


1-1-2012

Methodological Orientation of Research Articles Appearing in Higher Education Journals

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Ritter, Sherri E., "Methodological Orientation of Research Articles Appearing in Higher Education Journals" (2012). *Theses, Dissertations and Capstones*. Paper 211.

**METHODOLOGICAL ORIENTATION OF RESEARCH ARTICLES
APPEARING IN HIGHER EDUCATION JOURNALS**

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and Professional Development

Dissertation submitted to the
Graduate College of Marshall University
in partial fulfillment of
the requirements for the degree of

Doctor of Education
in
Educational Leadership

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Huntington, West Virginia, 2012

Keywords: Research, Methodology, Qualitative, Quantitative, Mixed-Methods

DEDICATION

This work is dedicated to God, family, and friends whose love, support and encouragement have sustained me through the process. Thanks for your patience and sacrifices. My success is because of you!

ACKNOWLEDGEMENTS

I must recognize and acknowledge my appreciation and respect for the support and encouragement received along this journey from my family, friends, and colleagues.

My sincere gratitude and appreciation to my doctoral committee chair, Dr. Dennis M. Anderson. Without his help and support I would never have had the courage to attempt a terminal degree. He has stood as a guiding light beside me throughout the entire process. I would also like to acknowledge and thank each member of my committee: Dr. Edna Meisel, Dr. Lisa Heaton, and Dr. Mary Harris-John. It was an honor and blessing to have such a wonderful and talented group of individuals to guide me through the procedure. Your input was invaluable and I will always appreciate your encouragement. Special thanks to Dr. Meisel for her guidance through chapter four; without you I would still be struggling.

All the faculty and staff of Marshall University played a role in helping me climb this mountain. Thanks to my friends and colleagues for your support and encouragement. Finally, special thanks for Mrs. Donna Jarrell, my editor, who spent many long hours editing my drafts. Thank you for all of your help and support. Thank you all.

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ABSTRACT

The purpose of this study was to understand the methodologies authors in higher education journals used to obtain knowledge in their fields. This study looked at five peer-reviewed journals of higher education and analyzed the methods of research employed by the authors to help them answer their respective research questions. The methods of research are qualitative, quantitative, or mixed-methods. Additionally, this study examined the effects of author, gender, and academic rank on the selection of research methods.

**METHODOLOGICAL ORIENTATION OF RESEARCH ARTICLES
APPEARING IN HIGHER EDUCATION JOURNALS**

CHAPTER ONE: INTRODUCTION TO RESEARCH METHODOLOGY

Knowledge has been a basic human necessity as essential as food and shelter. It separated us from other life forms by giving us the power to manipulate and to control our environment. Entire civilizations have changed due to their understanding and knowledge of the world around them. Christopher Columbus discovered “The New World” as a result of his pursuit of knowledge. Modern day examples can be found everywhere. According to the census, the population of the United States has shifted from the East to the South and West (Jones & McCormick, 2010). In the past 60 years the population of Phoenix, Arizona has grown over 255 percent and that of Las Vegas has increased 1,843 percent (Browning, 2011). A few years ago these cities were almost uninhabitable with temperatures reaching 120 degrees Fahrenheit in the summer months. If humankind had not acquired the knowledge to control its physical environment, these areas would still be largely unpopulated. Knowledge put a man on the moon, changed travel, and how daily life is lived. This study examined the different methodologies used to acquire knowledge in this modern scientific age.

Over the years the way knowledge was acquired has changed. There have been four major categories used to define knowledge: Authoritarian, Mystical, Rationalistic,

and Scientific. In the Authoritarian and Mystical eras knowledge was generated through a select group of individuals such as oracles and mediums. In the Authoritarian model the creators of knowledge were politically or socially defined and would include individuals such as kings and archbishops. A common person in quest of knowledge would solicit the authority's assistance for prayer or other ceremonial petitions for guidance. In the Mystical model, the authoritarian would be selected through the manifestation of supernatural signs. The Mystics were made up of prophets, mediums, and gods and would sometimes use drugs or stress-induced hallucinatory methods to seek signs for guidance. At other times they would use tarot cards and hexagrams to guide seekers of knowledge (Milliken, 2001; Wallace, 2004).

