and continue operating. A close examination of the accreditation standards indicates that information literacy is an important standard for accreditation that needs to be met.

Universities in the GCC have evolved and grown, and the requirement to educate information-literate students is critical for the survival of these institutions. As a result IL instruction is expanding in these universities. As "information literacy" evolves as a concept over the years in terms of definitions, development of programs, development of competency standards, and models, it becomes critical that institutions keep pace with this evolution. Development, incorporation, and application of information literacy across all educational levels and systems is imperative for the survival of institutions and individuals. More so in the GCC countries and the Arab region where there is a lack of research and implementation of information literacy practices. This effort can be achieved only through support and collaboration from the highest national levels to the stakeholders involved in the process.

3.0 METHODOLOGY

3.1 RESEARCH QUESTIONS

The purpose of this study was to highlight the experiences that help shape the concepts, definitions, and development of information literacy skills of students attending public and private universities in the State of Kuwait. Furthermore, this study examined the role of information literacy standards in the curriculum and if these standards have had an effect on the understanding and valuing of information literacy instruction on these students.

Two research questions guided this research study:

- How do undergraduate students enrolled in public and private universities in the State of Kuwait describe their concepts of information literacy and the value they place on information literacy before they begin a research project and after they complete the research project, and if these change, how do they change by the end of the research process?

- How do the concepts and valuing of information literacy of these undergraduate students compare with three of the Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education? How are students able to demonstrate that they have met these three selected information literacy standards in their completed research project?

3.2 METHODOLOGICAL STRATEGY

This exploratory study used qualitative methodology to answer these research questions. Qualitative research seeks to examine the stories or descriptions that illuminate how people behave in the world. Naturalistic research attempts to conduct studies that approximate natural, uncontrived conditions and can lead to research results that shed new light on new areas of behavior. Naturalistic research raises some difficult philosophical issues and practical problems as well (Wildemuth, 2009, p. 63).

When it comes to naturalistic research there is a tension between naturalism and positivism as modes of inquiry (Park, 1994; Potts & Newstetter, 1997) the table below highlights the positivistic versus the naturalistic views of research:

Table 1. Positivistic Versus Naturalistic Views of Research (Wildemuth, 2009)

Positivistic (rationalistic) view	**Naturalistic view**
Most actions can be explained by real (temporally precedent or simultaneous, manipulable, probabilistic) causes.	Cause and effect are intertwined; all entities interact and shape each other (feedforward and feedback)
Context-free generalizations can be developed and form a consistent body of knowledge	Working hypotheses, closely bound to specific, individual cases, help illuminate particular contexts.
The scientist and the participant or object of inquiry are independent.	The scientist and the participant or object of inquiry are mutually dependant-inseparable.
A single observable reality exists and can be divided into specific variables, which in turn can be studied, controlled, and predicted.	Reality is made of multiple individually constructed view-points that can be only partially understood.
Scientific inquiry is value-free.	Scientific inquiry is value-bound.

Narrative inquiry is a way of understanding one's own and other's actions, of organizing events and objects into a meaningful whole, and of connecting and seeing the consequences of actions and events over time. Narrative inquiry was ideal for this study because it captured firsthand the students' feelings and experiences about the research process and how they view and conceive information literacy. Among the first researchers to present the idea of using oral narrative experiences as worthy of study were Labov and Waletzky (1967) who recognized the following sociolinguistic features of oral narratives:

1. Orientation, which informs the listener about actors, time, place, and situation.
2. Complication, which is the main body of the narrative, represents the action.
3. Evaluation is explained as the point of the story.
4. Resolution becomes the result of the action.
5. Coda, which returns the listener to the current moment.

Unstructured interviews offer a constructivist perspective of social reality and fit well with this research. For the researcher to make sense of the participant's world, she must approach the participant's own perspectives and in the participant's own terms (Denzin, 1989; Robertson & Boyle, 1984). The goal of inquiry is theory development, rather than theory testing; therefore, no hypothesis is made beforehand. (Zhang & Wildemuth, 2009).

Document analysis provides useful data on the research process itself. Lincoln and Guba (1985) identified a document as "any written or recorded material that was not prepared specifically in response to a request from the inquirer" (p. 277). In this study the students were required to provide a final research project paper for document analysis. The researcher developed a rubric for this study based on Bloom's Taxonomy, the Valenza Rubric for Research, and the ACRL Information Literacy Competency Standards for Higher Education. The research

project of each student in the study was analyzed using the developed rubric (Appendix F) to determine if some of the core information literacy competency standards are achieved by each student. The analysis focused on the following competencies: retrieval, selection, and evaluation of resources (Standard 2); the analysis of information (Standard 3); and the documentation of resources (Standard 5).

3.3 NVIVO 10 AS DATA ANALYSIS SOFTWARE

NVivo10 (2013) for Windows from QSR International is software used in qualitative research to organize unstructured information and look for emergent themes and patterns that exist. This software was selected for use in this study because it supports qualitative and mixed methods research by collecting, organizing, and analyzing data from interviews, focus group discussions, surveys, audio, and social media. The student interview responses and faculty interview responses were translated, transcribed, and coded before being imported into NVivo (Version 10) for analysis.

The use of "nodes" in NVivo allows for the visualization of emergent trends, themes, and ideas among the student responses and the faculty responses. A node in NVivo refers to a code; nodes were created in NVivo to highlight emergent themes and patterns. The data from all the interviews were reviewed and refined and the nodes that emerged were used to examine the relationships that existed throughout running code queries, text queries, and word frequency queries. The use of cluster analysis, tree maps, word trees, and cloud maps were used to interpret and examine those relationships and themes that existed in the data, a detailed explanation of which is found in Chapter 4.

The interviews with each student were translated and transcribed for data analysis using the software NVivo 10. Half of the interviews (Cohorts A & B) were conducted in Arabic, as requested by the students who felt more at ease in expressing themselves in Arabic. Before transcription, these interviews were translated and verified for consistency and validity by two independent external translators. The first translator was an employee of the National Center for Education Development with a master's degree in Translation and Teaching English as a Second Language (TESOL). The second was a faculty member teaching at the Private University instructing Arabic to non-Arab speakers.

The rubric developed for this study was used to measure students' performance of research based on Standard Two, Standard Three, and Standard Five of the ACRL Competency Standards. The pre-instruction and post-instruction interviews and project completion structure were effective in identifying how students think and feel about the research process before and after they had received instruction. According to the Zone of Proximal Development, this allowed an assessment to identify if the role of instruction had an effect on the way students understand information literacy and how they define it at the start of an information literacy course and after completing the course.

3.4 POPULATION

In Kuwait, secondary students attend either public or private high schools. Public schools, sponsored by the government, conduct classes in Arabic. Private schools, for which students are charged tuition, conduct classes in English. Participation in some form of post-secondary

education upon graduation from secondary school is expected of graduates and is supported by the government.

The subjects of this study were undergraduate students (males and females) attending public and private universities in the State of Kuwait, who were enrolled in a designated information literacy course in the fall term 2012. Four cohorts (A, B, C, and D), each containing six students, were studied (2 cohorts from a public university and 2 cohorts from a private university). The students in each cohort represented a different discipline and were instructed in either Arabic or English. The two common factors among all cohorts were that all students received information literacy instruction and instruction occurred in a gender-segregated teaching environment.

Random sampling was used to select six undergraduate students in each of the four cohorts (3 males and 3 females). Random (probability) sampling has two characteristics. One, is that "every element of the population of interest has a nonzero probability of being selected in to the sample" (Pedhazur & Schmelkin, 1991, p. 321). This is important because the data analysis that was conducted relied on knowing the probability with which each element could be included in the sample. The second characteristic is that the elements can be selected randomly at some point in the process (Czaja & Blair, 2005; Pedhazur & Schmelkin, 1991). Although random sampling may seem haphazard, it does provide a systematic process of selection that is based on the theory of probability and helps avoid bias in the sample. Simple random sampling was used to select the participants within each cohort. Using student's identification numbers in a spreadsheet, a randomizer program generated a random selection of students from each cohort. The total number of student subjects was twenty four.

3.5 PARTICIPANTS

The participants for this study were divided into four different cohorts: students in Cohort A and Cohort B attended a public university, and students in Cohort C and Cohort D attended a private university. The following table explains the four cohorts and highlights the number and gender of participants from each cohort and the language of instruction.

Table 2. Overview of Public and Private University Cohorts

	Public University		**Private University**
Cohort A	Instruction Language: Arabic 3 Males 3 Females 	**Cohort C**	Instruction Language: English 3 Males 3 Females 
Cohort B	Instruction Language: English 3 Males 3 Females 	**Cohort D**	Instruction Language: English 3 Males 3 Females 

3.5.1 The Public University

Established in 1966 as co-educational, the public university is considered the largest academic institution in the State of Kuwait. Initially 418 students were enrolled; by 2013, 38,253 students were enrolled with a total of 3,994 faculty members across 16 colleges. Future plans for the public university include a massive ten-year project to build a new campus that will accommodate 40,000+ students with gender-segregated facilities and instruction. In 1996, the Kuwaiti Parliament was controlled by Islamists and conservatives who passed legislation to segregate males and females at all public institutions of higher education. In 2000, the Kuwaiti Parliament passed another modification of the legislation to include gender segregation in all classrooms in all private universities operating in the state of Kuwait. The public university consists of several colleges ranging from medicine, business administration, and the arts and sciences with colleges being established from its founding through the most recent in 2004.

3.5.1.1 Cohort A-The Public University

Background/Setting:

The College with Cohort A students at the public university was established in 1998, and includes five departments offering undergraduate Bachelor of Arts degrees and post-graduate degrees in the Humanities. In 2012 the college had an enrollment of 2,800+ students, with a faculty of 98 across its five departments. The college includes 6 computer laboratories in addition to specialized laboratories and work areas.

All students in Cohort A were undergraduates who must meet a graduation requirement of successfully completing a credit-bearing information literacy course that teaches students how

to conduct research. Twelve sections are offered each semester. This class met twice a week with the professor who is a full-time faculty member, and meets once a week with a teaching assistant or part-time adjunct who teaches the laboratory portion of the class. The professor taught a lecture-style class, and the adjunct faculty taught the application aspect of the course. The grading was shared by the professor and the adjunct in this cohort. The female section met three times a week with a professor who is a full-time faculty member, and once a week with a teaching assistant or part-time adjunct who taught the laboratory. The male section met twice a week with a faculty professor and once a week with an adjunct faculty member for the laboratory. Although the female section met three times a week and the male section two times a week the number of classroom hours was the same for both sections. The grading was shared by the professor and the adjunct for Cohort A.

Table 3. Cohort A Class Structure

Cohort A Public University	Instructor	Class Schedule	Number of Students in Class	Gender of Students	Language of Instruction	Grading
PUU.A.FS Female Section	Faculty Professor and Adjunct/Teaching Assistant	Meets 3x/week with Professor; 1x/week Laboratory with TA	25	Female	Arabic	Professor only, class sessions; Professor and TA, Laboratory
PUU.A.MS Male Section	Faculty Professor and Adjunct/Teaching Assistant	Meets 2x/week with Professor; 1x/week Laboratory with TA	23	Male	Arabic	Professor only, class sessions; Professor and TA, Laboratory

Student Profile:

Students entering this College are primarily graduates of the public high school system, which is operated by the government. All six students in Cohort C were Kuwaiti nationals with some basic command of English. Acceptance into the university is competitive; students undergo rigorous academic testing as part of the admission process. Tuition is free for nationals, and expatriates pay a minimal fee for enrollment. Language instruction is primarily in Arabic.

Table 4. Cohort A Student Profile

	Gender	Age	High School	Nationality	University	Language of Instruction	Language of Interview	Document Language
Cohort A	A_F_1	19	Public	Kuwaiti	Public	Arabic	Arabic	Arabic
	A_F_2	20	Public	Kuwaiti	Public	Arabic	Arabic	Arabic
	A_F_3	20	Public	Kuwaiti	Public	Arabic	Arabic	Arabic
	A_M_1	28	Public	Kuwaiti	Public	Arabic	Arabic	Arabic
	A_M_2	20	Public	Kuwaiti	Public	Arabic	Arabic	Arabic
	A_M_3	24	Public	Kuwaiti	Public	Arabic	Arabic	Arabic

3.5.1.2 Cohort B-The Public University

Background/Setting:

The College with Cohort B students was established in 1966/1967, and includes eight departments. Currently there are 3,000+ students enrolled at the Cohort B College, which has a faculty of 191. The College awards undergraduate, master's and PhD degrees. The main language of instruction is English with some instruction conducted in Arabic.

The students in Cohort B were offered an elective course in information literacy instruction. The course was a required class, but recently had been offered as an elective class. Two sections are offered each semester, and the primary language of instruction is English. This course is open to all students attending the college in Cohort A as well. This course was a requirement for all Biological Science students, but in 2008/2009 the course became an optional/elective class.

This class met twice a week with a professor who is a full-time faculty member and once a week with a teaching assistant or part-time adjunct who taught the laboratory portion of the class. The professor taught a lecture-style class, and the adjunct taught the application aspect of the course. The grading was shared by the professor and the adjunct in Cohort B.

Table 5. Cohort B Class Structure

Cohort B Public University	Instructor	Class Schedule	Number of Students in Class	Gender of Students	Language of Instruction	Grading
PUU.B.FS Female Section	Faculty Professor and Adjunct/Teaching Assistant	Meets 2x/week with Professor; 1x/week Laboratory with TA	12	Female	English	Professor only, class sessions; Professor and TA, Laboratory
PUU.B.MS Male Section	Faculty Professor and Adjunct/Teaching Assistant	Meets 2x/week with Professor; 1x/week Laboratory with TA	5	Male	English	Professor only, class sessions; Professor and TA, Laboratory

Student Profile:

Students enrolled in this College were from the Kuwaiti public high school system. The majority of these students came with a strong foundation in mathematics and science and have some level of English proficiency because the language of instruction is both English and Arabic. Their command of English was basic, but they underwent academic testing and evaluation before entrance into the College. All students in Cohort B were Kuwaiti nationals.

Table 6. Cohort B Student Profile

	Gender	Age	High School	Nationality	University	Language of Instruction	Language of Interview	Document Language
Cohort B	B_F_1	20	Public	Kuwaiti	Public	English	Arabic	English
	B_F_2	19	Public	Kuwaiti	Public	English	Arabic	English
	B_F_3	19	Public	Kuwaiti	Public	English	Arabic	English
	B_M_1	20	Public	Kuwaiti	Public	English	Arabic	English
	B_M_2	20	Public	Kuwaiti	Public	English	Arabic	English
	B_M_3	19	Public	Kuwaiti	Public	English	Arabic	English

3.5.2 The Private University

In the early 2000s, the State of Kuwait provided the opportunity for private universities to form and be developed. The Private University was established in 2003 and is based on the American model of higher education. In 2012, undergraduate enrollment was 2,150 students. Private University gained accreditation from the Private Universities Council, Ministry of Education, State of Kuwait in 2006 and again in 2008. There are 117 international faculty members, and the Private University offers 13 undergraduate degree programs, with a relatively small class size of 10 students per class. Because it is a private university, tuition fees are high. To alleviate the pressure and high enrollment at the Public University, in academic year 2006-2007 the Ministry of Higher Education began awarding internal government scholarships to high school graduates to encourage them to attend Private University. The primary language of instruction is English

with the exception of six credit hours of Arabic Language required as one of the general education requirements.

3.5.2.1 Cohort C-The Private University

Students in the Cohort C program who passed the required English language test entered the undergraduate academic program automatically. They began their academic career with the foundational courses of general education. The Private University website states “General Education marks the beginning of the student's journey towards civic responsibility, leadership and the propensity for lifelong learning.” Students at the Private University must complete 51 credit hours of general education requirements within the first two years of their academic program.

Student Profile:

Students enrolled in Cohort C had a good command of English and were either freshmen or sophomores at the University. They had passed the first English general education requirement and were preparing themselves to begin coursework and research in their selected majors. Their instruction was in English. This course focused on performing research. In Cohort C, there were three Kuwaiti nationals and three non-Kuwaiti nationals who were Arab nationals. One of the six students in this cohort attended a public high school, four attended private high schools with based British-based curriculum, and one attended a private high school based on American curriculum.

Table 7. Cohort C Student Profile

	Gender	Age	High School	Nationality	University	Language of Instruction	Language of Interview	Document Language
Cohort C	C_F_1	29	Public	Kuwaiti	Private	English	English	English
	C_F_2	20	Private/British	Kuwaiti	Private	English	English	English
	C_F_3	21	Private/British	Non-Kuwaiti	Private	English	English	English
	C_M_1	22	Private/American	Kuwaiti	Private	English	English	English
	C_M_2	19	Private/British	Non-Kuwaiti	Private	English	English	English
	C_M_3	19	Private/British	Non-Kuwaiti	Private	English	English	English

Background/Setting:

The class for Cohort C students met three times a week, and sometimes the class met in the library. Students engaged in classroom discussions and reading related to current events and topics, and they wrote reaction papers based on these topics and readings assigned in the class. The core components of the class included searching, reading, analysis and writing.

Table 8. Cohort C Class Structure

Cohort C Public University	Instructor	Class Schedule	Grading	Number of Students in Class	Gender of Students	Language of Instruction
PRU.C.C Female and male sections Combined	Faculty Professor	Meets 3x/week with Professor Only	Professor	15	Female and Males	English

3.5.2.2 Cohort D- The Private University

Students in Cohort D were enrolled in a research methods class that was discipline specific and titled "International Organizations." They had completed the general education requirements needed within the first two years of their academic program. The class met twice a week and offered the students instruction on retrieval, analysis, and writing in the specific discipline.

Student Profile:

Students enrolled in Cohort D had a good command of the English language and were in either their sophomore or junior year at the University. They had completed and passed the first two English general education requirements and were preparing themselves to begin academics and research in their selected majors. Two of the students in Cohort D came from the public high school system, two students from the private American-based system, and two from the private British-based system. Cohort D had two non-Kuwaiti (Arab) nationals and four Kuwaiti

nationals. The English language level of these students was high, and instruction at this level was in English.

Table 9. Cohort D Student Profile

	Gender	Age	High School	Nationality	University	Language of Instruction	Language of Interview	Document Language
Cohort D	D_F_1	23	Private/American	Non-Kuwaiti	Private	English	English	English
	D_F_2	20	Private/English	Kuwaiti	Private	English	English	English
	D_F_3	19	Private/English	Kuwaiti	Private	English	English	English
	D_M_1	22	Public	Kuwaiti	Private	English	English	English
	D_M_2	31	Private/American	Kuwaiti	Private	English	English	English
	D_M_3	21	Public	Non-Kuwaiti	Private	English	English	English

Background/Setting:

The Cohort D class met twice a week with the professor. This class consisted of 15 students and had one instructor because the female and the male sections were combined. Instruction and all student work was conducted in English.

Table 10. Cohort D Class Structure

Cohort D Public University	Instructor	Class Schedule	Number of Students in Class	Gender of Students	Language of Instruction	Grading
PRU.D.C Female and male sections combined	Faculty Professor	Meets 2x/week with Professor Only	15	Female and Males	English	Professor

3.5.3 Faculty Role

The faculty for each cohort plays an important role in this study. The researcher met individually with the six instructors to explain the study and the procedures to be applied before instruction of the information literacy course began. The study did not interfere with the instructional program and the faculty/instructors were not affected. At the end of the semester when all instruction was completed and the final grades had been posted, the researcher conducted a 30-minute interview with each of the six instructors. The post-information literacy interview questions for the faculty/instructor (Appendix G) focused on reflection and recommendations from the instructors on instruction, curriculum development, and design for these courses. Feedback from the instructors allowed for the identification of gaps in curriculum

design and instructional strategies and provided insight for future planning of instruction and curriculum design.

Table 11. Faculty Interview Coding Cohorts A and B

Cohort	Female Section	Faculty Gender	Male Section	Faculty Gender
A	A_Prof_F	F	A_Prof_M	F
B	B_Prof_F	M	A_Prof_M	M

Table 12. Faculty Interviews Coding Cohorts C and D

Cohort	Female Section	Faculty Gender	Male Section	Faculty Gender
C	C_Prof_F	F	C_Prof_M	F
D	D_Prof_F	F	D_Prof_M	M

3.6 DATA COLLECTION

In the spring term 2012, prior to data collection a letter was sent to the deans of the colleges via e-mail and hard copy to request permission to conduct research (Appendix B) at the selected universities. The data collection process began after receiving permission from each university to

conduct research. The data were collected over several periods during the fall semester of 2012. The student interviews were conducted one-on-one with the students. The pre-instruction interviews were held in the first two weeks of the fall term 2012. The researcher generated a random listing of students for the study with the assistance of course instructors. The researcher visited each class prior to the interview date and was introduced by the course instructor as a PhD candidate performing research on information literacy. The selected students were requested to submit an e-mail address and a telephone contact number by which they could be reached by the researcher.

Interview dates were set with the selected students within the first two weeks of the term. All the interviews were conducted on the campuses of the Public University and the Private University. The researcher conducted all the interviews in person. At the Public University, a private meeting room was assigned to the researcher for interview use. At the Private University, one of the library study rooms was assigned and reserved for the use of the researcher to conduct the interviews in total privacy and anonymity. The post-instruction interviews were conducted with the same selected students who were still enrolled in the class at the culmination of the course after the final grades had been submitted.

3.6.1 Student Pre-Instruction and Post-Instruction Interviews

Using the elements of narrative inquiry approach, two semi-structured interviews were conducted with each of the twenty-four students, and each interview lasted approximately 20-30 minutes. The first interview took place within the first two weeks of the semester and focused on the student's experience with research. The interview schedule (See Appendix E) guided the discussion to help illuminate how the student viewed, experienced, and conceptualized the

research process in both the high school university settings. At the end of the first interview session, the researcher introduced the term “information literacy” and asked the student to reflect and think about the term and what it means. The second interviews were conducted at the culmination of the course. The students who completed the pre and post-interviews received Al-Shaya Gift Card (Valued at KWD 10 equivalent to USD 30), redeemable at any of the Al-Shaya outlets. (Appendix H)

3.6.2 Student Document Analysis

Each student was required to write a research paper. The researcher collected each participant's paper for document analysis using the Research Project Analysis Rubric (See Appendix F). The rubric was developed using the ACRL Standards, Bloom’s Taxonomy, and the Valenza Rubric for a Research Project. The second and final interview was held after completion of the information literacy class and the submission of the final research project. Each student who completed the pre-instruction and post-instruction interviews submitted a hard copy of his or her final research paper to the researcher at the post-instruction interview. During the second interview, the researcher asked students to reflect on their individual personal experiences of the research process within the course and what information literacy meant after completing the course.

3.7 DATA ANALYSIS AND CODING

In naturalistic inquiry, data collection and data analysis integrated into a single activity. In-depth interviews were conducted with participants. These in-depth interviews involve a “certain style of social and interpersonal interaction" (Johnson, 2002, p. 104). The students sat for two interviews each lasting one half hour: one at the start of the semester and the other at the end of the term. The interview questions were pilot tested in the spring term of 2012 with one female and one male student from each cohort for consistency and validity before the start of the study in the fall semester of 2012.

Table 13. Student Interview Coding Structure

Cohort	**Males**	**Pre-Interview**	**Post-Interview**	**Females**	**Pre-Interview**	**Post-Interview**
Cohort A	A_M_1 A_M_2 A_M_3	30 minutes 30 minutes 30 minutes	30 minutes 30 minutes 30 minutes	A_F_1 A_F_2 A_F_3	30 minutes 30 minutes 30 minutes	30 minutes 30 minutes Withdrew
Cohort B	B_M_1 B_M_2 B_M_3	30 minutes 30 minutes 30 minutes	30 minutes 30 minutes 30 minutes	B_F_1 B_F_2 B_F_3	30 minutes 30 minutes 30 minutes	30 minutes Withdrew Withdrew

Cohort C	C_M_1 C_M_2 C_M_3	30 minutes 30 minutes 30 minutes	30 minutes 30 minutes 30 minutes	C_F_1 C_F_2 C_F_3	30 minutes 30 minutes 30 minutes	30 minutes Withdrew Withdrew
Cohort D	D_M_1 D_M_2 D_M_3	30 minutes 30 minutes 30 minutes 360 minutes	30 minutes 30 minutes Withdrew 330 minutes	D_F_1 D_F_2 D_F_3	30 minutes 30 minutes 30 minutes 360 minutes	30 minutes 30 minutes 30 minutes 210 minutes

The researcher conducted the pre-instruction and post-instruction interviews and recorded these interviews for further analysis. A total of 24 pre-instruction interviews were conducted, and a total of 18 post-instruction interviews were conducted at the end of the term. Six of the initial 24 students selected for the study withdrew from the course that term. Reasons given for withdrawals from the classes are explained in more detail in Chapter 4. Student research projects provide a useful and valuable source of data for analysis. Document analysis of a research project further indicated if the students attained some of the core competency standards of information literacy. The final research project was collected at the end of the term and was assessed using the rubric developed for this study. (See appendix F) The document analysis determined if the students were applying what they learned from the information literacy course, if the ACRL standards were reflected in their work, and if these standards shed more light on the

students' definitions of information literacy. Table.14 reflects the researcher's timeline of the entire research process:

Table 14. Timeline of the research process

May 2012	-Pilot test Pre and Post-instruction interviews with students
June 2012	-IRB Approval
September 2012	-Pre-Instruction Interviews Cohorts A, B, C, & D
October 2012	-Translate, transcribe, and code Cohorts A & B pre-instruction interviews
November 2012	-Transcribe and code Cohorts C & D pre-instruction interviews
December 2012	-Post-Instruction interviews Cohorts A, B, C, & D
January 2013	-Faculty Post-instruction interviews -Collection of student documents
February 2013	-Translate, transcribe, and code Cohorts A & B Post-Instruction interviews
March 2013	-Transcribe and code Cohorts C & D Post-Instruction Interviews -Transcribe and code faculty interviews
April 2013	-Upload all interviews (Students and Faculty) to NVivo
May 2013	-NVivo analysis of students pre-instruction interviews
June 2013	-Nvivo analysis students post-instruction interviews
July 2013	-NVivo analysis of faculty interviews
August 2013	-Student document analysis using the developed rubric.
September-October 2013	-Data analysis and writing

3.8 TRUSTWORTHINESS

In qualitative research, trustworthiness incorporates several factors of reliability, validity, generalizability, and triangulation. Trustworthiness can be defined as “Demonstration that the evidence for the results reported is sound and when the argument made based on the results is strong.” Krefting (1991) suggested four criteria to ensure valid interpretation of data: truth value, applicability, consistency, and neutrality.

For reliability through the sampling and selection of students, the researcher made an effort to interview a diverse group of both female and male students in a gender-segregated study environment. The time between the pre-instruction and post-instruction interviews gave the students time to explore and engage in information literacy instruction throughout the course of one semester. Qualitative research is viewed as dynamic and interactive, according to Gubrium and Holstein; it cannot be and should not be replicated (Gubrium & Holstein, 1997).

Validity of the data refers to whether the findings of a study are true and certain—“true” in the sense that research findings accurately reflect the situation, and “certain” in the sense that research findings are supported by the evidence (Guion, Diehhl & McDonald, 2002). In qualitative research, researchers are "more interested in authenticity than validity" (Neuman, 2003). The aim of this research was to ascertain a fair and balanced representation of the student's first-hand experience with the research process and understanding of information literacy.

Triangulation is a method used by qualitative researchers to check and establish validity in their studies by analyzing a research question from multiple perspectives. According to Patton (2002), "it is a common misconception that the goal of triangulation is to arrive at consistency across data sources or approaches; in fact, such inconsistencies may be likely given the relative

strengths of different approaches." Member checking, also referred to as member check or respondent validation, often used in qualitative research, takes summaries of findings back to the key participants in the study and asks them whether the findings provide an accurate reflection of their experiences (Creswell & Clark, 2011). In this study, member checking was conducted by the researcher with the students and faculty members during the interview process in both the pre-instruction and post-instruction interviews, and at the conclusion of the study. Any inconsistencies found in the pre and post-instruction interview responses were checked and verified by the researcher via telephone, e-mail, and personal meetings.

3.9 LIMITATIONS

This exploratory study examined the experiences of the undergraduate students attending a public university and a private university in the State of Kuwait through the research process, and how students conceptualized the term information literacy. Generalizations to the larger population of students at these two universities was not be possible. The data collected and gathered through the interviews were based on personal experiences, beliefs, and opinions that are unique to each individual student. In the interpretation of this qualitative data, the data are subject to the interpretation of the researcher and certain interpretations may vary from one researcher to another. Student interviews were translated, verified, and read by two external parties. The faculty interviews and student interviews underwent member checking to ensure that the interviews were recorded and interpreted in an accurate manner.

3.10 INSTITUTIONAL REVIEW BOARD (IRB)

The Institutional Review Board (IRB) of the University of Pittsburgh, which reviews and approves all research activities conducted by faculty, students, or staff of the University of Pittsburgh, received a copy of the proposal for this study after it was approved by the dissertation committee. Upon review of the proposal, the IRB gave the following recommendation regarding the Student Consent Form (Appendix D): "given that the study is to be conducted on undergraduate students who would be over 18 years of age, a signed consent is not necessary." Therefore, no signatures were required from the participants in this study. After making amendments to the signature clause on the Student Consent Form, it was resubmitted to IRB for final review and approval. This study was approved by IRB on June 27, 2012, and met all the necessary criteria for exemption (Appendix A).

4.0 DATA FINDINGS: INFORMATION LITERACY CONCEPTS AND STANDARDS

4.1 GENERAL OVERVIEW

This research was conducted to understand how undergraduate students form their perceptions and concepts of information literacy. The students through their personal pre-instruction interviews and post-instruction interviews, shared their responses of first-hand experiences in high school and college. Their stories and narratives reflected how they understood information literacy and what it meant to them. The student interviews were at the core of this study and presented a picture of how students understand IL and how they formed their conceptualization of the term information literacy.

The pre-instruction and post-instruction interview responses provided answers to the first research question:

- How do undergraduate students enrolled in public and private universities in the State of Kuwait describe their concepts of information literacy and the value they place on information literacy before they begin a research project and after they complete the research project, and if these change, how do they change by the end of the research process?

The researcher's document analysis of student research projects based on the rubric developed for this study provided answers to the second research question:

- How do the concepts and valuing of information literacy of these undergraduate students compare with three of the Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education? How are students able to demonstrate that they have met the three selected information literacy standards in their completed research project?

The post-instruction interviews the researcher conducted with the course instructors shed light on instruction and curriculum design and provided recommendations for further action. The post-instruction instructor interviews were transcribed and uploaded into the software Nvivo 10 for analysis.

4.1.1 General Overview of Coding Scheme

The coding scheme for the student pre-instruction and post-instruction interview responses followed an iterative coding process. In Nvivo each question was assigned as a parent node, and from within each parent node child nodes emerged leading to the major identified themes in this study. From the pre-instruction interviews 20 major parent nodes were identified and from the post-instruction interviews 10 major parent nodes appeared. The development of the coding scheme is highlighted for the students' pre and post-instruction interview responses:

Coding Scheme Development for the Students Pre-Instruction Interviews

High School Experiences

Questions (Parent node) → Child node Themes

Q.1 High school library exposure →Library assistance

Q.2 High school library organization
→Collections
→Online Databases

Q.3 Formal library instruction →Received
→Not Received

Student (s) Library Exposure and Instruction

Q.4 Location of resources →Uses the Internet
→Uses the library
→Uses Internet and Library

Student (s) Location of Resources

Q.5 Research projects →Topic selection
→Comfort level in research

Q.6 Resources →Print sources
→Online sources

Q.7 Online Databases →Remote access
→Database name

Q.8 Web Resources →Google
→Wikipedia

Student (s) Research Exposure

Q.9 Stages of research

Student (s) Location of Resources

Q.10 Citation Style Familiarity → APA, MLA
→ None

Student (s) Documentation

Coding Scheme Development for the Students Pre-Instruction Interviews

University Experiences

Questions (Parent Node) → Child node **Themes**

Q.1 Student Research Experiences
→Exposure
→No Exposure
Q.2 Previous Library Instruction on Research

Student (s) Research Experiences (Prior to enrolling in the class)

Q.3 Research assignments exposure

Q.4 Comfort level in Performing Research
→Personal searches
→University assignment searches

Q.5 Resource Documentation →Uses print sources
→ Uses online sources

Q.6 Comfort Level in University Assignments

Student (s) Research Assignments

Q.7 Search Process for Resources
→ Begins with the online databases
→Begins with the Internet

Q.8 Assistance →By the librarian
→By the instructor
→ From neither

Student (s) Research Process/ Location of sources

Q.9 University Libraries
→ Big, Overwhelming, fair, small

Q.10 Formal Instruction
→ Helpful/insightful
→ Not Helpful

University Libraries and Instruction

Coding Scheme Development for the Students Post-Instruction Interviews

Questions (Parent node) → Child node	**Themes**
Q.1 Exposure to the term Information Literacy →Some exposure →No exposure Q.2 Definitions of Information Literacy	Student (s) Definitions of information literacy
Q.3 Location of resources for personal use Q.4 Exposure to Information Literacy →High School →University	Student (s) comfort level in performing personal research
Q.5 Description of information literacy skills Q.6 Important information literacy skills	Important information literacy skills
Q.7 Information Literacy in Personal Life Q.8 High School and University Experiences →Events →People →Self	Student (s) development of information literacy skills (Influencers)
Q.9 Research process progression →Stages of research	Student (s) information literacy process
Q.10 Ideas and experiences →Class structure →Assignments and Exam	Experiences and ideas

4.1.2 General Overview of Pre-Instruction Interviews

The student pre-instruction interviews were conducted in the first two weeks of the fall term 2012. The randomly selected students were contacted by the researcher and a date and time was established for an individual meeting. All meetings were held in a private meeting room at the Public University and in a study room in the library of the Private University. The researcher explained the details of the study to the students and provided a consent form to them for their records (Appendix D). Each interview was recorded with the student's consent. The pre-instruction interviews examined the student exposure to research at the high school level and at the university level.

In Nvivo software, the term "node'" refers to a collection of references about a specific theme, place, person, or other area of interest. Node is also used to describe a code. Creswell and Clark define coding as ". . . the process of grouping evidence and labeling ideas so they reflect increasingly broader perspectives." (p. 208) The researcher applied an iterative approach to the coding. The nodes created in Nvivo were divided into broad topics, and, as the analysis progressed, these nodes were organized in hierarchies that moved from general topics at the top (i.e., the parent node) to more specific topics (i.e., child nodes). A "child node" is a node that emerges from the parent node and focuses on a specific sub-topic within the parent node. Figure 10 provides a screenshot of the node creation in NVivo for the pre-instruction student interview questions.

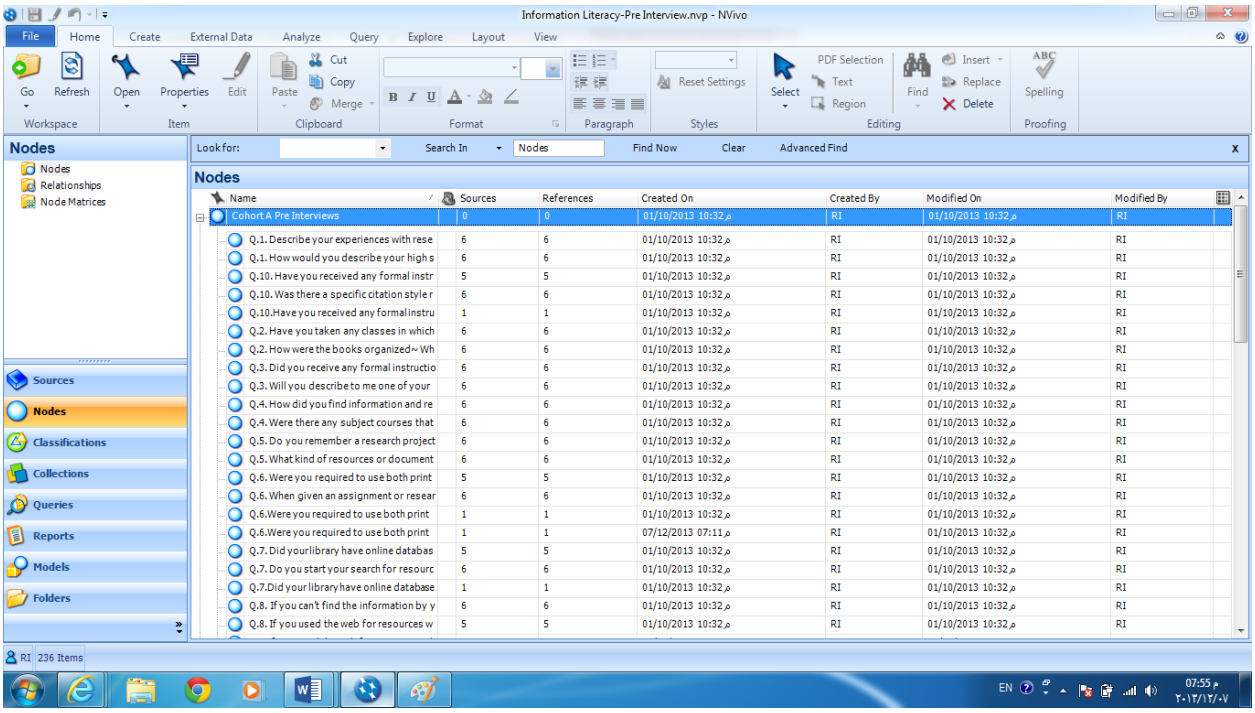


Figure 9. Sample screenshot of NVivo 10 initial Pre-Instruction interviews node creation

The data were cross-examined through several reviews by the researcher; by comparing student pre-instruction and post-instruction interviews, the codes were refined to examine the relationships that existed through running code queries, text queries, and word frequency queries. For data interpretation the researcher performed cluster analysis, tree maps, word trees, and cloud maps to examine those relationships and themes that existed in the data. As the researcher began the coding process, a unique coding scheme was developed; because this study was exploratory, it was difficult to apply any pre-existing coding schemes. In the researcher's review of the coded data on the pre-interview and post-interview questions, the following nodes emerged:

Pre-Instruction Interview: High School Experience

- Student (s) Library Exposure and Instruction
- Student (s) Finding/ Locating Resources
- Student (s) Research Exposure
- Student (s) Stages of Research
- Student (s) Documentation

Pre-Instruction Interview: University Experience

- Student (s) Research experiences (prior to enrolling in research class)
- Student (s) Research Assignments
- Student (s) Research process/Location of information sources
- University Libraries and Instruction

A total of 24 students participated from Cohorts A, B, C, and D in the pre-instruction interviews. The majority of students interviewed were in the 20-21 age range, representing 41% of the students (N=10), of whom 21% were females (N=6) and 16% were males (N=4). The next age group represented was the 18-19 age range, with 29% (N=7) of the participants, of whom 14% females (N=4) and 12% males (N=3). Two students were in the 25-29 age group (one male and one female) and one male student in the 30-34 age group. These students were returning students who at one point had left the university and joined the workforce before obtaining their university degree. Table.14 reflects the age and gender distribution of students who participated in the pre-instruction interviews across all cohorts.

Table 15. Age and gender distribution of students across cohorts Pre-Instruction interviews

Age Range	Female	Percentage	Male	Percentage	Total Students	Percentage of Students
18-19	4	14%	3	12%	7	29%
20-21	6	21%	4	16%	10	41%
22-24	1	4%	3	14%	4	16%
25-29	1	4%	1	4%	2	8%
30-34	---	---	1	4%	1	4%

4.1.3 General Overview of Post-Instruction Interviews

For the post-instruction interviews, a total of 18 of the 24 students completed these interviews. One female and five males did not complete the post-instruction interviews, because they had withdrawn from the class. These 18 students represent 75% (N=18) of the initial students, a total of 11 females and 7 males.

Table 16. Age and gender distribution of students across cohorts Post-Instruction interviews

Age Range	Female	Percentage	Male	Percentage	Total Students	Percentage of Students
18-19	4	17%	---	---	4	22%
20-21	5	28%	2	11%	7	39%
22-24	1	6%	3	17%	4	17%

25-29	1	6%	1	6%	2	8%
30-34	---	---	1	6%	1	4%

The six students who withdrew from the classes and did not complete the post-instruction interviews are reflected in the table below indicating their reason for withdrawal.

Table 17. Students who withdrew from the class and their reasons

Cohort	Student	Gender	Reason for Withdrawal
A	A_F_3	Female	Personal reasons
B	B_M_2	Male	English instruction a barrier
B	B_M_3	Male	Could not be reached for comment
C	C_M_2	Male	Full-time job and heavy workload
C	C_M_3	Male	Personal reasons
D	D_M_3	Male	Personal reasons

4.1.4 General Overview of Document Analysis

Student research documents were measured using a rubric developed by the researcher for this study (Appendix B). The rubric scale measured each student's application of Standard Two,

retrieval and selection of resources; Standard Three, analysis of information; and Standard Four documentation of resources. The scale matched the goal/objective within each standard and was assigned a numerical value.

3-Exceeds competency
2-Demonstrates competency
1-Does not demonstrate competency

The themes emerging from the document analysis were:

1) Student (s) information search process:
    a. Seeking, selecting , and evaluating
    b. Analysis
    c. Documentation

2) Student (s) application of the ACRL Standards.

A total of 18 documents were collected for analysis from the students who completed both the pre and post-instruction interviews. The table represents the number of papers submitted by each cohort and the gender of each student.

Table 18. Document analysis overview

Cohort	Documents	Female	Male
A	5	2	3
B	4	3	1
C	4	3	1
D	5	3	2
Total	**18**	**11**	**7**

4.1.5 General Overview of Faculty

Six faculty members were interviewed after the completion of all instruction and grading. Cohort A had two female faculty members, A_Prof_F taught the female section and A_Prof_M taught the male section. Both Cohort A faculty members held a PhD degree in Library and Information Science. Cohort B had two male faculty members, one for the male section and one for the female section. In Cohort C at the Private University, the male and female student sections were combined and there was one instructor for both the male and female sections.