During the Rationalistic age of research, logic was the absolute science. The creation of knowledge depended on the strict observance of a set of rules laid out by the logic model. This model was similar to the Authoritarian and Mystic in that the rules governing knowledge were created by a select group of individuals, but once those rules were established an individual could generate knowledge as long as he or she adhered to those rules. Proponents of the scientific approach believed that there was a set of unproven and unprovable assumptions needed to verify true knowledge. They sought to dispel the belief that human beings were born with or can simply reason their way to authentic knowledge. The Scientific model, unlike the others, puts no weight on the characteristic of the person creating the knowledge. That method of knowledge creation relied on the collective assessment and replication of procedures to produce true knowledge. It is the Scientific era and the development of qualitative and quantitative research methods that were the focus of this study (Milliken, 2001; Wallace, 2004).

Both qualitative and quantitative research methods were developed in the twentieth century and with their evolution came the qualitative versus quantitative debate. In general, quantitative studies involve the collection and analysis of numerical data whereas qualitative studies involve a method of collecting and analyzing data that relies on meaning and interpretation.

Critics of qualitative research claimed that it is not scientific and lacks proper sampling. Moreover, the opponents of qualitative research claimed that it is not objective and is guided by the subjectivity of the researcher. On the other hand, critics of the quantitative method claim that the idea of representation and generalizability is flawed, and that it is impossible to eliminate researcher subjectivity (Woolgar, 1988). It was further argued that science is dynamic in nature and does not exist in a vacuum. Some claimed that influences of social forces and professional pressures make objectivity unattainable (Tewksbury, DeMichele, & Miller, 2005).

Purpose of the Study

The purpose of this study was to analyze the methods of research employed by the higher education community as evidenced by articles published in selected peer-reviewed journals. Additionally, this study examined the effects of author, gender, and academic rank on the selection of research methods. This study explored the way authors of research journals published and mentored junior authors.

Statement of the Problem

For many years the qualitative versus quantitative research debate has lingered. Although qualitative methods have made headway, quantitative methods are believed to remain prevalent. This study critiqued five higher education journals within a five-year

period, 2006-2010, to determine the frequency with which various methods were utilized. The five journals used in this research were, *The Review of Higher Education*, *Journal of Computing in Higher Education*, *The Journal of Higher Education*, *Journal of Higher Education Policy and Management*, and *Higher Education Quarterly*.

Journal Background

The Review of Higher Education

The Review of Higher Education (The Review) features articles and research pertaining to various issues affecting higher education. It is published quarterly by Johns Hopkins University Press and is the official journal of the Association for the Study of Higher Education (ASHE). *The Review* originates from the Department of Educational Leadership Program at the University of Nevada, Las Vegas and is produced both online and in print. According to publishers the article acceptance rate is between five and eight percent. The journal is peer reviewed (Johns Hopkins University Press, 2009; Nora, 2009).

Journal of Computing in Higher Education

The *Journal of Computing in Higher Education (The Journal)* publishes original research and papers pertaining to issues associated with instructional technologies in educational environments. The journal is published by Springer Publishing in New York and is produced both online and in print. All manuscripts undergo review through a double-blind peer process. Two issues per year are produced with an acceptance rate of about 20 percent (Journal of Computing in Higher Education, 2009; Sheldon, 2009).

Journal of Higher Education

The *Journal of Higher Education (JHE)* is a scholarly journal published by the Ohio State University Press in Columbus, Ohio. The journal deals with issues of importance to faculty and administrators in higher education and is available in print and online. The journal is published bimonthly. The acceptance rate is nine percent. Manuscripts undergo a blind peer review prior to acceptance (Ohio State University Press, 2009; Gray, 2009).

Journal of Higher Education Policy and Management

The *Journal of Higher Education Policy and Management (JHEPM)* focuses on post-secondary educational policy. It not only deals with current practices but also provides the latest research on emerging policies. All articles undergo peer review by at least two experts, after passing an editor screening. The journal is published four times a year by Routledge, Taylor and Francis Ltd, an international publisher from Oxford, England. Author acceptance rate is 20 percent. *JHEPM* is available online and in print (Dobson, 2009; Taylor & Francis Group, 2009).