Table 19. Faculty Profile

Cohort	Female Section	Degree and Discipline	Faculty Gender	Male Section	Degree and Discipline	Faculty Gender
A	A_Prof_F	PhD/LIS	F	A_Prof_M	PhD/LIS	F
B	B_Prof_F	PhD/LIS	M	A_Prof_M	PhD/LIS	M
C	C_Prof_F	PhD English	F	C_Prof_M	PhD English	F
D	D_Prof_F	PhD Political Science	M	D_Prof_M	PhD Political Science	M

4.2 THE PUBLIC UNIVERSITY COHORT A

4.2.1 Public University Cohort A Pre-Instruction Interviews (High School)

In examining the students' responses about their high school experiences, these responses seemed to cluster around specific themes or ideas. When asked about their exposure to libraries and library instruction, students also reflected on the availability of online databases, library organization, and the role of the librarian in instruction. All Cohort A students stated that although their high school libraries were small in size, the libraries were well organized and well stocked, primarily with books and magazines. Three students indicated that some resources were outdated. Student A_F_2 observed:

> Researcher: *How would you describe your high school library? Do you remember if the librarian helped you or taught you how to use the library resources?*
>
> Student A_F_2: *Our high school library was small and very well organized. The librarian played no role in instruction; it was all self-search and self-instruction.*

This response indicates that although the library was well organized, the students relied on teaching themselves on how to use the library. Learning how to search and use library resources was a self-discovery process for the students. Librarians functioned as "keepers" of the library and not as "advocates" of instruction. Instruction by librarians at the high school level in Cohort A students was minimal. Only one of the students attended a class about library and research skills:

> Student A_F_1: *We did not do a lot of research; we visited the library two times a week. There was an optional class on teaching library skills which I took, and the librarians used to help us with some research. I also used the public library for my research.*

Three of the students in Cohort A referred to an optional, elective course about libraries and research in high school, but did not enroll in this course; one student attended a high school that did not offer this course. Another important aspect for students was the availability of computers in the library. All students in Cohort A stated that there were computers in their high school library, but they seldom used them. Another child node represented online database exposure. All six students in Cohort A did not know what an online database was, and their high schools did not offer access to online databases. Library size, lack of instruction, and lack of online databases did not provide the students with the adequate basic skills needed to begin developing their information literacy skills.

Finding and selecting resources for research projects in high school and the use of online and print sources was the second identified theme. All students in Cohort A--both males and females--indicated that they always used the Internet to look for information. Students indicated that they used either Google or Wikipedia to find information.

> Researcher: *How did you find information and resources for projects?*
>
> Student A_M_1: *To find information I would first use the Internet, if I need more information I would then go to the library. I use Google to search for information on the net.*
>
> Student A_M_2: *I would start my search information on the net. I never used the library.*

These two responses from male students in Cohort A indicate that students perform their searches on the Internet where they feel most comfortable. They indicated that they would later search in the library. In several cases, they preferred to use the public library rather than their high school library because of ease and convenience. As reported by Eisenberg and Head in the

Project Information Literacy Report, undergraduate students on campuses start the research process on the Internet by using Google, Wikipedia, and social networks. Cohort A students, described as "Digital Natives" by Palfrey and Gasser, were most comfortable searching and browsing the Web. The Internet was their domain, it is where they felt comfortable (Palfrey & Gasser, 2008).

The next node focused on the stages of research. When students were asked to remember a research project from high school, two could not recall a single research project. The other four students remembered working on a research project in high school by using the public library to gather the information for their projects. These students indicated that they remembered these projects because it was their first time preparing a paper for which they had to use the library and obtain resources. Topics they remembered were Islam, Social Studies, Traffic, and Islamic Wars.

The stages of research constituted the next major theme from the high school research projects. Students were asked to reflect on and remember the stages they progressed through while they were performing research. Within Cohort A, only two students remembered these stages.

> Researcher: *Do you remember the different stages you went through to find information for a research project?*
>
> Student A_F_3: *Yes, I do remember the stages of research. I enjoyed the organizing of information aspect of it. The type of resources was not important as long as you had a completed project.*

Another student responded:

> Student A_M_1: *If you are talking about the scientific research method, we did not have that. It was all about gathering the information and putting it together. There was no real analysis required. Therefore, in my opinion, I did not follow any steps or go through any major stages in my research.*

Students had no recall of the research process in high school. This is a result of lack of instruction. The students had to learn the stages of research by themselves as they worked on projects and assignments.

Using documentation and familiarity with citation styles was another theme that emerged in the high school experience with research. Within this node, no Cohort A students knew what a citation was. They did not know that citation styles existed, with the exception of one student who had heard of citations and citation styles but believed that there was no major emphasis on using or applying them in high school papers and projects.

> Researcher: *Was there a specific citation style required by your teachers? If yes, which style was used?*
>
> Student A_F_3: *Citations were required but there was no specific style, we were not instructed on citations and how to prepare them.*

The students did not know what a citation was in high school. This was problematic because the students were not aware of plagiarism and its consequences. Students admitted using a "copy-paste" approach in high school because instructors in high school "didn't care" as long as a completed paper was submitted.

4.2.2 Public University Cohort A Pre-Instruction Student Interviews (University)

In the student responses to their university experiences prior to any information literacy instruction, the following nodes emerged: research experiences prior to the class, research assignments, research process and location of information sources, and university libraries and instruction. Both males and females in Cohort A expressed that they had very minimal exposure

to research and found it difficult to begin the research process when they entered the university. All but one student mentioned enrolling in at least one class in which they were required to conduct research and prepare a paper. When asked to describe their experiences with research before this class, students stated:

> Student A_F_2: *Before taking this class, I faced difficulty when doing research and it took me a long time to find resources. This class so far has helped me a lot, especially since the librarians are not always there for assistance.*
>
> Student A_F_1: *I am a psychology major, in my second year. It is here at the university that I am learning more about finding information and searching for resources especially from the laboratory portion of this class.*

The second node was related to assignments and how comfortable the students were in working on their projects and assignments. All students in Cohort A expressed comfort and confidence when given an assignment. In particular they were comfortable with the research paper for this class because they had the opportunity to select their own research topic as well as the flexibility to change the topic if they desired. When asked to describe one of their assignments that they remembered working on at university, two of the male students could not recall one. The other four (three female and one male) remembered the assignment and the topics they researched:

A_F_1 Explaining the Quran

A_F_2 Islamic Culture

A_F_3 The Elderly

A_M_3 Political Science

The fact that this assignment was still in their memories is attributed to many factors such flexibility in personal choice of topic, ease and availability of resources on the topic, and the student's general interest in the selected topic.

Student comfort level in performing research was another identified node in the pre-instruction responses. All students in Cohort A expressed a high level of comfort in performing research using the Internet. Although this interview was at the beginning of the semester, the students felt comfortable in conducting research because they had previously taken a class in which they conducted research and prepared a similar paper.

> Researcher: *Were there any subject courses where you felt more comfortable writing papers for than others? What were these courses and why did you feel more comfortable?*
>
> Students A_F_1: *I find myself more comfortable with psychology subjects and working on projects within my major, but this does not mean that my papers are better quality in psychology than they are in other subjects.*
>
> Student A_M_1*: I am a GIS student and I feel more at ease working on projects in classes that are within my major. Because the topic is more defined and the resources are more focused.*

When asked about specific subjects and the personal comfort level in performing research, all students were comfortable conducting research within their specific majors or in topics that interested them.

Research process and locating resources appeared as one of the main nodes. Three students from Cohort A stated that they always started their search for information on the Internet, then moved to the library catalog and the online databases at their university. The other three students started their research process first through the library catalog and online databases and searched the Internet for more sources. Other students preferred to search library resources first because they knew that eventually they would have to use university library resources.

> Student A_F_1: *My search starts at the university library looking for books, I then move my search to the online databases, and I leave the web sources to the very end.*

This pattern of searching for information on the Internet was confirmed by students again at the university. Having previously depended on the Internet for searches in high school, the students felt more comfortable continuing this process at university, but now were using the university library resources as well.

The final identified node within Cohort A in relation to the student university experience is the role of the university libraries and instruction. The university libraries were described by all students as being "big" and one student said the libraries were "overwhelming."

> Student A_F_1*: The university libraries are very big and sometimes overwhelming, but I have some positives and negatives about them. The positives are that they are big, comfortable, and have good resources. The negatives are lack of staff and assistance which makes the library not inviting.*

Instruction about searching and using the library resources was a critical theme in this study, and the researcher sought to determine if students had received any information literacy instruction, and if so, whether it was helpful to them. Cohort A students had not received any formal instruction either in a class or with a librarian about using the library and its resources. For Cohort A students, this class was the first class in which they learned about resources available to conduct research. Student A_F_3 stated:

> *I have not had library instruction before taking this class and I am in my third year of university. I should have taken this class in my first year of college since it's a required course. It would have made the steps of research much easier.*

Student A_M_2 stated:

> *My only formal instruction is through this class, it has been very helpful to me so far, I am in my second year and I think students should take this class by their second year at the latest.*

A common response from all Cohort A students in the pre-instruction interview was that although it was only the first two weeks of the term, the class thus far had been very helpful.

They all stressed that for students to benefit from this required course, it should be taken within the first two years of study. Cohort A students all agreed on the importance of enrolling in this class within the first or second year of their academic program.

4.2.3 Public University Cohort A Post-Instruction Student Interviews

The post-instruction interviews were conducted with Cohort A students at the culmination of the term after the final examination the submission of all assignments and the final grade assigned by the instructor. The post-instruction/reflection interviews were held in the private meeting room assigned at the Public University. All the interviews were conducted in Arabic, lasted 20-30 minutes, and were recorded. All post-instruction interviews were translated into English, transcribed and uploaded as Word text documents into NVivo 10 for coding and analysis.

In the pre-instruction interviews, the students did not discuss information literacy in their responses. The pre-instruction interviews focused on the experience of the students in conducting research in both the high school environment and in the university environment. At the end of the pre-instruction interviews, each student was introduced to the term information literacy and was asked to reflect about this concept as the term progressed. The post-instruction interviews focused on the student understanding and conceptualization of the term "information literacy."

From the coding in NVivo 10, the following themes emerged from the student responses in the post-instruction interviews:

- Student (s) definitions of information literacy
- Student (s) comfort in performing personal research
- Important information literacy skills
- Student (s) development of information literacy skills

- Student (s) information literacy process (i.e., retrieval, organization, citations)
- Experiences and ideas

In Cohort A, five of the six students were available for the post-instruction interview. One female student withdrew from all university classes for the semester due to personal reasons (pregnancy). The total responses from 2 females (A_F_1 & A_F_2) and 3 males (A_M_1, A_M_2, and A_M_3) revealed their understanding of information literacy within the emergent themes.

The term information literacy was introduced to the students at the end of the pre-instruction interviews. They were asked to reflect on this term throughout the semester and provide their understanding of them term after instruction was completed. At the post-instruction interviews, students were asked if they had heard the term information literacy before, and if they could describe it in their own words. Only one of the students indicated they had heard the term before, but was not quite sure what it meant. The remaining four students stated they had never heard the term before and it was totally new to them. When asked to define the term information literacy and what it meant to them, students responded:

> Student A_F_1: *It is about work, it is about searching about information and discussing it with your professor.*
>
> Student A_F_2: *To me it means research, how to organize the information and how to analyze it. I learned all this through the class. Working on this project really made me understand what information literacy is.*
>
> Student A_M_1: *What I got and I learned from this class totally changed how I view research. I now understand that there is more to doing research, it used to be simple but now I realize that it is a more complex process. To me information literacy means looking for resources that are valid and credible, and how to use them.*
>
> Student A_M_2: *To me after taking this class, it means to me how to retrieve the information from A-Z, the credibility of the source or the information. How to search and find information.*

> Student A_M_3: *Information literacy is first of all a defining topic, second using the library or the Internet, and searching for information on the topic, then stating the problem and posing questions about the problem and finding solutions.*

The students' sporadic and fragmented responses on defining information literacy indicate their lack of understanding of the term. The responses were not focused in scope but do indicate that the students were beginning to understand the term and make sense of it.

To establish if students felt comfortable performing online searches for personal information, the researcher asked if they felt this level of comfort in performing searches for research projects at the university level. All five students expressed a very strong confidence in their ability to perform online searches. Both males and females stated they would always search the Internet for information on personal purchases or for background information on a particular place or product.

> Student A_F_2: *Yes I always search for information before making purchases. Before this class I did basic shopping searches, but now I find myself doing more detailed searches. Also when it comes to doing research before taking this class I used to do a "copy-paste" of information. But now I understand that there is more to research and that the "copy-paste" approach will not work. I can now teach my friends how to perform research and how to find information.*

This student mentioned that through this class she had become more aware of how to conduct research, both from a personal perspective and from a university work perspective. She stressed that she had moved away from a "copy-paste" method of gathering information to a more analytical approach to research. She also indicated a level of confidence in which she felt comfortable in instructing her peers on how to find information. She mentioned:

> *Yes, I do feel comfortable to a certain degree I would say about 50% comfortable. I think it is because I doubt myself when I look for the information, but generally speaking I do feel comfortable in looking and finding information regarding purchases.*

Information literacy skills that were critical to the students was another identified node. As they developed their skills in their research class throughout the semester, the students realized that there were some critical skills that an information-literate person should possess. The students were asked what skills they thought were the most important for an information-literate student to possess. Among the important skills that the students mentioned were:

- Searching strategy
- Analysis and synthesis of the information
- Communication and organization of information
- Evaluation credibility and validity of information.

> Student A_M_1: *I think the most important skill is understanding and taking in the information, also the communication style in research and how to organize the information.*
>
> Student A_F_1: *The skills include a person's culture, the searching strategy, analysis, selection of information.*
>
> Student A_M_2: *In my opinion, an information-literate person should possess the skill of differentiating the credibility and validity of a source. How to read critically is also important.*

How the students used information literacy and how it influenced decisions they make in day-to-day activities as well as how they performed research for school was an important emergent theme. Within this node, all male and female Cohort A students admitted that they used information literacy skills in making simple and complex decisions in both their personal lives and in their school work.

> Student A_F_1 said: *Yes, information literacy skills have helped me in day-to-day activities and my in my analysis of certain situations and making decisions, both inside and outside of the class room.*

At the core of the nodes are perceptions of the students on the information literacy process of retrieval, organization, and documentation (i, e., citation of sources). Overall, the

students stated that the process itself was "straightforward" and with the support of the instructor (influencer), they were able to move through the process without much difficulty. Two students indicated that major obstacles they faced were the lack of remote access to the library resources and limited time to progress through the process.

> Student A_M_2: *My paper was a four-part paper for this class. The problems I faced were with remote access to the library resources. I had to be physically on campus to search them. Time was another factor. I was limited in time and I have a full load of classes this term.*
>
> Student A_M_1: *To me the process was straightforward and easy, because we had a great professor who explained how to do research, and was always available to help and assist us. I really did not have any difficulty and I did not encounter and obstacles in performing my research.*

The process of conducting research for these students was alleviated by the availability and the support of their instructor (influencer). The engagement and guidance of the two instructors was a high priority in leading Cohort A students through this process. The process models such as The Big6 and Kuhlthau's ISP models refer to the teaching of information literacy as a process. The students did not experience information literacy as a process; they could articulate parts of the process, but they could not describe the whole process in detail.

When asked to reflect on their experiences and if they had any ideas to share, all five students shared common ideas and feedback. The students felt that this class did not require a final exam because the learning process was cumulative and followed a process. They believed the course materials were also outdated and needed revision. Another important factor was the timing of enrolling in the information literacy instruction class. More than one student mentioned that it was important to enroll within the first two years of academic study. One student in his junior year stated had he taken this class earlier in his academic program it would have helped him with other classes. Another common shared response from the students regarded the

structure of the class. By having two instructors teach the class, the students found inconsistencies in both the instruction and content. The students stated that instead of the professor teaching the theoretical class and the adjunct teach the laboratory application, only one instructor should teach the class. This, they believed, would have created more consistency in the content and would have kept them focused on working with only one instructor.

> Student A_F_1: *This class does not need a final exam, also the curriculum is outdated and needs to be revised. The lab and the course should be integrated, it would be better if we have one course instructor for the course rather than 2 instructors.*

> Student A_M_1: *To me in my professional life, this research process will not really help me a lot. But I believe that the research process is important starting at the high-school level in order to prepare students for research at the university. In my opinion I think that there should be one instructor for the course, rather than a course instructor and a lab instructor.*

4.2.4 Summary of Public University Cohort A Pre and Post-Instruction Responses

Cohort A students received no instruction on using the library and its resources in high school. They used the terms "small," "well-organized," and "well-stocked" in describing their high school libraries. There were no online databases available in their libraries, and they were not aware of what an online database was. "Google" and "Wikipedia" were main tools used by the students for finding information for their assignments and projects. Cohort A students did not remember the stages of research and had no instruction and no knowledge of citations and citation styles.

At the Public University Cohort A students had not taken any classes prior to this information literacy class, but they displayed comfort in performing online searches related to personal information and information for their projects. Three Cohort A students began their

search process on the Internet and then searched the library and it its resources, the remaining three students always started their search process using the library and its resources gathered more information if needed from the Internet. These students viewed their university libraries as "big" and "overwhelming" creating a level of anxiety for them in starting the research process. None of these students received any formal instruction on using the library and its resources before enrolling in this class.

Cohort A students post-instruction interviews were conducted with five students (two female students and three male students). One of the female students withdrew from the class. In their reflections during the post-instruction interviews, the students used the following words to define information literacy "searching," "organizing and analyzing information," "evaluation of information," and "search and retrieval." The important information literacy skills that a person should possess were identified as; searching, analysis and synthesis, communication, evaluation skills. Cohort A students viewed the development of information literacy skills as a process citing that the instructor as the most influential in helping them develop these skills.

4.2.5 Cohort A Public University Student Document Analysis

Students in Cohort A were required to submit a research paper on a selected topic at the end of the semester. The selection of the topic of the paper was the student's choice, and student had to display the research skills acquired throughout the semester. The researcher evaluated student papers using the document analysis rubric (Appendix B) developed for this study. The rubric scale measures the student's application of Standard Two, retrieval and selection of resources;

Standard Three, analysis of information, and Standard Four documentation of resources. The scale matched the goal/objective within each standard and was assigned a numerical value.

The five Cohort A students wrote their papers in Arabic. Five documents were collected from the five students who completed the pre and post-instruction interviews and all requirements for this class. The mean scores for Cohort A students' application of standards in their papers were Standard 2, 1.8; Standard 3, 1.4, and Standard 5, 1.6. The students in Cohort A did not demonstrate competency in their papers. Cohort A students were not engaged in the research process and completed the project in order to obtain a "grade" and move on. Only one student (A_F_1) exceeded competency in the application of Standard 2, by gathering resources from a wide variety of relevant resources and displayed use of online databases. The following table provides a snapshot of the results of the document analysis of student papers in Cohort A:

Table 20. Public University Cohort A Document Analysis Results

Student	Title of Paper	Rubric Scale Standard 2	Rubric Scale Standard 3	Rubric Scale Standard 5	Mean Score
A_F_1	التوتر النفسي أحد امراض الانسان المعاصر Contemporary Human Diseases: Stress	3	2	2	2.3
A_F_2	الطلاق Divorce	2	2	2	2
A_M_1	هجره الكفاءات العربية Migration of Arab Work Force	1	1	1	1
A_M_2	اضطرابات المرأة النفسيه Women's Psychological Disorders	2	1	2	1.6

A_M_3	**الحركه الصهيونيه** **The Zionist Movement**	**1**	**1**	**1**	**1**

The topics of the students papers varied in scope. When student A_M_2 was asked why he had selected Women's Psychological Disorders as a topic, he stated that he chose that topic because he had found a previous completed paper at the student center which he replicated. In Kuwait, there are "Student Copy" centers, which are not linked to the university. These centers provide services such as photocopying, binding, and typing as well as providing the students with sample copies of previous research papers for purchase and use in their work. This student stated that he had taken that paper and used it as a template from which to work.

4.2.6 Public University Cohort A Faculty Responses

After the completion of classroom instruction and submission of final grades, the researcher interviewed the faculty/instructor for each section (male and female) of Cohort A. The individual post-instruction interviews took place in confidentiality and anonymity in the offices of the faculty members. For Cohort A students, there were two faculty members, one for the male section and one for the female section. The responses of the faculty members supported and highlighted certain elements that were evident in student interviews and in results of the document analysis.

Table 21. Public University Cohort A Faculty

Cohort	Female Section	Faculty Gender	Male Section	Faculty Gender
A	**A_Prof_F**	**F**	**A_Prof_M**	**F**

Both instructors in Cohort A were females, one teaching the male section (A_Prof_M), and the other teaching the female section (A_Prof_F). Instructors A_Prof_M and A_Prof_F both hold PhD degree in Library and Information Science. A_Prof_M had taught this course for four years, and A_Prof_F had taught the course for two years. Neither professor was involved in setting goals or objectives for the course. The course goals and objectives had been set by the department and approved by the department head.

> A_Prof_F: *The goals and objectives for this class were given to me by our department, and I improved or added to them as I saw needed according to the standard of the class and the level of the students.*

Both stated that the involvement of the library staff in instruction was limited to the library orientation tour at the beginning of the semester. Both also indicated that the resources their institution provided for information literacy instruction were sufficient and adequate. In terms of student preparedness to perform research, both agreed that in general students came in their class with no or few research skills, but two or three students would be capable. In discussion of students achieving the objectives, the following responses were noted:

> A_Prof_F: *The objectives include education about the library, reading and writing, simple analysis skills.*

A_Prof_M: *The students met all set objectives, but they still lacked the deep analytical skills needed.*

Both professors agreed that the course material was outdated and needed revision. They also stressed that there was a disconnect in the instruction, because the theoretical portion of the class was taught by them and the laboratory part by an adjunct faculty member. Many times the students seemed lost and confused in both the material and who to go to for assistance:

A_Prof_F: *My suggestions for development include merging the laboratory portion with the class. As well as a week-by-week systematic process of evaluation. The course material as well is outdated and needs to be updated.*

4.3 THE PUBLIC UNIVERSITY COHORT B

4.3.1 Public University Cohort B Student Pre-Instruction Interviews (High school)

For Cohort B, the same basic nodes appeared as those for Cohort A. The nodes for high school experience were library exposure and instruction, finding and locating resources, research exposure, the stages of research, and citation familiarity and use. Six students were interviewed in a private meeting room and the interviews were recorded for analysis. These pre-instruction interviews were conducted in the second week of the semester and were held simultaneously with Cohort A interviews, given that both students in Cohort A and Cohort B are in Public University. All instruction for Cohort B students was conducted in English; the students, however, preferred to conduct the interviews in Arabic for ease of expression.

Library exposure and instruction for Cohort B students was similar to the library exposure of the students in Cohort A. All Cohort B students attended public high schools in the

State of Kuwait. Therefore, they had the same curriculum and came from similar school systems. Students referred to their high school libraries as small, well organized, and sufficiently stocked with resources. Instruction was minimal and in some cases lacking. The high school library was used by students in their unscheduled period.

> Student B_F_3: *Our high school library was small, but it had enough books to support our work in high school. The librarian was always there but we never needed to ask for assistance because we didn't have enough assignments in which we had to use the library.*
>
> Student B_M_3: *My high school library was small, but it was always clean and inviting. The librarian was there but did not help in teaching us how to use the library and its resources.*

Students mentioned that books and materials were well organized and that a classification system that was used to organize the materials. Computers were available in the library with access to the Internet, but there was no availability of online databases.

> Student B_F_3: *The books were well organized and there was a classification system. There were new books and old books, but the old books were more. There were no electronic databases.*

Cohort B students were aware of the school library and often visited in their unscheduled periods, but they were not instructed about the resources available and how to use them. In Cohort B students opted not to take an elective library class. None of the students in this Cohort B had received any formal instruction in using the library and its resources.

When the students were given research assignments, they would locate their resources primarily on the Internet. All six students (both males and females) depended on the Internet as their only resource for information. Google was the most widely used search engine followed by Yahoo and they also used Wikipedia.

Student B_F_1: *I search the Internet, looking for headlines on the topic. I use Google for searching and Wikipedia in English.*

The research exposure node of Cohort B students was also very limited. None of the students could recall a single research project completed in high school. They all stated that many of the assignments in high school had not required them to perform research or use the library. Limited research instruction and work in high school placed Cohort B students in a weak position in performing research at the university level.

When asked to reflect on the stages of research, students gave vague answers because they could not recall any projects that they completed.

Student B_M_1*: In the stages of research, all I remember is writing the idea or reason for topic, and then the reason and causes, and finally the conclusion.*

Student B_F_1: *I remember two stages of doing research. Finding the information, and then writing the paper.*

Students B_M_1 and B_F_1 were the only two students who responded fully to the question. The remaining students provided no comment at all. All they said was that they didn't remember completing any projects and, therefore, did not know the stages of research.

For the theme of documentation and citations, Cohort B students indicated an awareness that if they needed to cite information they used, they would create a list of the resources, but they had not been taught to use a specific style or format. They would list the author, the year and the title. Students did not understand or know that citation styles existed and were not aware of them. Plagiarism was evident in Cohort B student research projects. Participants in this Cohort described their instructors referring to citation styles but not discussing in detail the research process or how the students might find information.

4.3.2 Public University Cohort B Pre-Instruction Interview (University)

The instruction of the information literacy class for Cohort B was conducted in English. All testing, examinations, and final projects were also in English. Student command of English language was weak because these students come from a public high school background. The female section had twelve female students enrolled and the male section had five students. The majority of these students were enrolled in the English-language section because they were in their final year and this class was a graduation requirement or because all Arabic sections were closed and they had no choice but to enroll in the English sections offered. The following themes emerged from the data research experiences prior to enrolling in this class, research assignments, research process/location of information sources, and university libraries and instruction.

The common parent node of student research experiences prior to taking this class appeared in both Cohorts A and Cohort B. All students in Cohort B implied that their experience in performing research before enrollment in this class were very limited, with the exception of one student who said:

> Student B_M_1: *I feel that I entered university fully prepared to do research. I am at this point comfortable with doing research at the university in this class and in other classes as well.*

The lack of research projects in high school and at university for Cohort B students diminished their research skills and abilities. This placed them at a disadvantage as they started their undergraduate academic careers. The majority displayed no grasp of basic research skills and lacked confidence in performing research-related tasks.

When asked about their research assignments, all Cohort B students mentioned that they had worked on a research project prior to enrolling in this class. The projects were simple in

scope and, in the words of the students were "not serious" projects. Student B_F_1 was the only student with no exposure to preparing any kind of research paper:

> Student B_F_1*: No, I did not choose my major yet. This is my first class in which I have to write a major paper.*

All other students had at least one class in which there was a certain level of research was required. Despite this exposure to preparing a research paper, most students were still not at ease with the concept of performing research at the academic level. A child node appeared related to the recall of a specific assignment that they had worked on in college. The students indicated researching the following topics: unifying the GCC currency, the atmosphere, the Gulf War, and an Arab pioneer. Student B_F_2 had had the following comment when asked:

> Researcher: *Will you describe to me one of your assignments? What did you like about it or did you feel comfortable about it?*
>
> Student B_F_2: *I had no idea about the topic when I was working on it, it was about the unifying of the currency for the GCC. I liked the fact that I had no idea about the topic and through my search I was able to build my information and knowledge on the topic.*

Within the node of the research process and locating information resources, students in Cohort B indicated that they first relied on the Internet for information resources. They used Google and Wikipedia primarily; if they needed more information they searched the library catalog and online databases. This trend of using Google and Wikipedia was also expressed by students in Cohort A. One student noted starting his search at the library.

> Student B_M_1: *I start my search using the library and its resources, and I always use books to start off any research, I then use the Internet to gather more information.*

Students in Cohort B relied heavily on the Internet for the information gathering process. No student mentioned using the public library to gather information.

The final emergent theme in the post-instruction interviews was how the students viewed their university library and the instruction they received. No student had received any instruction on using the library and its resources. Two of the students indicated that the only exposure to the library and instruction was through this specific class.

> Student B_M_3: *The only instruction I received on using the library and locating resources is through this class by the instructor and through the lab exercises. It was very helpful, now I know where to look for information in the library and on the online databases.*

The students were not aware of the library and its resources until they enrolled in this class. Cohort B students lacked exposure to the library and its resources before enrolling in this class, and many times they relied solely on the Internet to gather information for research projects and assignments.

4.3.3 Public University Cohort B Post-Instruction Interviews

The nodes for the post-instruction/reflection interviews included how the students defined information literacy, their level of comfort in performing research, their opinions about the importance of IL skills, the development of IL skills, how they conceived the IL process, and finally their experiences and ideas. These nodes were the same nodes that emerged from the responses of Cohort A students. The students were introduced to the word "information literacy" at the end of the per-instruction interview. They were asked to think about the term as they went through the process over the semester. The post-instruction interviews were conducted with only three female students and two male students. Two male students withdrew from the class; one stated that instruction in English was a barrier for learning, the other student could not be reached for comments.

In their reflections on the parent node of definitions of information literacy, two of the students stated they had never heard the term "information literacy" before and one student knew the term. When asked to reflect and explain what the term information literacy meant to them, the students stated:

> Student B_F_1: *It has to do with searching for information on the computer or laptop.*
>
> Student B_F_2*: For example in this class I am learning how to do research how to look for information, and to me this is information literacy.*
>
> Student B_M_1: *It is about online databases, the information sources, and the Internet all these things combined.*

These comments reflect the students' limited exposure and understanding of what information literacy is. The students were enrolled in an information literacy class; but even while engaged in the process of building these skills, they were still not able to define what information literacy meant to them.

Cohort B students were comfortable in performing research for information, specifically personal information. One student mentioned that before taking the class he had never searched or used the Internet for anything, but with this class he was realizing that he could gain easy access to any kind of information he needed:

> Student B_M_1: *Before taking this class I did not care about finding information for personal use, but now I realize how easy it is and how important it is to do a quick check to find information for purchases and just general information.*

Despite the fact that Cohort B students were comfortable using the Internet to perform searches for personal information, they were still not comfortable looking for information related to university projects and assignments. Students also believed that information literacy skills are not limited to library research and searching skills. They saw information literacy as a more encompassing, integrated idea.

> Student B_M_1: *I don't think that information literacy is limited to library research and library skills only, but it incorporates all disciplines really and a variety of skills and not just one or limited skills.*

The students identified the skills an information literate person should possess as the ability to search for and evaluate information. They also identified reading and analytical skills.

> Student B_F_1: *Searching skills are the most important in my opinion, the ability to use searching skills is the most important, how to find the information. Also the evaluation of sources and the credibility of the source is important.*

> Student B_M_1: *Searching and being able to find the information is critical but I also think that a combination of skills is need such as reading and analysis skills.*

Cohort B students were aware that to be labeled as information-literate they had to possess certain critical skills. They were unaware, however, of how to prioritize these skills and how they would attain them. One student mentioned that by taking this class he hoped to achieve all the skills needed to be information literate. Students also indicated that they had used certain information literacy skills in their daily lives to help them make decisions.

How Cohort B students developed their information literacy skills was another emerging node. When asked how their skills were developed and who influenced them, one student indicated that a family member encouraged him to develop his skills; another student pointed out that it was actually a class he took that gave him the drive to develop his skills.

> Student B_M_1: . . . *there was a class I took in geography. I was limited with the resources, and that really forced me to learn and develop my skills.*

> Student B_F_1: . . . *my father he used to encourage me to read and look for information he was the most positive influence on me.*

The students relied on external elements (influencers) such as an instructor or a family member to influence them in developing their information literacy skills.

The process of conducting research was another theme. In their description of the research process for the project assigned in this class, students commented:

> Student B_F_1: *Like any other research project I start with the table of contents, followed by the introduction, then statement of the problem, formulation of questions. When I got the information, I organized it and wrote it out in my own words.*

> Student B_M_1: *I selected the topic, then I created a topic list and started searching the online databases for the library, and I evaluated the resources. I learned how to read abstracts, and then I created a reference list.*

> Student B_F_2: *I basically choose a topic, then I started to search for information on the Internet, background information. I later searched the library catalog and the online university databases. Once I had all the information, I started to read it, organize it, and then started writing.*

To Cohort B students, the process of research was viewed as simple, and straightforward, and consisting of a series of steps to follow to complete their work. In theory they thought they had an idea of the process, but in application the process was not reflected in their work.

The final theme of experiences and ideas focused on student views on their experience with information literacy at this particular point. One student indicated that group work would enhance the process of learning, as well as offering a class that teaches these skills as an elective course class rather than a mandatory one. Another student noted that the class should focus on a more hands-on approach to allow for learning through application.

> Student B_F_1: *I took a similar class before in which we worked in groups and I found that very helpful. Also to have one instructor for the lab and the class as opposed to two instructors. This was a very beneficial class, but it should not be a mandatory class it should be optional elective course.*

> Student B_F_2: *I learned a lot of new things from this class, a lot of IT related information that I didn't know about. I think that there should be no final exam for this class, because it is a cumulative learning process by application. The material is sufficient and up to date to a certain degree, but certain topics need to be updated.*

A teamwork and hands-on approach to instruction was seen as necessary for developing the outcomes of this class. A shift from focusing on instruction of ideas and theories to a more "learn by doing" approach would help students learn the research process in this class.

4.3.4 Summary of Cohort B Pre and Post-Instruction Interviews

Cohort B students referred to their high school libraries as "small" and "organized" with a classification system, computers, and no online databases. The students received no instruction in using the library and its resources from either instructors or librarians, and they relied on searches on "Google," "Yahoo," and "Wikipedia" to complete their projects and assignments. Cohort B students could not recall any projects from high school and had no knowledge of what the stages of research were. They were aware of citations and knew that they had to document resources, but they were never instructed on the different styles.

At the university, Cohort B students had not taken any classes in which they had to perform research. Assignments included simple projects that were small in scope and did not require research. As in high school, Cohort B students depended on the Internet to gather information for their assignments. No formal instruction was given to Cohort B students on the library and it resources before enrolling in this class. They had no knowledge of what the library had to offer in terms of resources and assistance. They viewed the university library as "big" but lacked assistance and support from the librarians.

The post-instruction interviews for Cohort B included three female students and one male student. In their definitions of information literacy, Cohort B students used the following terms "searching for information," "research and looking for information" and "online databases, information sources and the Internet." All Cohort B students expressed a high level of comfort in

performing searches on the Internet but were not yet comfortable in searching for library resources. Reading, analytical skills, and evaluation skills were seen as important skills for an information-literate person. These skills were developed for Cohort B students by the instructor. One student had a family member who was influential in helping him develop these skills. The IL process for Cohort B students was seen as developmental in that it was a process they had to go through.

4.3.5 Public University Cohort B Student Document Analysis

Four students in Cohort B submitted their final completed research projects in English for analysis. The average score for all projects in Cohort B is 1 on the rubric scale, indicating that the students did not demonstrate competency in their application of the selected standards. The table highlights the paper topics and ratings assessed by the researcher using the rubric for this study.

Table 22. Public University Cohort B Document Analysis Results

Student	Title of Paper	Rubric Scale Standard 2	Rubric Scale Standard 3	Rubric Scale Standard 5	Mean Score
B_F_1	**Infertility**	**1**	**1**	**1**	**1**
B_F_2	**Green Revolution**	**1**	**1**	**1**	**1**
B_F_3	**Assisted Suicide**	**1**	**1**	**1**	**1**
B_M_1	**The Dangers of Sports Drinks**	**1**	**1**	**1**	**1**

The four projects submitted displayed below average and poor work when aligned with the rubric. The students displayed no evidence of research, and the communication of information was inconsistent and weak. As measured by the rubric, none of the three standards was demonstrated. There was no clear, coherent representation of information. These results indicate that there were major gaps in the instruction and curriculum as well as in the students' overall conception of information literacy and the process of research. The major barrier for Cohort B students was instruction in English and their lack of background or skills on which they could build.

4.3.6 Public University Cohort B Faculty Post-Instruction Interviews

The post-instruction faculty interviews were held after the completion of instruction and submission of final grades. Two male faculty members (one for the female section, and the other

for the male) were instructors for Cohort B. Both instructors had PhD degrees in Library and Information Science

Table 23. Public University Cohort B Faculty

Cohort	Female Section	Faculty Gender	Male Section	Faculty Gender
B	**B_Prof_F**	**M**	**B_Prof_M**	**M**

B_Prof_F had taught the class for two years, and B_Prof_M had taught the class for four years. Neither professor was involved in the course design and goal/objective setting for this class. When asked about the goals and objectives, both stated that they were provided with the framework, and that they made changes to the stated goals and objectives according to the level of the students in the class. The professors for Cohort B indicated that the students who were enrolled in their class displayed little or no basic skills in conducting research. Instruction in English was also mentioned as an obstacle for the students, who sometimes found it difficult to comprehend and grasp these basic skills in another language.

When asked whether one semester was sufficient time to teach the students basic information literacy skills, both professors regarded one semester as ample time for this kind of instruction. The professors' comments, recommendations, and feedback for development of the class and its instruction included a focus mainly on teaching basic research skills because of the introductory level of the course. They stated that the instruction in this course is took a

"fragmented" approach with the professor teaching independently and the adjunct teaching the laboratory portion independently. There was a strong need for the alignment of instruction between the instruction and the laboratory parts of the course.

> B_Prof_M: *This is not considered an advanced research course, we just give them basic skills. We teach them on the process and how to go through it. The course needs to be redesigned at this point, it is just an introductory course, but there is a strong need for a more focused research course.*

The statement above reflected the need for a more advanced integrated design of a course for students to gain from this learning experience fully.

4.4 THE PRIVATE UNIVERSITY COHORT C

The Private University pre-instruction interviews were conducted during the third week of the term. The students were randomly selected and were contacted to set up an appointment to conduct the interview. All interviews were conducted in a designated private study room at the library of the Private University. All interviews were conducted in English, lasted approximately 20-30 minutes each, and were recorded and uploaded for analysis into Nvivo 10.

In examining the major nodes that appeared within Cohorts A and Cohort B, the main themes for Cohort C were the same. In the pre-instruction questions for high school experience library exposure and instruction, finding and locating resources, research exposure, the stages of research, and documentation and citation of resources emerged as themes. These nodes are considered parent nodes; within each node, certain trends appeared and called for the creation of child nodes, which are highlighted as each node is discussed.

4.4.1 Private University Cohort C Pre-Instruction Interviews (High school)

The Cohort C interviews included six male and six female students. Three of the interviewees were Kuwaiti nationals and the other three were non-Kuwaiti (two Lebanese students, one Jordanian student). All the students in this cohort attended private high schools in the State of Kuwait with the exception of one female student. All instruction and personal interviews were conducted in English because these students were proficient in English and were bi-lingual. Cohort C students were all in either the first or second year of their academic program at the Private University. The class attended was a required three-hour credit class, part of the general education requirements at the Private University.

In examining the first emergent theme of high school exposure to the library and library instruction, Cohort C students stated that their high school libraries were small and limited in scope. Students remembered their high school library collections consisting primarily of novels and reference materials. They visited the library often but received no formal instruction on how to use the library and its resources. Their librarians were always available for assistance in finding material and helping the students perform simple research. The resources were well organized and there was a classification system. The libraries were furnished with computers for student use, but all students noted that they did not have access to online databases.

> Student C_F_2: *The books were organized by subject, and they were in fairly good condition. We did have computers in our library, but there were no electronic databases.*

Library instruction was basic and limited to the library visits, and for one student the library instruction was included in an English class.

> Student C_M_1: *We had an English class where it was mandatory to get a book from the library and write a report on it. We really didn't have a library class, but through the English classes we had an orientation on how to use the library.*

When it came to finding and locating resources for research projects in high school, Cohort C students' responses included the public library and the Internet. Two of the students who attended a British-curriculum-based private high school stated that they did not do any research in high school. They were never given assignments in which they had to search for information and then write a report.

> Student C_F_2: *We mostly read and responded, we really didn't write the type of papers in which we had to gather information and analyze it. There was no real research expected from us in high school.*

Students in Cohort C with their higher level of proficiency in English felt very comfortable in performing their searches on the Internet.

The students' exposure to research in high school as an emergent theme indicates the level of exposure and experience the student had with research. Cohort C participation in research was limited. Despite the fact that their exposure to research was limited, when asked to recall a specific paper from high school, the students did remember research projects:

C_F_1 The Ottoman Empire

C_F_2 Dolphins

C_F_3 Does Not Remember

C_M_1 Computers

C_M_2 Information Technology

C_M_3 Biology of the Brain

Cohort C students recalled a specific project or paper they worked on in high school, meaning that despite the fact that they had limited instruction they did work on projects and they did perform basic research.

The node related to the stages of research was also critical in reflecting how the students viewed the research process and if they followed a certain process in conducting their research. Within this node, three of the students did not recall the stages of research that they went through. One student stated that she did not know the stages of research because she was not required to write papers or perform research in high school. The three students that remembered the stages of research responded in various ways:

> Student C_F_1: *Yes, I do the different levels and stages of doing research.*
>
> Student C_M_1: *Mostly in high school we would get guided information on how to write a paper for example start with the introduction, state the problem, argue it and like so. We had a format that we worked from. I remember the format and I still use it.*
>
> Student C_M_1: *The most important stages were intro, body, and conclusion. We were not instructed on how to do research and whatever information we were given were basic.*

From these responses it became clear that students were not aware of the stages of research. The instruction they were given was either very basic or elementary. The stages of research for these students were self-taught, with the exception of one student who was guided through the process by the instructor.

The final theme of documentation and citation of resources indicated that Cohort C students were aware of documenting and referencing their sources. Only two students in this cohort had no knowledge of citations and citation styles; one of these students mentioned that he was introduced to citations only at the university level. The remaining four students were introduced to citations and citation style; one student mentioned using APA style. In general, the students were aware that they had to cite their sources and were aware of plagiarism and its consequences. For the majority of students, this concept was not reinforced until they began writing papers at the university level.

4.4.2 Private University Cohort C Pre-Instruction Interviews (University)

Cohort C pre-instruction interviews reflected how they understood and performed research at the university level. The nodes of research experiences prior to this information literacy class, reflection on research assignments, the research process as they viewed it and the location of information resources, and how they felt about their university library and instruction all indicate the students' conceptions of research before completing instruction and working on a specific research project.

Cohort C students' experiences with research before taking this class had been very positive. All the students were previously enrolled in a class in which they were either instructed on performing research or they had to produce a research-based paper. They also mentioned that they had at this point been exposed to the library through an orientation tour and had some level of library instruction through one of their required classes.

> Student C_M_2: *I knew what research is and how to use the library from my first English class at the library. Our professor taught us about the library as well as the librarian.*

> Student C_F_3*: I did not know the basics of research really; the foundation English class helped me a lot in teaching me how to do research.*

Cohort C students indicated that they felt comfortable in conducting research and using the library resources because they had had instruction in some of their foundational English classes as the basic research skills they gained from these courses made them comfortable in performing research for this class.

The next emergent theme focused on the students' research assignments and their experiences in going through the process; it produced two child nodes: the first on instruction and the other on classes. All students had taken a course in which they were instructed on how to use the resources at the library and had received some form of instruction either from their

professor or from a librarian. Therefore, Cohort C students had established a level of comfort in performing research. These students could perform Internet searches as well as search for resources available at their library. They commented on using articles from scholarly journals that they had selected from online databases, and web resources as well.

Research process and location of information sources was considered a main and critical theme in understanding how the students conducted the research process. Five students from Cohort C started their search process for information on the Internet. They performed quick background checks through the web for information. After they had gathered sufficient information they searched the library catalog and online databases at the university. One student indicated that he always started his search for information at the university library catalog and online databases; once he had gathered the information he needed he then searched the Internet for supporting information. This pattern indicates that the students felt comfortable in following this particular method in searching for their information. They had not been taught to follow this process, but they had developed the process as a result of previous experience in searching for information.