Higher Education Quarterly

The *Higher Education Quarterly (HE)* is published four times a year by Wiley-Blackwell publishers. The focus of this publication is strategic management and senior policy management in secondary education. All articles are peer reviewed. The acceptance rate for authorship is 20 percent and the journal is available in print and online. *HE* is an international publication based in London and is published in association with the Society for Research in Higher Education (SRHE) (John Wiley & Sons, 2009; McKeown, 2009).

Significance of the Study

Higher education has two basic functions, which are to educate and to create knowledge. In addition to teaching, professional educators are often required to participate in research and publish those findings in scholarly journals, most of which are peer reviewed or refereed journals. Peer-reviewed journals are reviewed for accuracy, originality, and current interest by a panel of experts in the field. Peer-reviewed articles meet the standards of expertise expected by the discipline.

The peer review process is an accepted indicator of quality. Having published in a refereed journal adds credibility to an educator's reputation and profession. The quality of the refereed journal is known throughout the industry, which is why academic leaders rely on them to remain current in their disciplines. These journals are an excellent way for professionals to share their research and see the latest investigations performed by other professionals.

Given the significance associated with these journals it is important to establish the academic standing of the authors and their research methodology. The academic standing is an indicator of the author's experience and credibility. The method of research chosen by the author helps define the parameters of the study and the conclusions that are drawn.

Both qualitative and quantitative research methods address different types of questions and are capable of providing scientifically important and clinically relevant information. Qualitative research focuses on the sum of a problem whereas quantitative looks at individual parts. To be limited to one approach limits the type of problems that can be addressed by the research (Plante, Kiernan, & Betts, 1994).

Research Questions

1. What is the predominant method of research for published authors in selected peer-reviewed higher education journals?
2. Does gender play a role in determining the method of research for published authors in select peer-reviewed higher education journals?
3. Does academic rank play a role in determining the method of research for published authors in select peer-reviewed higher education journals?
4. Do primary authors prefer co-authors of a certain academic rank in select peer-reviewed higher education journals?

Methods

This study involved an analysis of the research method(s) used in the articles and the authors' characteristics (gender, rank, place of employment) for each article published in five higher education journals for a five year period, 2006-2010. Analysis of the data was based on descriptive statistics. Only full articles were included; book reviews, opinion pieces, and so forth were excluded. Variables included gender of the lead author, academic rank of the lead author and co-authors, and the predominant method of research used in each research article (quantitative, qualitative, or mixed).

Limitations of the Study

This study had three primary limitations.

- Journal Selections
- Not Discipline Specific
- Generalizability

Journal selections for this study were from five scholarly publications of higher education over a five-year period. Other journals and timeframes may produce different outcomes.

This study examined higher education as a whole and was not discipline specific. The selected journals dealt with policy, technology, and higher education in general.

The extent to which these findings may be generalized is indeterminate. All journals associated with the study were available through printed media and accessible online. Journals that were strictly print or solely online were not included in this study.

Operational Definitions

The following operational definitions were used to examine the research questions of this study:

Academic Rank: In academia faculty hold rank according to rigid qualifications and includes Professor, Associate Professor, Assistant Professor, and sometimes Instructor.

Acceptance Rate: An acceptance rate is the percentage of submitted manuscripts that editors accept for publication. In general the lower the acceptance rate the more prestigious the publication.

Mixed-Method: A technique of problem assessment that utilizes qualitative and quantitative research methods.

Peer Reviewed: The process of verifying an author's scholarly work as determined by peers.

Qualitative: A method of understanding human behavior based on the collection of non-numerical data.

Quantitative: The scientific investigation of problems based on mathematical models.

Conclusion

Although the examination of research methods has been conducted in specific disciplines such as criminal justice and mass communication, a similar study in higher education has not been conducted (Tewksbury, et al., 2005; Trumbo, 2004).

This study will be relevant for academic leaders who rely on peer-reviewed journals to remain current in their disciplines. It will also be relevant to faculty who publish in peer-reviewed journals for promotion and tenure consideration. This study will help potential authors understand which journals are most relevant to their particular type of research projects. It will help them determine where manuscripts should be submitted to maximize chances for acceptance.