A child node on assistance emerged during this process. When asked whom students consult if they needed assistance during this process, responses included the professor and a librarian. Four of the students would first seek assistance from their professor followed by the university librarian. Two students said they would first go to their librarian for help, and if they still faced difficulty they would then consult their professor. From their responses the students displayed a certain level of comfort and ease in their relationship with their professor. They also indicated that they would seek the assistance of their professor first because he/she would tell

them exactly what was required whereas the librarian might not know what the professor was looking for and might guide them in the wrong direction.

The final emergent theme from the post-instruction responses dealt with the university library and the overall instruction on the use of the resources. This theme examined how the students viewed their library and if it was conducive for studying and supported their research. Instruction about the library and its resources, if they had been exposed to it has it helped them. Cohort C students visited the library on a daily basis to study or use the computers, take a class, or simply hold their group meetings. At the Private University because the campus is small and contained, the library acted as hub and a meeting point for the students to gather.

The physical size of the library was viewed by the students as fair and rather spacious. Two students noted that to them the library was small, but small in terms of collections and resources. Generally speaking, Cohort C students were satisfied with the size of their library physically and in term of collections and resources as well.

> Student C_F_2: *It is bigger than my high school library for sure. I like the computer lab and the private study rooms. I never had any problems really with the library or in finding resources in the library.*

> Student C_M_1: *The size of the library is good for the size of the university. I have asked the librarian many times for assistance, but mainly in finding books.*

Based on the enrollment of Private University, its library provides the support students require for their academic programs.

Instruction on how to use the library and its resources was provided to all Cohort C students before starting this class. All the students indicated that they received instruction on the library and the resources through one of their classes in the first year of study. Two students also indicated that they were also instructed by the university librarian on how to search the resources at the library.

Student C_F_2: *We were instructed by our professor on how to use the library resources such as the online catalog and the online databases. This was very helpful to me and assisted me a lot in my other classes. I know that I am going to use the library a lot more and I feel that every time I work on a research project I learn something new, and I feel more confident in using the library and its resources.*

Student C_F_3*: I have received instruction on library use through some of my instructors and the librarians. This instruction was very helpful to me it made things clearer. I learned all this and values from my foundational classes. When it comes to using citations I am familiar with all styles and it depends on what style the instructor requires.*

Introducing Cohort C students to the library through orientation tours and classes placed them at a stronger position in starting the research process. Cohort A and Cohort B students were at a disadvantage because they received this type of instruction through this specific class only. Cohort C students were exposed to research through several of their previous classes; by the time they enrolled in this specific class their knowledge of the search process and their library and its resources had been well developed.

4.4.3 Private University Cohort C Post-Instruction Interviews

The post-instruction interviews were conducted with four students in Cohort C, three females and one male. Two male students withdrew from the class; one student stated that he dropped the class because he could not keep up with the workload because he was enrolled as a full-time student and had a part-time job outside the university. The other male student stated personal reasons for withdrawal.

At the end of the pre-instruction interviews, the students were introduced to the term information literacy and asked to reflect on this term as the semester progressed and as they worked on their papers for the class. The emergent nodes included students' definitions of information literacy and their comfort level in performing research, important information

literacy skills and the development of their own information literacy skills, the information literacy process, and their ideas about the whole experience.

When asked if they had heard the term information literacy before, the students responded that they had heard of the term before with the exception of one male student who had never heard of it. When asked to explain what "information literacy" meant to them the student responses were:

> Student C_F_1: *It's like the information that you get or gather should be accurate and articles should be detailed with figures.*
>
> Student C_M_1: *It has to do with some sort of analyzing information, it's about finding information and analyzing it.*
>
> Student C_F_3*: I have a vague picture of what it really means. It's about being, knowing how to use and get in formation and how to put in the information for yourself. It's about managing the information.*

The node related to comfort in performing research displayed how students felt about the research process in general and in this class in particular. In general, Cohort C students were very comfortable in performing Internet searches for personal purchases or personal information. They also were comfortable in performing web searches for class assignments and projects.

> Student C_M_1: *For sure, I do research all the time. I always research information about what I am going to buy, or if I'm going to travel somewhere I always do a background search on whatever it is I'm interested in, and I feel very comfortable doing so.*

One student mentioned that he felt comfortable in conducting research for personal information, but when it came to research related to class assignments he did feel unease.

> Student C_F_3: . . . *I do research on the net all the time, and I know where to locate the information. I feel very comfortable when it comes to searching for information on the net for personal use. I don't feel so comfortable when I'm searching for information for my classes though.*

These students identified a combination of "multi-layered" skills as most important skills for an information-literate person to possess. They also believed that information literacy was not just limited to library skills or research skills, but went to a more complex level.

> Student C_M_1: *An information literate person must first and foremost be an information seeker, and he must learn how to analyze this information critically.*

Critical analysis and information seeking were identified as essential skills for a person to be labeled information-literate. To the students in Cohort C, information literacy meant more than just library skills or research skills. The saw these two as elements that were part of a bigger picture.

> Student C_M_1: *Of course information literacy is a bigger concept, it's not just library and searching skills. We are getting the skills now to do research at the university level, and in the future we will use and build on these skills in our jobs when we start working.*
>
> Student C_F_1: *Information literacy skills go beyond library skills, or research gathering skills there is also a thought process and that is beyond searching skills. So, definitely there is more to information literacy.*

The students clearly believed that information literacy skills cannot be limited in scope but go further to encompass all aspects of the research process. This led to a child node of why they think so, and how information literacy had helped them in their lives both inside and outside the classroom. As the students reflected, they identified incidents when they had used information literacy to help them in making everyday decisions from finding information on swine flu to helping someone quit smoking. The students realized the importance of this concept both in the classroom when working on their assignments and in real life when they had to make decisions.

> Student C_F_1: *When the swine flu happened we really didn't know much about it and the information we were getting from the news was not enough. So, we did research and I found out how to prevent it and I also got background information.*

The development of information literacy skills is an important theme in understanding how the students built and developed their own personal information literacy skills. When the students were asked who or what had the strongest influence on helping them develop their information literacy skills, students responded by identifying both people and things. One student stated their professor, another his mother, and another named mass media and documentaries. One male student stated that for him it was a self-realization that drew him to want to learn more and develop his searching and information seeking skills.

> Student C_M_1: *What really helped me was the fact that I came from a school where instruction was all in Arabic, so when I joined the university my English was weak. So, I set myself a challenge that I will get through this. I will do whatever it takes to teach myself and get the help I need to develop my English language skills. Now with everything that I find myself struggling I set a challenge and I try to overcome it, and that is how I learn. No one really had an influence on me. I influenced myself.*

Cohort C students viewed the information literacy process as multi-faceted. They regarded it as a layered approach where one develops through the process. The process was not an easy one to begin. It often started with "difficulty" or "confusion" as they stated. As it developed, however, the process became easier and came together to form a whole.

> Student C_M_1: *At first I was confused about the topic, when I choose my topic about health and the Internet. I went to my professor and asked for help to guide me through the process. He told me first to write my personal experience with the topic then I searched the net for sources, but I could not find a lot of resources on what I was looking for. Even though I could not find a lot of resources I did not change the topic. I tried to make use of what I had.*

The students indicated that the use of outlines and guides through the research process helped them get started. One student mentioned the use of an outline as a guide for writing, as well as the use of a rubric, made the process clearer for him.

> Student C_F_2: *Yes, I did find the process difficult to start, I was really focusing on gathering the information. When I had gathered all the information, I really didn't know how to organize and analyze it, maybe because I had a lot of resources. We were given a*

rubric for the paper and that really helped to organize my thoughts and ideas. We should have a rubric for assignments in all writing classes.

This instance was the first in which a student referred to use of a rubric for assessment. The use of guidelines as well as the implementation of rubrics for assessment eased the process for the student. One of the main obstacles, according to Cohort C students, was finding the right information from the right resources. This, to them, was the main obstacle in moving through the process.

The final theme focused on the students' experiences and ideas as a result of moving through this process. Students expressed the importance of taking this class in their first year at the university to orient them and prepare them to conduct research throughout their academic program. The role of the instructor was also mentioned. A supportive instructor who maintained a relationship with the students and provided the support needed throughout the process contributed to the overall learning experience although the resources and facilities for the students were all available, it was up to them to engage in the process and benefit from it.

Student C_F_1: *I think that having a good instructor and a strict instructor really makes you learn. I learned more about the topic itself as well as I learned about searching and writing. I really learned a lot from this class and now I feel comfortable going into any class and working on research.*

Student C_M_1: *This class was a great learning experience for me and it will help me in college and also when I graduate and start working. This overall experience was very positive for me, and I think that all students should take this class in their first year of college.*

The importance of enrolling in this class in the first academic year as well as having a supportive instructor throughout the process were the two outcomes Cohort C students commented on from this experience.

4.4.4 Summary of Private University Cohort C Pre and Post-Instruction Interviews

Cohort C students all attended private high schools in Kuwait. They referred to their high school libraries as "small" and "limited in scope" with collections that consisted of novels and reference materials. Computers were available for student use in the libraries but no library offered its students access to online databases. Cohort C students received no instruction in high school on how to use the library and its resources. The students relied on the Internet and the public library to gather information for the assignments, "Google" was mentioned for searches by all the students. The stages of research were vague for Cohort C students; they agreed that there were levels but did not recall the stages of research in high school. Citations and documentation were not new terms to these students. They had been instructed on building citations and documenting their resources through their English class; they referred to APA and MLA styles and were aware of the consequences of plagiarism.

The university experience with research was a positive one for Cohort C students. The students had enrolled in classes in which they had to conduct research and felt comfortable searching for personal information as well as resources for their class projects. The students used scholarly articles from the online databases to supplement the web sources for their projects. They viewed the research process as a comfortable one because they had pervious instruction on searching for information related to their assignments. Cohort C students stated that their university library was "fair" in size and the collections were sufficient. They frequented the library to study, use the computers, and all students had been through a library orientation tour when they entered the university.

Three female students and one male student completed the post-instruction interview. At the university, Cohort C students defined information literacy as "gathering information,"

"analyzing information," and "finding and managing information." The students expressed a high level of comfort in conducting searches using their library resources and the Internet to gather information for their projects and assignments. Cohort C students thought of information literacy skills as complex and required, and they stated that searching skills and analytical skills were the most important skills.

In developing their information literacy skills, Cohort C students mentioned their instructor as having the most influence on helping them develop their information literacy and some students mentioned a family member. The information literacy process for these students was aided by the use of guidelines and outlines given to them by their instructors. One student mentioned that the use of a rubric in assessing the assignment helped him focus on moving through the process. Cohort C students stressed the importance of their relationships with the instructor, and how the relationship helped them in developing their information literacy skills.

4.4.5 Private University Cohort C Student Document Analysis

Four final student papers were submitted for document analysis using the rubric developed for this study, one from a female student and three from male students. These students were proficient in reading and writing in English. They had previously written research papers in high school as well as at the university before taking this class. The rubric examined the students performance against Standard 2, 3, and 5 of the ACRL Competency Standards for Information Literacy. A future assessment could indicate the applicability and incorporation of these Standards into the curriculum.

The mean scores of Cohort C students on applying the Standards in their work were 2 for Standard 2, 1.7 for Standard 3, and 2 for Standard 5. The students demonstrated their

competency of Standard 2 and Standard 5 in their documents and showed some but not full competency of Standard 3. The table below displays the students projects and their assessment against the rubric:

Table 24. Private University Cohort C Document Analysis Results

Student	Title of Paper	Rubric Scale Standard 2	Rubric Scale Standard 3	Rubric Scale Standard 5	Mean Score
C_F_1	**Empowering Women in Saudi Arabia**	**2**	**2**	**2**	**2**
C_F_2	**Health Information and the Internet**	**2**	**1**	**2**	**1.6**
C_F_3	**Domestic Workers: What Impact Do They Have over Economy and Culture?**	**2**	**2**	**2**	**2**
C_M_1	**Just Let Me Have My Joint**	**2**	**2**	**2**	**2**

The students in Cohort C were given the flexibility in choosing the topics of their papers. Students indicated they choose topics they were interested in, and had some background information on. In the retrieval, evaluation and selection of resources all students demonstrated competency. They included sufficient and relevant resources to support their ideas. Additionally, they used appropriate sources from the web, the online databases, and books from their library as documentation in their papers. In their analysis of the information all students,

with the exception of one displayed competency in their analysis of the topic. One male student who did not demonstrate competency and provided no analysis or support in his writing. All students were aware of plagiarism and its consequences. All resources were cited according to a specific citation style required by their instructor.

Overall, Cohort C student papers demonstrated competency across the three standards being assessed. Thus, indicating that the instruction for this cohort was transferring the objectives and outcomes of the selected Standards. With practice these standards can be developed and enhanced. Currently, in this class the standards are not used as a benchmark. The goals and objectives of the class are set by the professor, who evaluates the students according to her goals and objectives.

4.4.6 Private University Cohort C Faculty Post-Instruction Interview

Cohort C, at the Private University had one instructor for both female and male sections, the sections were combined. The male and female sections were combined at the Private University because of lack of resources, namely faculty shortage and classroom space. The instruction occurred for both genders at the same time. Cohort C instructor was a female who had instructed this class for four years. The goals and objectives of the class were set at the departmental level and she followed them. The professor stated that library instruction was critical in this class, but given its small enrollment and time constraints, she saw fit to administer the library instruction herself. In the past, she had requested that the librarian be involved in the instruction of the class.

The resources that Private University provided to teach information literacy were seen as sufficient by the instructor. Often the resources available were beyond the capacity of the

students' ability. When commenting on student ability to conduct research and meeting the goals and objectives, she commented:

> *. . I would say about half the students in this class came in somewhat prepared to do research. The main objective for my students was to evaluate resources and be more selective and evaluative in their resource selection. The students also felt that through this class their writing mattered, and that were writing for a more critical reader.*

The overall performance of Cohort C students was average according to the professor. She also added that the information literacy skills taught in this class provided students with the basics. These skills can be developed and fostered only as the student progress in their academic programs. The more research, reading, and writing they do, they better the will develop their information literacy skills and be able to transfer these skills to their work.

4.5 THE PRIVATE UNIVERSITY COHORT D

4.5.1 The Private University Cohort D Pre-Instruction Interviews (High School)

Cohort D students were enrolled in a discipline-specific information literacy and research methods class. These students were proficient in reading and writing in the English language. There were four Kuwaiti students and two non-Kuwaiti students (American and Lebanese) in this cohort. All Cohort D students had a private high school background. The female and male sections of this cohort were combined and had one instructor throughout the term because Private University is limited in teaching faculty and classroom availability. The pre-instruction interviews were held with the students in the third week of the semester. The same emergent themes examined in Cohort C appeared in Cohort D. The themes for high school experience

included library exposure and instruction, location of resources, research exposure, the stages of research, and documentation and citation.

In high school, Cohort D students stated that their libraries were small, with a collection that was limited in scope. The libraries were well organized with collections focusing on literature, novels, and reference materials. The libraries were furnished with computers and an Internet connection. Students had access to the Internet, but their high school libraries did not offer access to any online databases. The librarian was always available for assistance in finding books and information, but there was no formal instruction received from the librarians in high school.

> Student D_M_3: *Our high school library was rather small, the librarian was there to help us find books and materials; librarians did not really teach us how to use the library.*

Students visited the libraries frequently, but other than checking out books for leisure reading, they did not really use their high school libraries.

For their assignments in high school, the students needed to search and gather the information. They commented that for information gathering they would depend primarily on the Internet, given that their school libraries were small in scope. Some mentioned using the public library or the university library to gather information for their assignments. The students used the Google search engine to search for information for the assignments and projects. In recalling projects from high school, all students remembered working on a major paper and they recalled the topic, with the exception of one student who was nearing graduation and stated that he could not remember. The project topics were:

D_F_1 Business Model

D_F_2 Biology

D_F_3 World War II

D_M_1 Does not remember

D_M_2 Poetry

D_M_3 Environment

Their exposure to research at the high school level although limited in scope still resonated with them at university. "Google" and "Wikipedia" were the main tools the students relied on for information.

Student D_F_1: *I use Google, sometimes Google Scholar, and Wikipedia for my searches.*

The stages of research as a parent node explained how the students went about conducting their research. Two of the male students did not recall going through stages or steps in the research process. To them it was about finding the information and then writing. The other four students followed a process or a system when the worked on a research project.

> Student D_F_1: *Yes, I remember the stages of research; first you had to brainstorm and check to see if your ideas are plausible. Then you had to gather the information, read it, analyze it and then write about it. We were taught these steps in English class.*

The response above from one of the students who remembered the stages, remembered them in a quick rudimentary way. One of the students who did not remember the stages said:

> Student D_M_1: *No I do not remember the different stages of research. We did have a library class in high school, but it really did not have any added value. It was like a free lesson where we could finish our homework for other classes.*

These responses indicate that the stages of research were ambiguous to Cohort D students in high school. They were not instructed or guided on the research process and the stages of research.

Regarding citations and documentation of resources, plagiarism was mentioned by the students. They were aware that they had to use citations to document their sources. Only one of the students mentioned using the MLA citation style in documenting his resources. The others cited their sources but were not instructed to use a specific style.

> Student D_F_2: *In high school we were not instructed on using a specific style of citations, but we were taught about plagiarism and para phrasing.*

These students knew and acknowledged the consequences of plagiarism and how to avoid it, but they did not receive the proper full instruction on using citations.

4.5.2 Private University Cohort D Pre-Instruction Interviews (University)

The university experience focused on the four main themes of research experiences prior to this class, the research assignments, the research process and location of information sources, and the university libraries and instruction. These four themes that emerged for each cohort establish the foundation of where the students were in terms of research at the university level. These students expressed a great level of satisfaction with their research experience at the university level.

Before enrolling in this specific class all Cohort D students had completed the general education English requirements needed for graduation. Therefore, their experience in research and writing was more developed than their peers in the other three cohorts.

> Student D_F_2: *From my first semester at the university I was taught how to do research here at the university library and how to look for resources on the online databases. We go to the library and work with the professor and the librarian.*

All cohort D students received instruction in their first year at the university from a professor or a librarian on performing research. These students had established the basics they needed in order to perform research for their classes.

The research assignments theme identified the students' recollection of their research work and if they had established a level of comfort in beginning their research. All Cohort D students, with the exception of one, stated that at this point in their academic program they felt "comfortable" and "confident" in starting any research work related to their assignments.

> Student D_M_1: *At this point I do feel comfortable in comparison to before, because I have worked on many papers and projects in the past, and that has helped me build my confidence in doing research and writing. I also have friends that help me and that makes me feel better.*
>
> Student D_F_3: *Now I feel very comfortable that I have taken classes that require research and writing papers before.*

Students in Cohort D had established a level of confidence and comfort in starting the research process and following through.

The process of conducting research for Cohort D was similar in pattern to the students in Cohort C. Four students indicated that they always started their search on the Internet to gather background information, then they moved their search to the online databases and the library catalog at the university. Two students in this cohort did the opposite. They always started their search process at the university library and after they have exhausting these resources they then searched the Internet for supporting information.

> Student D_M_2*: I would start my search on Google, do a background check and get direction, and then I would use the university's online databases.*
>
> Student D_F_2: *I start my research on the university library catalog and the online databases because that is where I will get credible information, then I would search the Internet for additional sources.*

Students in Cohort D also sought assistance and guidance directly from their instructor. When asked about librarian assistance, they mentioned that they would go to the librarian for assistance only as a last resort.

How the students felt about the library and the instruction they received reflected the students' perceptions and personal feelings towards their library. Words such as "fair" in size, "cozy" and "inviting" were used to describe the university library. Cohort D students felt that their library was a comfortable place to study and conduct research. The computer stations were always available and the private study rooms were spacious and conducive to individual or group study. There was always a librarian available to assist them whether they had search-related questions or needed technical assistance.

> Student D_M_3: *The library is fair, I like the atmosphere. It encourages studying and research with a diverse collection. The collection is diverse but small. The librarian has helped me on many occasions.*

4.5.3 Private University Cohort D Post-Instruction Interviews

The post-instruction interviews were conducted with Cohort D students at the culmination of the semester, after the instruction was completed and final grades had been posted. In Cohort D, five post-instruction interviews were conducted with the students, three females and two males. The emergent parent nodes that emerged here were students' definitions of information literacy, comfort in performing research, important information literacy skills, the development of information literacy skills, the information literacy process (as viewed by the students), and overall experiences and ideas.

In Cohort D the students had heard the term information literacy before with the exception of one female student. When asked to explain what the term meant to them, student responses included:

> Student D_M_2: *I guess it would be how literate you are in searching for information, or how capable you are in searching for information.*
>
> Student D_F_1: *It is about information and you analyze the information, and then put it in your own words.*
>
> Student D_F_2: *I'm not sure. . . I would probably have to say that it would have to do with finding information. It has to do with finding information and analyzing the information.*

Based on these responses, the students had heard the term before, but were not really certain what it meant. When asked to describe IL in their own, words they referred to searching for information and analyzing it. Having taken classes prior to this class that taught information literacy skills, the students still did not fully comprehend what the term information literacy meant.

The student comfort level in performing research established how they felt about starting the research process. All Cohort D students expressed a high level of comfort in searching for information on the Internet for personal purposes. In fact, all of them searched the Internet on a daily basis to get information for items they want to buy or just to look up general information. In searching for information for university assignments they also felt comfortable, but stated that the whole research process was different at the university level.

> Student D_F_2: *In high school it was a very simple process, you just go to the library and find a book then write a page maybe a page and a half on the subject. At university it is more in depth, more detailed. Now we not only use books but also scholarly articles, and more credible resources. The questions lead to more questions and to me it is more serious.*

Cohort D students comprehended that the research process for them had evolved from a basic, simple process in high school to a more intense and complex process at the university.

Students also envisioned information literacy as more than just library skills or research skills. To them, information literacy seemed to be "everywhere" and in "everything" they did. One student commented that information literacy is more of a "life-skill."

> Student D_F_3: *I think information literacy is more of a life skill, because if you can search well, and if you can critically read texts and analyze them then you would be knowledgeable about things around you.*

One student commented that it is not just a searching skill or library skills because once the information is found, it still had to be interpreted, and analyzed, and used.

> Student D_M_2: *It is more than that because the library might have all the resources you need, but you still need the skills to be able to use this information. So I think that it is more than just research or library skills.*

Students in Cohort D agreed that searching skills as well as analytical and evaluation skills were the important skills that an information-literate person should possess.

The theme of the students developing their information literacy skills explained who had influenced them and had impact on helping them develop these skills. Cohort D students referred to the following persons as having the most influence in helping them develop their skills:

D_F_1 Professor
D_F_2 Professor
D_F_3 Self
D_M_1 Aunt
D_M_2 Mother

The female students were influenced by their professors at the university through this class. One student said it was a self-realization when she understood that she needed to develop

these skills to progress academically. Both male students indicated that they were influenced by a family member who encouraged them.

The information literacy process Cohort D students was positive overall. The major difficulty was at the beginning of the process, they stated that the most difficult part of the process was getting started.

> Student D_M_2: *The most significant difficulty was in defining my topic for research. Once I decided what the topic was, everything else fell into place.*

Another student elaborated on the process by saying:

> Student D_F_1: *I started by first by forming my research question, which was "Kuwait and the Gulf War". My professor told me that this topic was done before and that I should look at the Israeli Peace treaty, and if it was a success or a failure. This is something that I would not write about; I have no interest in it. Then I prepared a thesis statement for this topic, and prepared a literature review. In every step I took from step one I would go back to the professor to check if I was on the right track, he would give me step-by-step instructions throughout the research process. He also encouraged me to use the writing center to help me with my work, and would give me extra credit if I did.*

The major obstacle the students encountered in conducting searches for this class was finding information. Cohort D students saw and understood the research process. They were exposed to it through their classes and experienced it before this particular class.

The final emergent theme of student experiences and ideas summed up the entire experience with information literacy and what ideas they had formulated as a result. With the exception of one student, Cohort D saw this experience as a positive one.

> Student D_F_1: *I had a great experience in learning and developing my research skills in this class and it's because of the instructor. I like being in a gender-segregated class, I feel more comfortable in giving my opinions and speaking out. I love writing and researching, and the classes I have taken so far have helped me develop these skills. I would rather take classes that are all paper or project based than take classes that have multiple choice exams and quizzes. It is more work and tiring but I enjoy it. It keeps my mind thinking all the time at the same time it develops my searching skills.*

The experiences of Cohort D students reflected their satisfaction with the information literacy instruction they received. The overall experience was one that encouraged them to develop and improve their information literacy skills and take with them to other classes and eventually in to the working environment.

4.5.4 Summary of Cohort D Pre and Post-Instruction Interviews

The high school experience for Cohort D students was similar for all students. Graduating from private high schools in Kuwait they described their libraries as "small" and limited in scope, with the availability of computers but no online databases. Library instruction was not offered to Cohort D students, but they received instruction on conducting research through their English classes. "Google" and "Wikipedia" were used to search for information related to assignments, Cohort D students also used the public and university libraries in Kuwait. The stages of research were ambiguous to Cohort D students in high school, although they understood that there was a process but were not aware of the steps. These students knew what plagiarism was and were familiar with citations.

At the Private University, Cohort D students were familiar with conducting research. They had all taken classes prior to this class in which they were instructed on conducting research. These students were at a comfortable level and displayed a high level of confidence in performing research for their assignments at the university. The research process for Cohort C students started on the Internet then moved to the university library. Only two Cohort D students stated that they always started their search at the library and then moved to the Internet for additional resources. The university library was viewed as "fair," "cozy," and "inviting. Cohort D students frequented their library to study and use the computers for research.

In their reflections in the post-instruction interviews, Cohort D students defined information literacy as "searching for information" and "analysis of information." Because these students had taken previous classes in which they performed research they were at a higher level of comfort and ease in conducting research. The important IL skills in their opinion were "searching," "analysis," and "evaluation skills." They indicated that the most influential person in helping them develop these skills was their instructor, a family member, or a friend. One student said that she motivated herself. The information literacy process for these students was a positive one, and this was reflected in both their responses and the results of their document analysis.

4.5.5 Private University Cohort D Student Document Analysis

Five student projects were collected from the students for document analysis using the developed rubric for this study (Appendix F). All the documents were written in English and all instruction was conducted in English. This class was discipline-focused and the topics of the student projects were all in the same field. Cohort D students were given freedom of topic choice for their paper. The mean score of applicability of standards were: Standard 2, 2.4; Standard 3, 2; and Standard 5; 2. Cohort D students demonstrated competency in applying the selected standards in their documents, in particular Standard 2. The table below shows the results of the analysis of the student papers against the developed rubric:

Table 25. Private University Cohort D Document Analysis Results

Student	Title of Paper	Rubric Scale Standard 2	Rubric Scale Standard 3	Rubric Scale Standard 5	Mean Score
D_F_1	**Israeli-Egypt Peace Treaty**	**3**	**2**	**2**	**2.3**
D_F_2	**The Rise of a New Global Power**	**3**	**2**	**2**	**2.3**
D_F_3	**North American Free Trade Agreement**	**2**	**2**	**2**	**2**
D_M_1	**Assessing The Economic and Social Impact of Income Tax**	**3**	**2**	**2**	**2.3**
D_M_2	**Measuring Kuwait's Economic Development Using The 2010 MDG Progress Report**	**2**	**2**	**2**	**2**

Three of the student papers exceeded competency when assessed for the application of Standard 2 and two papers demonstrated competency. Within Cohort D, the students projects were of a higher caliber, perhaps because these students had experience in performing research before enrolling in this class. Additionally, having discipline specific topics gave the students a better focus on research and writing. When it came to retrieval, selection and evaluation of resources, these students performed at a competent level and some performed above a competent level. They used reliable sources (print and electronic) as well as online databases. Their work displayed originality and creativity in terms of content and communication.

For both Standards 3 analysis of information, and Standard 5 documentation of sources every student demonstrated competency. Their papers reflected an appropriate level of analysis of resources, and analysis. The information was communicated effectively, incorporating majors themes and ideas. Students were aware of plagiarism, and were familiar with citation styles.

Proper citation was used to document sources as well as proper use of quotes and references. These papers reflected an acceptable level of research, thought and presentation.

4.5.6 Private University Cohort D Faculty Responses

This class had one instructor for both sections female and male. Cohort D professor was a male instructor, who had been taught this course for four years. He set the goals and objectives for instruction for this class independently. The instructor did not use the library or librarian assistance for instruction. This professor provided the following response when asked about the resources and facilities that were provided by the university:

> *The university provides us with sufficient resources and facilities to support our instruction, but I supplement my classes with field trips, guest lecturers, and I take a more hands on approach with my students.*

On the student preparedness to conduct research, the professor noted that the most students in this particular class were prepared to conduct research, but there were a few who lacked knowledge and skills. This professor was the only professor who stated that one semester is not sufficient to teach these skills but that the "information literacy instruction needs to be reflected in all courses throughout the students' academic career." Suggestions for developing the research process in this class included "making it more of a step-by-step process, a guided process of research and inquiry."

4.6 WORD FREQUENCY WORD CLOUDS IN NVIVO 10

4.6.1 Pre-Instruction Interviews NVivo Word Cloud

In Nvivo, several queries were run to determine the relationships between the emergent themes of the four cohorts. Queries consisted of word clouds, tree maps, and cluster analysis. For the pre-instruction interview responses a word-frequency word cloud highlighted the terms the students frequently used in their responses.

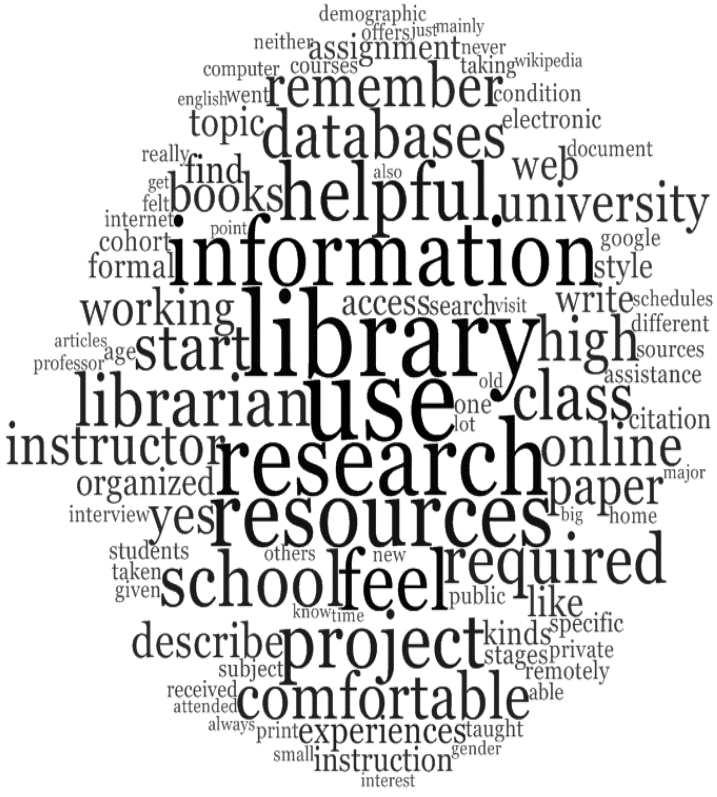


Figure 10. NVivo word frequency word cloud for the pre-instruction responses

The NVivo word cloud for the pre-instruction interviews word frequency reflected the students' use of the terms library use, resources, research, information, project, feel, required, comfortable, librarian, online, web, and helpful. These terms reflect the students' experiences in performing research at their library and how they felt about the research process. The recurring use of the words "online" and "web" indicated the students' comfort level in performing and conducting searches at the university level.

4.6.2 Post-Instruction Interviews NVivo Word Cloud

The post-instruction NVivo word cloud for word frequency displayed these words as most frequently used: information, literacy, research, think, find, gathering, evaluation, and experiences. The reoccurrence of these terms indicated the students' basic understanding and comprehension of information literacy as a process related to research. In their words, the process required thinking, finding and gathering, and evaluating information. Although many of the students did not complete the whole process they did understand that information literacy consists of a scaffolding process.

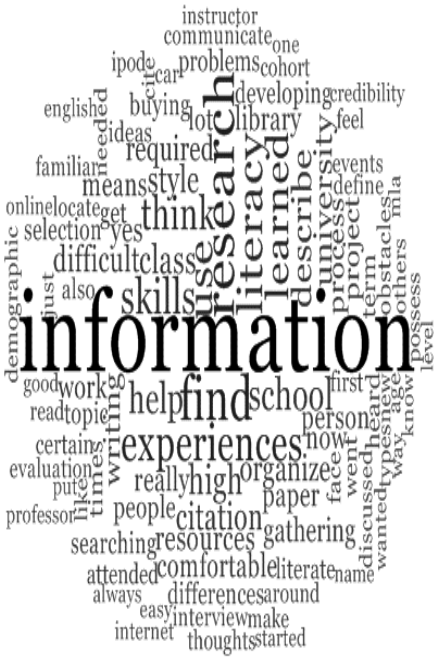


Figure 11. NVivo word frequency word cloud for the post-instruction interviews

The development of definitions of information literacy and the role influencers (i.e., instructors, peers and family members) had on the students as they formulated their concepts and ideas about information literacy throughout the process is reflected in this model.

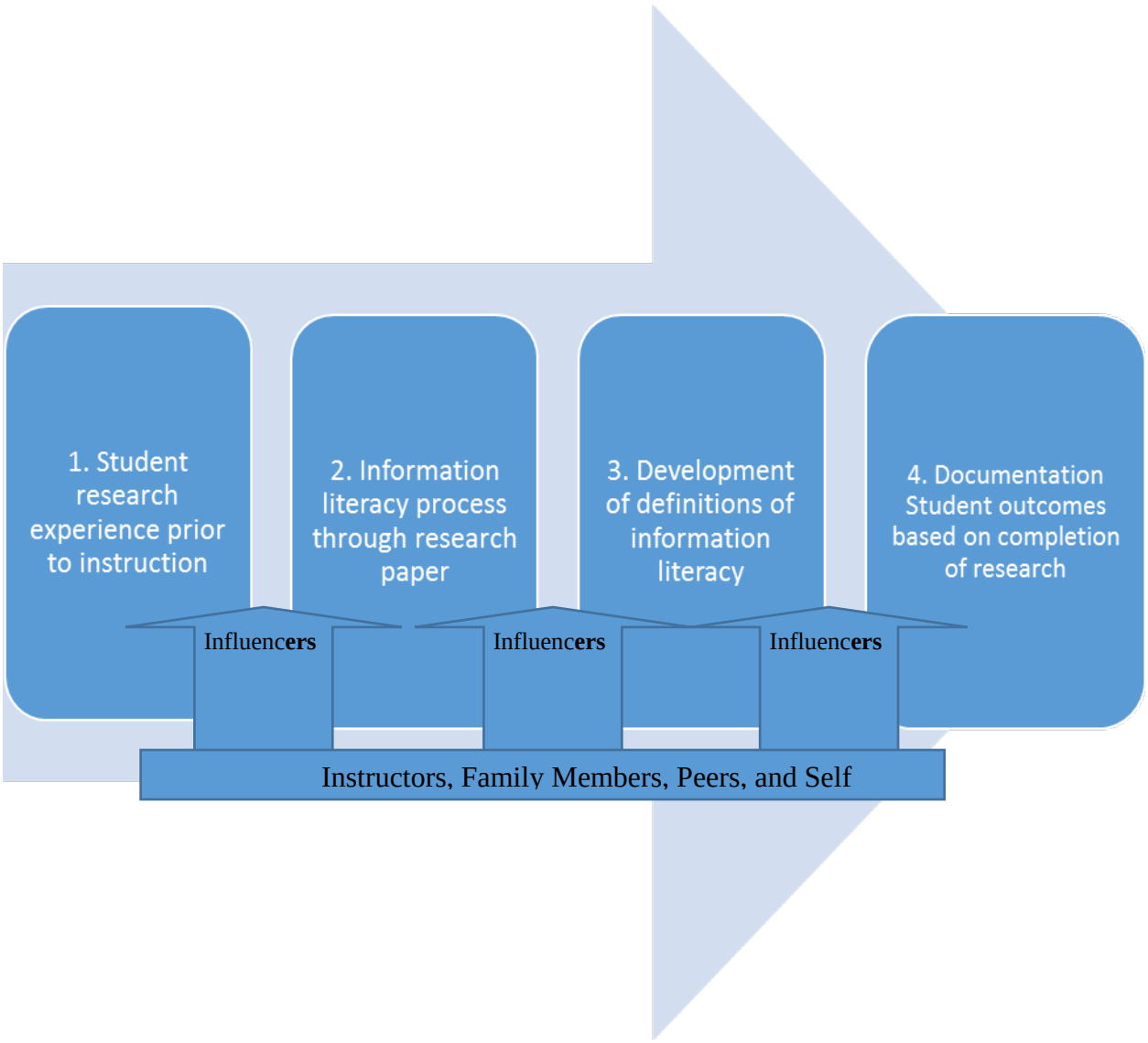


Figure 12. Progression and development of information literacy in students

As the students progressed in this class, they developed and built upon the basic research skills they gained in high school and at university. At the post-instruction interviews, the students reflected a rudimentary definition of information literacy the students grasped some of the main elements of information literacy. Although many started the class with no knowledge of research skills or how to use the library and its resources, after completing the class, the students

began to form a basic structure for research as well as an understanding of information literacy and its importance in their careers both at the university and in their lives.

4.6.3 Faculty Responses across Cohorts

The faculty responses in the post-instruction interviews reflect the instructor's view on the teaching and curriculum design of the class. The results of running the word frequency query on the faculty interviews produced the following words as most commonly used were course, teach, information, independently, skills, involvement, goals, literacy, research, objectives, and structure. In reflecting on information literacy instruction, the instructors indicated the benefits of teaching this class independently, specifically in Cohorts A and B the class was bound by a certain structure and format that was viewed as limiting to instruction. The setting of goals and objectives for the class instruction was not usually set by the instructor and many times was adjusted to fit the students levels, limiting the teaching process. Involvement, a word occurring frequently, indicated that the instructors needed the involvement of both the students and the librarians in the instruction process. The students need to have more assignments where they would be more involved in the research process, a more hand on approach to conducting research. With the librarians, the instructors called for more collaborative work between the faculty members and the instruction librarians. There was a need to develop the curriculum to include the library as a core component of the class structure.

Figure 13. NVivo word frequency word cloud faculty responses

4.6.4 Document Analysis and Competency Standards Application

The document analysis using the developed rubric for this study reflected the students understanding and applicability of the competency standards in the documents. The researcher aimed to examine application of the selected standards in the students documents to determine whether these standards were transferred to the student through the instruction and reflected in their work. Results of the document analysis from the Public University indicated that Cohort A

students did not demonstrate full competency in their application. With Cohort B students scoring the lowest, indicating no transfer or application of the competency standards. At Private University Cohort C were meet competency standards across Standard 2 and Standard 5, and were just below competency for Standard 3. Cohort D students were at competency level in applying all three standards in their work. The table reflects the students average scores for each standard in each Cohort.

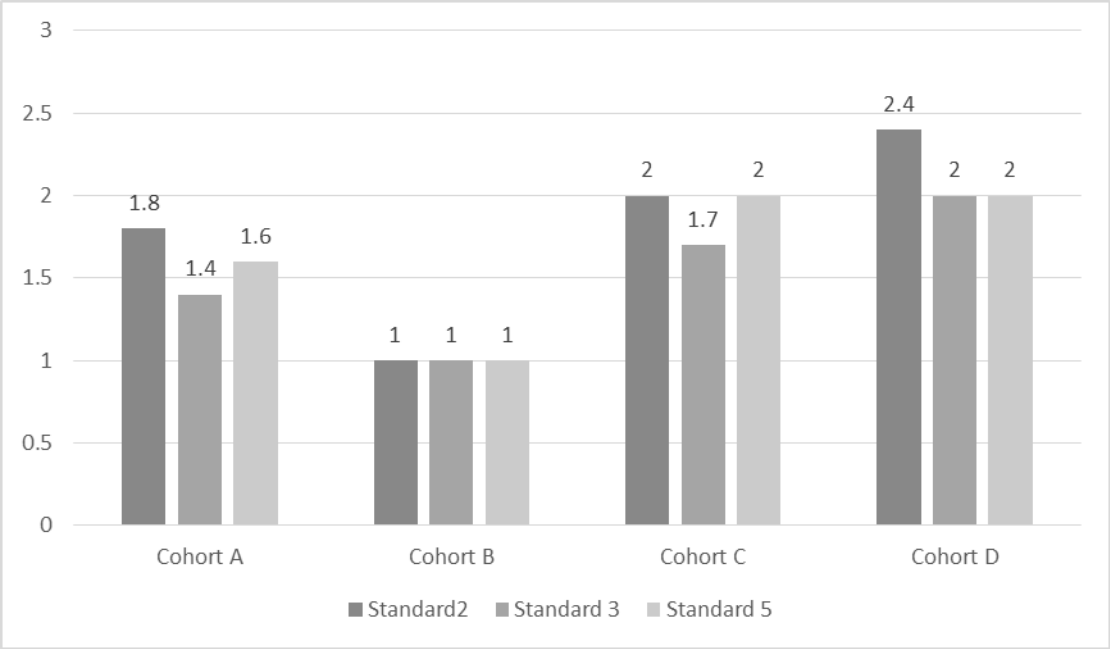


Figure 14. Average scores for students research projects document analysis

Throughout the process of working on the research projects the students applied the standards by the influence of their instructors, peers, family members, and by "themselves." These external "influencers" enabled the students to apply and incorporate the standards in their

work (See Figure 12). Modeling by the influencers throughout the process enhances the students grasp and applicability of the selected competency standards. The student document analysis themes of process and application indicate how the students process information and how they later apply it in their work (Information process and application). The figure represents this process.