CHAPTER TWO: LITERATURE REVIEW

The purpose of this chapter is to examine existing literature concerning the history of research and the methodological orientation of research articles appearing in higher education journals.

Quantitative Research

Quantitative research is a method of measuring human actions and ideas based upon scientific sampling. Its roots stem as far back as the 1100s with the Trial of the Pyx. Before modern methods of coin creation, the work was done by hand. To ensure the newly minted coins conformed to standards, the London Royal Mint routinely inspected the quality by measuring their weight. Each day a sampling of coins would be stored in a wooden chest called the Pyx. At a given time the Pyx would be transferred to a chamber by the same name for inspection. The coins would be weighed for accuracy against plates of gold, silver and cupro-nickel. These plates were known as Trial Plates. Each coin would have to fall within a certain weight range to maintain the integrity of that batch of coins. This represented the first scientific means of ensuring quality production of a product (Giedroyc, 1998-2010; Goldsmiths Company, n.d.; Stigler, 1986.).

Modern Era of Quantitative Research

It was not until 1805 that the modern era of quantitative research as we know it today began to take shape. Pierre-Simon Laplace (1749-1827), a French mathematician and astronomer best known for his solar system research, developed a tool to mathematically predict the probabilities of a particular event occurring in nature. The probability theory was essential to activities that involve quantitative analysis of large

sets of data. For example, a coin tossed in the air has a fifty-fifty chance of turning up heads. The more often it is tossed the closer to that fifty-fifty mark it will come. In other words, a coin tossed three times may come up heads one time, which will give it one-third chance of being heads, but tossed one hundred times, that coin will be closer to the fifty-fifty mark of being heads. Laplace's theory was built upon earlier works by Abraham De Moivre (1667-1754) and Jacob Bernoulli (1654-1705). These advances in the study of probability helped usher in the age of modern statistics and earned Laplace the title of the "Newton of France" (Classic Encyclopedia, 2006; Stigler, 1986a).

During the same time period another Frenchman, Adrien Marie Legendre (1752-1833), was busy developing the Method of Least Squares (MLS). The MLS is a procedure to determine the best fit line for a set of data. This method was developed to solve scientific problems such as the mathematical motion of the moon and the shape of the earth (Shafer, 1993).

Four years after Legendre's publication on MLS, Carl Friedrich Gauss (1777-1855) expanded on the theory with a book entitled "The Theory of the Motion of Heavenly Bodies Moving about the Sun in Conic Sections." His theory was an expansion of both Laplace and Legendre and explained the orbits of planets (Stigler, 1986a).

Up until the early nineteenth century most mathematicians were busy applying their theories to problems concerning astronomy. Their goal was to understand the universe and how it worked. By the mid-1820s a move was underway to use some of the astronomical observation tools to understand the nature of man.

The Evolution of Quantitative Research

Birth of Social Research. Adolphe Quetelet (1796-1874), a Belgian astronomer, mathematician, statistician, and sociologist, introduced the age of social research using quantitative research methods. As a sociologist he used his mathematical background to make the leap into social research (Eknoyan, 2007). He devised a method of analyzing past population data to estimate current populations. His work with the census took place in 1828, but his interest did not stop there (Brooks, 2001). His next discovery in social research was the “concept of the average man.” The average man was a fictional being that emerged from his statistical research. To develop the average man he considered birth and death rates by month, city, temperature, and time of day. Other human attributes such as height and weight were also considered. Eventually Quetelet carried his research beyond physical attributes to moral qualities. He collected data on drunkenness, insanity, suicide, and crime to lay the groundwork for social physics (Eknoyan, 2007; O'Connor & Robertson, 2006).

In the nineteenth century one of the central issues essential for extending statistical methodology from astronomical to social data was the isolation of data into homogeneous categories. Wilhelm Lexis (1837-1914), a German statistician, economist, and social scientist, was dissatisfied with the unsupported assumption of statistical homogeneity in sampling. He devised a test called the Lexis Ratio to analyze the validity of samplings. His most important contribution to modern social research was generalizability. Generalizability is a method of analysis used to determine if a sample is representative of the population under study (O'Connor & Robertson, 2000).