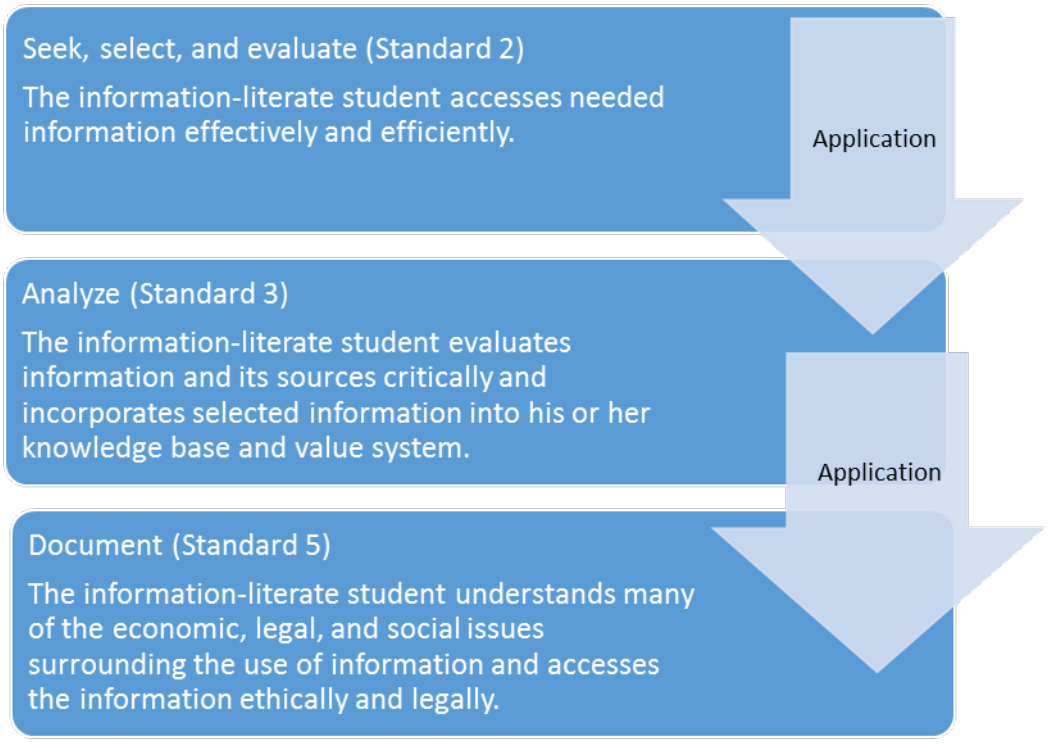


Figure 15. Document analysis and application of the three selected Competency Standards

4.7 SUMMARY OF FINDINGS FROM STUDENT INTERVIEWS

The similarities and differences from the responses of Cohorts A, B, C, and D students from the pre-instruction interviews are reflected in the figure:

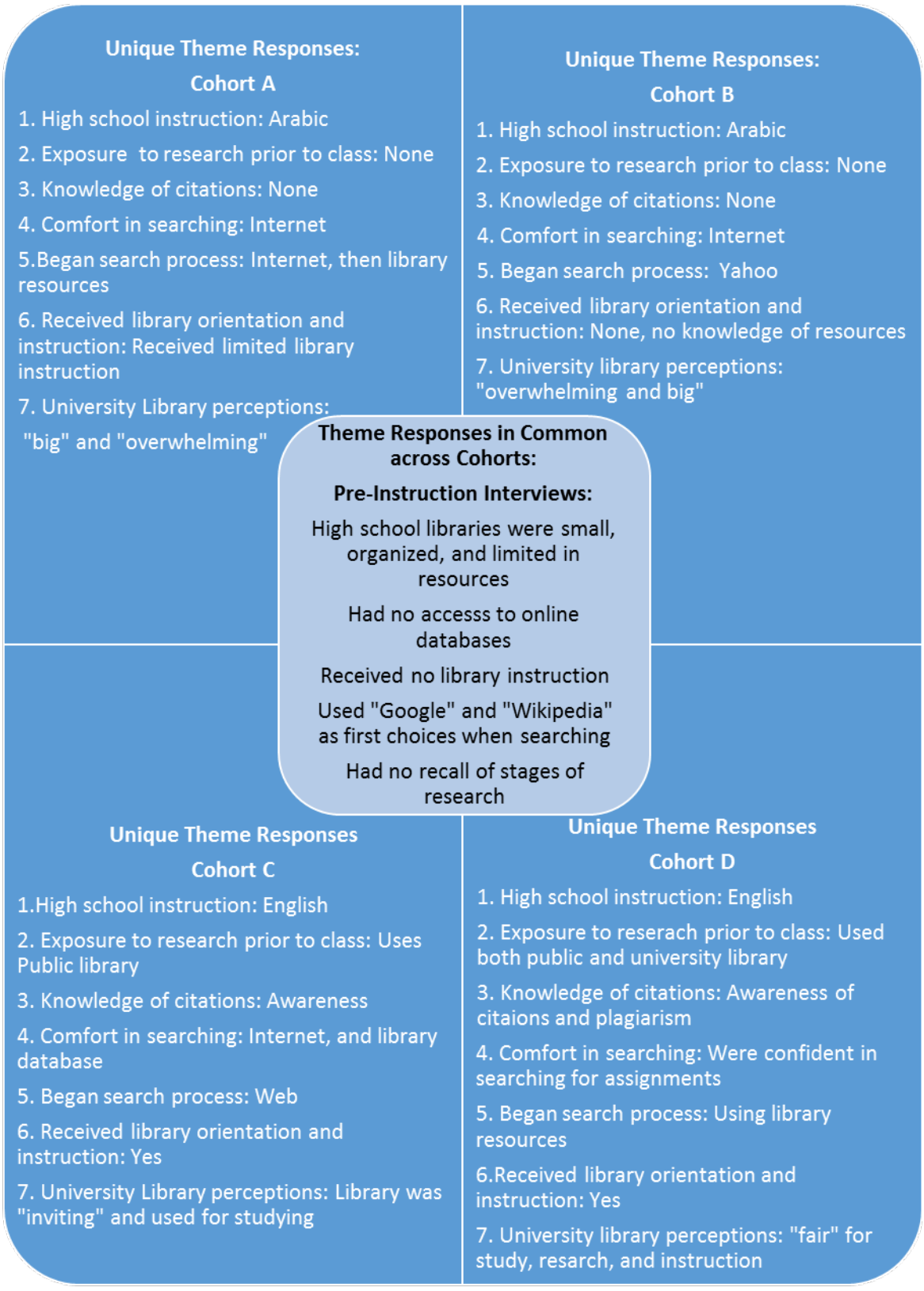


Figure 16. Cohort similarities and differences Pre-Instruction responses

In the pre-instruction interview responses about their high school and university experiences, students across all cohorts shared the following responses: their high school libraries were small, well organized, but limited in scope. All high school libraries had the availability of computers with access to the Internet, but none of their high school libraries offered access to online databases. Google and Wikipedia were the main sources for information used by the students in all cohorts. The students also indicated that they were not aware of and had no recall of the stages of research.

Cohort A and Cohort B students had their high school instruction conducted in Arabic because all were students in government high schools. Cohort C and Cohort D students attended private high schools and their instruction was in English with the exception of the Ministry of Education requirements of Arabic, Religion, and Islamic Studies courses which were in Arabic. Language created a barrier for students because the majority of databases were in English of which they had little command and they had to write papers in Arabic.

Cohort A and Cohort B students were not aware of citations and citation styles and applied a "copy-paste" approach to their work. Plagiarism was evident in the document analysis of Cohort A and Cohort B student projects. The students also relied on the Internet as their main source of gathering information. They also viewed their libraries as "big" and "overwhelming," which created a level of anxiety for the students as they started searching for information for their projects. The lack of instruction in research skills for Cohort A and Cohort B students hindered their ability to conduct research at their university libraries and to write well-developed, coherent papers.

Cohort C and Cohort D students were instructed in English in high school and continued instruction in English at the Private University. This progression of instruction in one language kept the students focused when performing research. Although they lacked any form of library instruction in high school, they were aware of performing basic searches, citations, and the use of citation styles. Unlike Cohort A and Cohort B students, cohort C and D students were given instruction on using the library and its resources through the English Language program. They also had the assistance from the Writing Center staff. These students were comfortable in searching the Internet and online databases for information at the University. They referred to their university library as "fair" and "cozy" and often used it for study, the computers, and performing research.

In the post-instruction responses after the students went through the research process the students started formulating their definitions of information literacy, and reflected on their experience with research throughout the semester. Their responses of the post-instruction interviews are reflected in the figure.

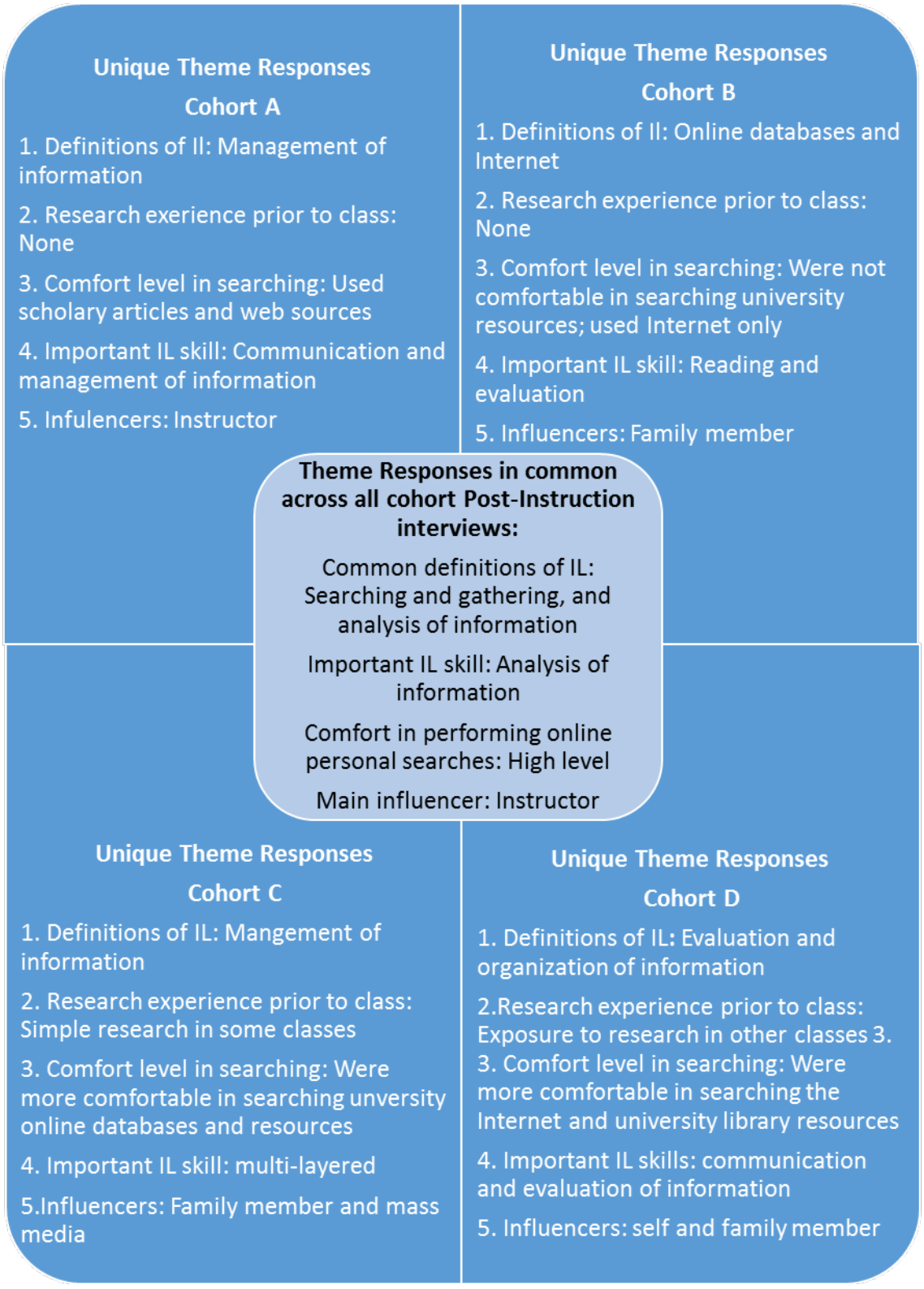


Figure 17. Cohort similarities and differences Post-Instruction responses

Students in Cohorts A, B, C, and D defined information literacy as searching for information and analysis of information. Within Cohort A and Cohort C, students also defined it as management of information. In Cohort B, the students defined the online databases and the Internet as information literacy. Cohort D students added evaluation and organization of information in their definitions of information literacy. The students' understanding and definitions of information literacy were fragmented and incorporated bits and pieces of the information literacy process. There was no clear definition of the term information literacy for the students across all cohorts. Cohort A and Cohort B students had no prior instruction in research prior to enrolling in this class. Cohort C and D students had taken classes in which they were introduced to research and their library. Their level of exposure to research was higher than that of students in Cohort A and Cohort B.

The students in all cohorts acknowledged "analysis" as one important skill that an information-literate person should possess. Cohort A students thought communication and management of information were added important skills. Reading and evaluation skills were important skills to Cohort B students. Communication skills and evaluation of information were important skills for Cohort D students. In Cohort C, the students viewed the important skills as "multi-layered" encompassing a variety of skills that were all important to the development of information literacy. In Cohort A and Cohort B due to the lack of exposure to research, the students felt most comfortable conducting their search primarily on the Internet while Cohorts C and D students felt comfortable searching the Internet as well as online databases and university library resources.

The main influencers in developing the information literacy process for students in all cohorts were the instructors. The relationship between student and professor as well as the

support the instructors provided enhanced the students' learning experience. In Cohorts B, C, and D a family member was instrumental in helping the student develop skills. One student in Cohort C referred to the mass-media as an influencer, and one student in Cohort D stated that she had influenced herself in developing her skills.

The role of influencers was critical for the students in helping them develop and enhance their skills. These findings indicated that the role of the instructor was instrumental in helping the students understand and apply information literacy, followed by the role of a family member. These trends indicated that overall Cohort A and Cohort B students shared similar feelings and responses in their understanding and conceptualization of information literacy and that Cohort C and D were comparable.

5.0 CONCLUSIONS

5.1 SUMMARY OF FINDINGS

In conclusion, this study aimed to understand how undergraduate students attending a public university and a private university in the State of Kuwait formed their concepts of information literacy and the research process. Responses of the students to pre-instruction and post-instruction interviews reflected the emergence of six overarching and overlapping themes:

- Research experiences before information literacy instruction
- Definitions of information literacy
- Information literacy as a process
- Influences on developing information literacy skills
- Documentation
- Expectations

These themes emerged in response to the following question:

How do undergraduate students in the State of Kuwait enrolled in public and private universities describe their concepts and values of information literacy before they begin a research project and after they complete the research project?

The document analysis of student papers using the developed rubric (Appendix F) assessed the students' research process rather than the quality of the content of the papers. The results reflected the students application of ACRL Standard 2, retrieval, selection and evaluation of resources; Standard 3, analysis of information; and Standard 5, documentation of resources. Two themes emerged from the document analysis to in response to the following question:

How do the concepts and values of information literacy of these undergraduate students compare with the Association of College and Research Libraries (ACRL) Standards? Do students demonstrate that they have met selected information literacy standards in their completed research project?

The themes were:

1) The information process of the students
    - Seeking, selecting, and evaluating
    - Analysis
    - Documentation

2) Application of the ACRL Standards by the students

The faculty responses supported the results of the themes emerging from questions one and two of this study. They also confirmed the need for evaluation and re-design of instruction and curriculum for the classes under study. They also provided recommendations for future action. A quotation from Saunders was upheld in the study "Recent research indicates that students largely lack the competencies associated with information literacy and that many courses are not moving beyond the one-shot course or library instruction sessions to integrate information literacy into their curricula at the program and institutional levels" (Saunders, 2012). Saunders attributes this to several factors, namely that the faculty instructors who have direct oversight of the curriculum and instruction are missing from the information literacy process.

This study indicated that there is strong need for a stronger collaboration between the faculty at both universities and the library administrators and staff.

5.2 INTERPRETATIONS AND CONCLUSIONS BASED ON GUIDING THEORETICAL FRAMEWORK

5.2.1 Lev Vygotsky's Zone of Proximal Development (ZPD)

Vygotsky's Zone of Proximal development (ZPD), lays the foundation for how the students develop their information literacy skills. "ZPD is the distance between a student's ability to perform a task under adult guidance and/or with peer collaboration and the student's ability in solving the process independently" (Driscoll, 1994). Most of the learning happens in this zone. Understanding how the students felt about the research process before instruction, how they felt after IL instruction, and what they learned with instructor guidance throughout the process was reflected by this theory.

The students at the post-instruction interviews expressed a high level of comfort, independence, and satisfaction in working through the research process. This level of comfort was provided or supported by the guidance, instruction, and external influences the students received throughout the semester from their professors, family members, and peers. Throughout the research process the students "internalized" their speech and writing skills, and this internalization of these skills leads to higher-level thinking skills according to Vygotsky. Montgomery states "young people have not simply adopted the Internet, they have internalized it," (2009, 8) and today they are "defining users of digital technologies," (107) (McClure &

Purdy, 2013). Because today's students are defined by the web and have internalized it, it becomes critical to assess and examine the students within this context. The students in all cohorts were building their higher-level thinking skills by proceeding through the process, at their own pace according to their previous experiences and their varying skill levels. Learning is cognitive development through social interaction. The student's social interactions with their professors, peers, and, for some, their family members, were an integral part of the learning process. Within these four cohorts, the two predominant influencers were the professors and a family member.

The document analysis provided insight into the applicability of the three selected ACRL Standards. While the students were going through the research process and building their information literacy skills, they were "internalizing" these skills. The internalization process occurred through scaffolding and was reflected in the applicability of the Standards by the students. Many of the students were below average in developing their skills as reflected by the results of the document analysis. Cohort D students, who scored the highest when assessed by the developed rubric scale, were the only students who displayed a satisfactory level of achieved competency.

5.2.2 Albert Bandura's Social Learning Theory

Albert Bandura's social learning theory is based on modeling. "Most human behavior is learned observationally through modeling: from observing others, one forms an idea how new behaviors are performed, and on later occasions this coded information serves as a guide for action" (Bandura, 1977). The student's reflections and conceptions of information literacy were formed through modeling in this study. Their understanding of the research process and

conceptualization of information literacy came about as a result of observing instructors, family members, and self and by performing. While the students were going through the process, they learned by imitation from their sources, by performing then revising at the feedback stage, and finally by thinking ahead. At each stage of learning, their professor as well as their family members played the role of "model," from whom they learned from and applied what they learned to their final projects and in interactions within the class.

For information literacy instruction to be effective, students need to be engaged in an "active learning" process. Detlor et al. define the active learning process to be

> . . . The delivery of information literacy instruction in ways that engage students to be fully involved and to participate in the learning process. This style of instruction advocates an "active learning" approach where students are viewed as more than empty passive vessels needing filling. Rather, students are encouraged to use their higher-order thinking skills (e.g., analysis, synthesis, reflection, evaluation) while engaged in activities that help them think critically and explore their own attitudes and values. (Detlor et al., 2012)

Findings indicate that students across Cohorts A, B, and C lacked engagement in active learning. Cohort D students, however, referred to the learning and instruction process as engaging because they had added experiences such as field trips and guest lectures. This "active leaning" approach by the instructor is reflected in the students' interview responses and in the results of the document analysis. After analyzing the data, it was clear that the students in Cohorts A, B, and C lacked experience in a having a holistic, systematic opportunity to learn information literacy skills. Therefore, the basis for social learning theory was not fully realized for these students. In Bruner's theoretical framework, learning is seen as an "active process" in which learners construct new ideas and concepts based on their experiences. The students in this study displayed a lack of full engagement in the process and were not able to develop fully their cognitive structure (schema).

5.2.3 Information Literacy Models

The various information literacy models referred to in this study provide a process or a system including steps and phases that the student must undergo in the information literacy cycle. Kuhlthau (2004), described the process and the feelings aspect of the information literacy process by stating that the information search process was made up of:

- Task Initiation
- Topic Selection
- Pre-focus Exploration
- Focus Formulation
- Information Collection
- Search Closure

The Big6 and the Stripling and Pitts models also breaks down the process in steps and sub-steps. The data provided by the students from the interviews and the documents did not reflect information literacy as a process for these students. The students did not mention a systematic process; information literacy to them was fragmented. They did, however, indicate that information literacy focuses on "searching" and "analysis" although the models provide a process to be followed, the models were difficult to apply in the context of these students. Several cultural and social factors may have an effect on the attitudes of Kuwaiti students toward learning. Education, specifically at the Public University, is free for Kuwaiti students, and these students, especially males, may not place as much value or importance in trying to complete their academic program in a timely manner. For these undergraduates, the notion of having everything readily available provides them with no urgency to finish what they started. Having "everything

handed to them" may create indifference in their attitudes towards their education. Linguistic factors also created a barrier for those students having limited proficiency in English and being instructed in English created difficulty in the application and transferability of these models. The process was seen as unique for each student. For each project, the process was different, depending on the context of the project itself and the requirements of the instructor.

5.3 IMPLICATIONS FOR INSTRUCTION AND FACILITATION OF INFORMATION LITERACY

The findings of this study could benefit and add value to both the instructors and librarians involved in information literacy instruction, as well as to the students receiving the instruction at the two universities under study in the State of Kuwait. Other undergraduate academic institutions regionally could also benefit. For the students, it is critical that they be instructed and provided with the information literacy tools at the onset of their undergraduate academic program (preferably in their freshman year). Students can also build on these acquired information literacy skills by engaging and interacting with their professors and their peers (influencers) through more collaborative work and through group projects. The concepts and ideas of information literacy were beginning to form through the process in this class, but there is a need for continuity and development of curricula and pedagogy for the students to comprehend fully and make meaning of information literacy. Students can benefit from continued library exposure if they fully utilize the library and its resources rather than relying on the Internet for

information gathering. This full utilization can come about if the librarians at these institutions collaborate and develop information-literacy-integrated instruction for their students.

First and foremost, it is important for the instructors to be knowledgeable of the information literacy process. By educating the instructors about information literacy, the instructors in turn, will be enabled to transfer the concept to their students. Going beyond education, instructors need more professional development opportunities with a focus on information literacy. The importance of information literacy across all levels of the educational systems is imperative. The process needs to be fully introduced and incorporated in the K-12 environment, then gradually progress at the undergraduate level, the graduate level, and throughout life. Rather than developing skills and standards in the K-12 environment, there is a need to focus on the extended K-16 environment. K-16 refers to a movement in the Unites States to bring together the various levels of education both the K-12 and post-secondary and to create aligned policy and practices in examinations, graduation requirements, admissions policies, and other areas. The information literacy process is a "life-long," ongoing learning process. The majority of students in this study received minimal and, in many cases, no information literacy instruction in high school.

Instructors need to develop and agree upon a stated set of goals and objectives for information literacy instruction within their institutions. The use of the ACRL Standards and the process models can assist instructors in developing and designing effective curriculum that will foster the development of information literacy skills in their students. This can be accomplished by the instructor in coordination with the university librarians. The instruction should be a shared collaborative exercise between the independent colleges and the library administration at each respective institution. The incorporation of information literacy instruction should be included

across different disciplines within the university because it is a process that develops through performance it is, therefore, important to be incorporated across different disciplines.

5.4 LESSONS LEARNED IN CONDUCTING THE STUDY

Being exploratory in nature, this study provides numerous lessons about information literacy concepts, instruction, and curriculum design. The use of NVivo in this study makes it difficult to replicate its processes and procedures. Each individual student's experiences and reflections are unique to that student and may be difficult to interpret during a replication process. The challenges in conducting research in a bi-lingual instructional environment need to be a considered as part of the research process. The translation of the students responses from the interviews sometimes led to a misinterpretation of the information, some ideas and themes expressed by the students lost their meaning in the translation. The students' exposure to research and their backgrounds are diverse and in some cases complex, and add another layer for consideration when conducting a study like this.

5.4.1 Information Literacy Instruction at the Public University

At the Public University there is a strong need to unify the instruction process in information literacy. The current instructional structure needs to be integrated. Because the students stated that having two instructors left them "lost" at times, there is a strong need to have one instructor teach both portions of the class: the theoretical and the laboratory. By having only one instructor,

students will be more focused and benefit from the whole learning experience. Additionally, there needs to be a stronger collaboration between the instructors and the library administration.

The students experienced a one-time library orientation tour and "one-shot" instruction, which to many of the students was helpful but not sufficient. There is a need to develop a more integrated program with the university library and its staff to support ongoing instruction. "Librarians who teach information literacy instruction would be well advised to give at least one session of active ILI to their students." (Detlor et al., 2011). The librarians at these two institutions need to play a more active role in the instruction process.

This issue of plagiarism needs to be addressed seriously at the Public University. With the undergraduate student population depending primarily on the Internet and online resources for information and given the ease of access and availability of these sources, "Cyberplagiarisim," (Anderson, 1999) and "Digital Plagiarism" (Park, 2003) are on the rise. The language barrier created a problem for students in Cohort A and Cohort B. Instruction needs to be in the language of the students' program. If their program consists of classes conducted in Arabic, they should be enrolled in the Arabic section of the information literacy instruction class. Otherwise, the whole learning process for them in this class is a difficult and unproductive one.

5.4.2 Information Literacy Instruction at the Private University

Private University students started the academic programs with a strong foundation in the English language. They had research exposure in the high school setting (all coming from private schools), and entered the university with basic research skills. Private University faculty need to focus on establishing relationships and working closely with the library staff on integrating library and information literacy into curricula across all disciplines. Both universities and library

administrations must make efforts to teach information literacy within a curricular context. According to Christine Bruce, a lack of literature in higher education journals suggests that ". . . the transformation of the information literacy agenda from a library-centered issue to a mainstream issue is only beginning" (p.113). There needs to be an awareness and further exploration of the term information literacy for both faculty and librarians; the library administration needs to engage in training and educating faculty to incorporate these skills in their classes.

The use of guides, outlines, and, in some cases rubrics enhanced the students' learning process. Breaking down the learning tasks into fundamental building blocks that the instructors would teach would enable students to learn and provide the instructors with specific focused measures (Oakleaf, 2008). “In the educational literature and among the teaching and learning practitioners, the word ‘rubric’ is understood generally to connote a simple assessment tool that describes levels of performance on a particular task and is used to assess outcomes in a variety of performance-based contexts” (Hafner, 2003). The implementation of rubrics as assessment tools at Private University would aid both the instructors and the students in developing the information literacy process.

5.5 FUTURE RESEARCH DIRECTIONS

5.5.1 Topics for Further Investigation

Findings from this study point to several possible topics for further investigation. This study examines undergraduate student experiences with research using both female and male students.

Examining only male or only female students and how they form their ideas on information literacy can shed light on how each gender views and experiences the process. Neither institution worked with a formalized set of standards to evaluate and assess student performance. If the universities applied a set of standards and the research were conducted, it would be interesting to determine if the results would differ. Future research needs to be conducted to assess the experiences of students and instructors learning and teaching information literacy in the K-12 educational system.

The ACRL is currently reviewing the ACRL Information Literacy Competency Standards for Higher Education, which were adopted in 2000. The taskforce's mission in reviewing the standards is:

> Update the Information literacy Competency Standards for Higher Education so that they reflect the current thinking on such things as the creation and dissemination of knowledge, the changing global higher education and learning environment, the shift from information literacy to information fluency, and the expanding definition of information literacy to include multiple literacies, e.g., transliteracy, media literacy, digital literacy, etc. (ACRL, 2011)

Meetings and forums are being conducted nationwide with librarians and educators to incorporate emergent multiple literacies. Once these Standards are revised and adopted, this study could be replicated to incorporate the revised standards, with a focus on student understanding of information literacy with a focus on "Metaliteracies" and "Threshold Concepts" (Meyer & Land, 2003; Townsend et al., 2011).

Currently, the National Center for Education Development (NCED) in Kuwait is working with the Ministry of Education and the World Bank Group on a Standards Project. Their projects include establishment of curriculum standards for all subjects in schools. Last year NCED

completed the standards for the elementary level (grades 1-5); this year they are working on grades 6-9. Other projects include:

- Math, English, Science, and Arabic National Assessment Test (MESA)
- National Institute for Education-(NIE) (Singapore)
- Teacher Licensing
- School Excellence
- Trends in International Mathematics and Science Study (TIMSS)
- Progress in International Reading Literacy Study (PIRLS)

Universities both public and private in the State of Kuwait need to work closely with NCED to formulate and develop standards for instruction at the higher education level (NCED, 2013).

5.5.2 Information Literacy in a Broader Research Context Regionally

Universities and higher education institutes in Kuwait and in the GCC need to form a task force and initiate forums on information literacy. Dialog needs to be established to formalize and initiate a movement for the development and progress of information locally and regionally. The exchange of ideas and experiences could be shared and explored to find gaps and links information literacy instruction. The ACRL Standards and the information literacy models provide a foundation upon which librarians and educators formulate their own models and standards that can be applied in their respective institutions.

This researcher's experiences as a student, a librarian, and an educator formed her views on information literacy. These views have evolved over the years from a set of skills that a

student should possess and a set of standards to be applied to the information literacy process, not bound by standards and models, but enhanced and supplemented by them. It has also become evident through this research that information literacy in not limited in scope and that the process starts for a person as early as pre-school. The information literacy process is a "life" process, meaning that a person develops these skills early in life and sets the foundations from an early age. Over the years through process and interaction, these skills are developed and enhanced. The ultimate outcome is to produce information-literate citizens by ensuring that all people acquire, construct, and disseminate knowledge to think critically and solve problems. Only then can progress and development on the individual level and on the community level be ensured.

APPENDIX A: IRB DETERMINATION

PI Notification: IRB determination

From: **irb@pitt.edu** This sender is in your safe list.
Sent: Wednesday, June 27, 2012 11:13:30 PM
To: rea29@pitt.edu

University of Pittsburgh
Institutional Review Board

3500 Fifth Avenue
Pittsburgh, PA 15213
(412) 383-1480
(412) 383-1508 (fax)
http://www.irb.pitt.edu

Memorandum

To: Reham Al Issa

From: Sue Beers, PhD, Vice Chair

Date: 6/27/2012

IRB#: PRO12040011

Subject: Concepts of Information Literacy and Information Literacy Standards Among Undergraduate Students in Public and Private Universities in the State of Kuwait

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The above-referenced project has been reviewed by the Institutional Review Board. Based on the information provided, this project meets all the necessary criteria for an exemption, and is hereby designated as "exempt" under section
45 CFR 46.101(b)(1).
Please note the following information:

- If any modifications are made to this project, use the "**Send Comments to IRB Staff**" process from the project workspace to request a review to ensure it continues to meet the exempt category.
- Upon completion of your project, be sure to finalize the project by submitting a "**Study Completed**" report from the project workspace.

Please be advised that your research study may be audited periodically by the University of Pittsburgh Research Conduct and Compliance Office.

APPENDIX B: LETTER TO REQUEST PERMISSION TO CONDUCT RESEARCH AT PUBLIC AND PRIVATE UNIVERSITY

Date

Dear Named Administrator,

I am a doctoral candidate at the School of Information Sciences at the University of Pittsburgh. My primary area of research is in information Literacy. The main purpose of my study is to understand how undergraduate students attending a public university and a private university conceptualize and value information literacy. The information gained will be used understand how undergraduates develop their concepts of information literacy and how they value the competency standards in their research. Information from this research can be used to assess the state of information literacy instruction at a public university and a private university and will also be helpful in developing and introducing new methods and strategies that you and your peers will be able to benefit from in the future.

The participants in this study will include male and female undergraduate students attending Public University in the State of Kuwait. The study will include twenty four students (Public and Private University), 12 students will be selected from your institution. I seek permission to work with the instructors of each of these classes (Name of courses) at your university. Working with the instructor I will select 3 students from each class. I would like to conduct the research during the fall semester of 2012. Participants will undergo two half hour interviews one at the beginning at the semester, the other at the culmination of the semester. Students will be asked to submit a copy of their final research project for document analysis. The second interview will be conducted after collection of the final research paper.

I request your kind approval and cooperation during the research process. I fully respect the privacy and anonymity of your institution, your courses, instructors, and students. The students participating in this research will in no way be affected in their performance in the course. All

responses will be anonymous and kept confidential and will be used for scholarly research purposes only.

The responses and feedback from your students are of great importance to the success of this study and can be used in the future to develop information literacy instruction in your respected institution, in Kuwait, and across the region.

Thank you in advance for your time and cooperation.

Sincerely,

Reham Al-Issa-PhD Candidate
University of Pittsburgh School of Information Sciences

APPENDIX C: INVITATION TO STUDENTS TO PARTICIPATE IN RESEARCH STUDY

Date

Dear Student,

I am a doctoral candidate at the School of Information Sciences at the University of Pittsburgh. My primary area of research is in information literacy. The main purpose of my study is to understand how undergraduate students attending a public university and a private university in the State of Kuwait conceptualize and value information literacy. The information gained will be used to gauge the amount of learning gained through course instruction to asses and evaluate if the course is reaching its targeted goals and objectives. The information will also be helpful in developing and introducing new methods and strategies that you and your peers will be able to benefit from in the future.

The participants in this study will include 24 male and female undergraduate students attending a public and a private university in the State of Kuwait. The study will include students, and be conducted during the fall semester of 2012. Participants will undergo two half-hour interviews: one at the beginning at the semester, the second at the culmination of the semester. The interviews can be conducted in either English of Arabic based on your choice. You will be required to submit a copy of your final research project for document analysis.

I request your cooperation and honest response throughout the interview process. I fully respect the privacy of your responses, and they will in no way affect your assessment by your instructor in the course. All responses will be anonymous and your name will never be attached in any way to your responses, all will be stored in a secure password protected database that will be used for scholarly research purposes only.

Kindly note that your participation is completely voluntary.

All your responses and feedback are of great importance to the success of this study. Thank you in advance for your time and participation.

Sincerely,

Reham Al-Issa PhD Candidate
University of Pittsburgh School of Information Sciences

APPENDIX D: STUDENT CONSENT FORM

Concepts of Information Literacy and Information Literacy Standards among Undergraduate Students in Public and Private Universities in the State of Kuwait

RESEARCH INFORMATION AND CONSENT FORM (Student)

Introduction: You are invited to participate in a research study investigating how undergraduates in the State of Kuwait define and conceptualize information literacy and Information Literacy standards. This study is being conducted by Reham Al-Issa, doctoral candidate at the School of Information Sciences at the University of Pittsburgh. You were selected as a possible participant in this research because you are an undergraduate student and you attend an information literacy instructional course at either a public or private University in the State of Kuwait. Please read this form and ask questions before you decide whether to participate in the study. If you have any questions please ask the researcher.

Background Information: The purpose of this study is to investigate how you as an undergraduate student define your concepts regarding information literacy and information literacy standards and how certain events, activities and people might have help shape your values about information literacy and research.

Procedures: If you decide to participate, you will be required to participate in two individual interviews each lasting half an hour. The first interview will be held within the first two weeks of the semester. The second interview will be conducted at the end of the course after the research paper has been submitted and the course final grades have been issued by the instructor. The interview can be conducted in either Arabic or English based on your choice. You will also be required to submit a copy of your final research project for document analysis in advance of this interview or at this interview. The study will include 24 undergraduate male and female students from a public university and a private university in Kuwait in the State of Kuwait.

Risks and Benefits: The study has minimal risks, and will not affect your grade for the research project or your final grade for the class. The peer participation will help the researcher to identify

what information literacy mean to you and if information literacy standards are being applied in your research through the course. The course instruction could be altered and reshaped to ensure that specific instructional strategies are applied for future development and course design.

Compensation: Should you choose to participate in this study you will be given a 10 Kuwaiti Dinar (KD) (Equivalent to USD $30) gift voucher to be used at any of the Al-Shaya outlets at the conclusion of the second interview.

Confidentiality: Any information obtained in connection with this research study that could identify you will be kept absolutely confidential. In any written reports or publications, no one will be identified or identifiable and only aggregated cohort group data will be presented. Research results will be secured in a password-protected computer and a locked file cabinet at the University of Pittsburgh and only the researcher and the dissertation advisor will have access to the records while we work on this project. Data analysis will be completed by March 2013.

Voluntary nature of the study: Participation in this research study is voluntary. Your decision whether or not to participate will not affect your future relations with your university in any way. You have the right to refuse to answer any question if you choose. If you decide to participate, you are free to stop at any time without affecting these relationships, and no further data will be collected.

New Information: If during course of this research study, I learn about new findings that might influence your willingness to continue participating in the study, I will inform you of these findings.

Contacts and questions:
PRINCIPAL INVESTIGATOR:
Reham Al-Issa
Library and Information Science PhD Program
School of Information Sciences, University of Pittsburgh
135 North Bellefield Avenue, Pittsburgh, PA 15260
Phone: 965-997-30063; E-mail: rea29@pitt.edu

FACULTY ADVISOR
Dr. Mary Kay Biagini, School of Information Sciences, University of Pittsburgh
601B IS Building, 135 North Bellefield Avenue, Pittsburgh, PA 15260
Phone: 412-624-5138; Email: mkbiagini@sis.pitt.edu

*You may keep a copy of this form for your records.

APPENDIX E: INTERVIEW SCHEDULES FOR THE STUDENTS AT THE PUBLIC AND PRIVATE UNIVERSITY

Interview I-Pre-Instruction Interview

[Explanation of study; confidentiality; timing by researcher]

Demographic Data

Name
Age
Cohort
High School Attended

High School Experience

1) How would you describe your high school library? Do you remember if the librarian helped you or taught you how to use the library resources?
2) How were the books organized? What condition were they in? Did you have access to electronic databases?
3) Did you receive any formal instruction about using the library?
4) How did you find information and resources for projects?
5) Do you remember a research project from high school? What was the topic? What did you like the most while working on this project?
6) Were you required to use both print and online resources for your research project?
7) Did your library have online databases that you could use? If yes, were you able to access them remotely from home? Do you remember which databases?
8) If you used the web for resources what kinds of web sources did you use?
9) Do you remember the different stages you went through to find information for a research project?

10) Was there a specific citation style required by your teachers? If yes, which style was used?

University Experience

1) Describe your experiences with research before this class.
2) Have you taken any classes in which you were required to write a paper and document your sources?
3) Will you describe to me one of your assignments? What did you like about it or did you feel comfortable about it?
4) Were there any subject courses that you felt more comfortable writing papers for than others? What were these courses and why did you feel more comfortable?
5) What kind of resources or documentation do you instructors require?
6) When given an assignment or research project, how comfortable do you feel about starting the research process?
7) Do you start your search for resources on the web or do you start with the online databases that the university offers?
8) If you can't find the information by yourself, do you go to the librarian for assistance or to the instructor or to neither or to both?
9) How would you describe your library? Has the librarian helped you?
10) Have you received any formal instruction from a librarian or your instructor about the resources available to you at your library? How? Was it helpful/not helpful?

Interview II-Post-Instruction Interview-Reflection

1) Have you heard the term "information literacy" before?
2) How would you describe information literacy?
3) If you needed to find information for personal use such as buying a car, or an iPod, do you feel comfortable knowing where to locate that information?
4) What, if any, are the differences about information literacy that you learned in high school from what you learned at the university?
5) Lots of people define information literacy as library skills, research skills, or information gathering ways, could you describe what it means to you?
6) What types of skills do you think an information literate person should possess?
7) Can you think of times when you used information literacy to help yourself or to help others around you?
8) Now that we discussed your high school experiences, and your university experiences can you describe to me your experiences, events, and people who have had the most influence in developing your information literacy?
9) To perform good research, how would you describe the process? How do you go about it?
10) What new thoughts, ideas, and experiences did you encounter as you went through this experience?

APPENDIX F: RUBRIC FOR DOCUMENT ANALYSIS OF STUDENT RESEARCH PROJECTS

Rubric Scale	IL Standard One Thesis/ Problem Question	IL Standard Two Retrieval, selection and evaluation of resources	IL Standard Three Analysis of Information	IL Standard Four Synthesis Of Information	IL Standard Five Documentation of Sources	Process
	The Student:	**The Student:**	**The Student:**	**The Student:**	**The Student:**	**The Student:**
3	•Poses a research question that is engaging and creative. •Contributes knowledge in a focused and specific area. •Develops a thesis statement and formulates challenging questions based on the information needed.	•Selects and gathers information from a variety of reliable sources (print and electronic). • Uses the online databases effectively. •Use surveys, letters, interviews and other forms of inquiry to retrieve primary information. •Uses sources that are both relevant and balanced.	•Examines and compares information from resources for reliability, validity, accuracy, authority timeliness, and opinion to draw conclusions. •Understands the cultural and physical context in which information was created.	•Communicates information in an organized and logical pattern. The information is organized in an understandable manner, good writing style, and smooth transitions.	•Uses a proper citation style and showed perfect and complete documentation of all sources used. •Obtains all information legally, and understands what constitutes plagiarism, and does not use work attributable to others own work. •Displays no evidence of plagiarism.	•Displays originality and creativity. Clear and direct use of effective research tools and methods. •Excellent/superior quality of research.
2	•Poses a focused question that involves them in the research. •Poses questions that are clear and understandable and can readily access resources.	•Includes a sufficient number of resources that are relevant. •Uses online web sources and online databases to gather information.	•Demonstrates an appropriate level of effort was used to analyze the resources. •Sufficient and appropriate level of analysis is shown.	•Some level of organization and linking of ideas. •Organizes content legally with smooth transitions.	•Shows an appropriate and correct documentation of sources. •understands plagiarism, and its overall consequences. •No errors	•Effectively communicates the information, but sometimes gaps exist in their communication. • Core themes and ideas are explained clearly.
1	•Depends on questions provided by instructors. •Demonstrates minimal amount of critical thinking.	•Gathered information that was of little or no relevance to the topic. •Resources were not valid or reliable.	•Little or analysis of resources used. •Conclusions are not strongly supported by information gathered.	•Does not organize information and content coherently •Communicated with no logical structure that is difficult to understand.	•Shows no proper citation of documents. and •Plagiarism exists.	•Student displays no evidence of clear research. •Provides little or no effective communication in the research project. •lacks cohesion.

Rubric Scale:

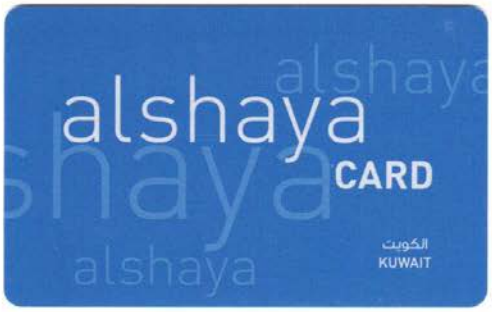
1-Does not demonstrate competency 2-Demonstrates competency 3-Exceeds competency

APPENDIX G: INTERVIEW SCHEDULE FOR FACULTY

Faculty/Instructor Post Information Literacy Instruction Interview Questions

1. How long have you been teaching this course?
2. What was your level of involvement in designing the course goals and objectives?
3. How involved was the library staff in the instruction for the research project for the course?
4. Do you think that your institution provides you with the necessary tools and resources to teach information literacy?
5. Were the students prepared to conduct research coming into the class?
6. In general, do you think students demonstrated their research skills through their projects?
7. What objectives did the students meet in conducting the research paper?
8. In your opinion, do you think that one semester is sufficient time to teach information literacy skills? Why? Why not?
9. If you were to teach this course independently, how would you structure the course?
10. Do you have any suggestions and feedback for developing the research process in this class?

APPENDIX H: AL-SHAYA GIFT CARD



You can use your **Alshaya Card**

in all Alshaya stores, restaurants and cafes.

Introducing the Alshaya Card, the perfect gift for all occasions. You can use the card in all Alshaya stores, restaurants and cafes in Kuwait, so you can indulge in store and then relax and treat yourself to a wide choice of food and beverages.

For your convenience you can spend the money on your Alshaya Card at your leisure any time over the twelve months after top up.

Alshaya will also use the Alshaya Card for refunds on all retail purchases. Ask our staff for details or see our Exchange and Refund Policy in store.

If you have any questions about the Alshaya Card please contact us on 182 12 12,
visit our website www.alshaya.com
or email us at customercare@alshaya.com

M.H. Alshaya Co.
alshaya.com

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