Modern Experimental Psychology. Gustav Theodor Fechner (1801-1887), Wilhelm Maximilian Wundt (1832-1920), and Hermann Ebbinghaus (1850-1909) are recognized as the founders of modern, experimental psychology. Fechner believed the mind could be measured and subjected to mathematical treatment. With this belief he developed his theory that psychology had the potential to become a quantified science. Fechner was also credited with demonstrating the non-linear relationship between psychological sensation and the physical intensity (Stigler, 1986).

By creating one of the first formal laboratories for psychological research Wundt established psychology as a separate science. His work entailed the exploration of religious beliefs. He was also known for mapping damaged areas of the human brain and identifying mental disorders (Stigler, 1986).

Ebbinghaus also worked with the human brain. His major contribution was the development of the Forgetting and Learning Curves. He was known for his pioneering research in memory. He developed techniques to help researchers measure memory and to understand serial learning and free recall (Stigler, 1986a).

Statistical Correlation and Regression. Francis Galton (1822-1911) held many titles but his major contribution to modern quantitative research was his work with statistical correlation and regression. He developed the Theory of Regression while studying heredity. His study involved sweet peas and how the seeds varied in size and characteristics according to their parents. He developed a technique for modeling and analyzing several variables with a focus on the relationship between dependent and independent variables. A correlation is a single number that describes the degree of relationship between two variables (Plucker, 2007; Tredoux, 2002; Trochim, 2006).

Francis Ysidro Edgeworth (1845-1926), an Irish philosopher, politician, and economist, made significant contributions to statistics, but what made him unique was his lack of a background in statistics. He took many of the tools used in previous centuries for astronomical observations and broke them down to their cores so he could understand the conditions, assumptions, and interpretations that made each successful. He developed techniques for dealing with special structures, which are now commonly referred to as Variance Components or the Random Effect Model. These models showed how to estimate dispersion in cross-classified additive models so that comparisons could be made between rows, columns, or cells (O'Connor & Robertson, 2003; Stigler, 2002).

Karl Pearson (1857-1936) established the discipline of mathematical statistics. He applied statistics to such biological problems as heredity and evolution. His contributions included regression analysis, the correlation coefficient, and the Chi-square test of statistical significance (1900). Pearson coined the term “standard deviation” (Magnello, 2007).

George Udny Yule (1871-1951) was a British statistician. Yule's major contributions to theoretical statistics dealt with correlation and regression. He was the first to recognize the degrees of freedom in the chi square statistic contingency tables. (O'Connor & Robertson, 2003b; Williams, 2004).

Widespread Acceptance of Quantitative Research

Quantitative research did not gain momentum with the general public until the early twentieth century. George Horace Gallup (1901-1984), Elmo Roper (1900-1971), and Archibald Crossley (1896-1985) used quantitative research to correctly predict Franklin D. Roosevelt's victory in the 1936 presidential election. A few years later

Gallup learned a valuable lesson when he failed to follow through with his earlier data collection strategy and closed the presidential polls three weeks early, which resulted in an unsuccessful prediction of Dewey over Truman in the 1948 election (Gallup, Inc., 2009; Roper Center, 2009; Zetterberg, 2004).

By the middle of the twentieth century quantitative research was well established within the academic world. Quantitative research was based on the philosophical movement that all meaningful statements are either analytical or conclusively verifiable. This movement was called Positivism. Everything had to be confirmable by observation and experiment and metaphysical theories were meaningless (Ryan, 2006; Trochim, 2006b).

Strengths and Weaknesses of Quantitative Research

Like all methods of research, quantitative has its strengths and weaknesses.

Table 1: Strengths and Weaknesses of Quantitative Research outlines the positive and negative components of this paradigm. Information contained in this table is reprinted directly from “*Mixed-Methods Research: A Research Paradigm Whose Time Has Come,*” by R. B. Johnson and A. J. Onwuegbuzie, 2004. As reflected in the table some of its primary strengths include the ability to replicate the research, the potential to make predictions, and the capability of working with a large number of subjects. The primary weakness of this method is that the knowledge produced may be too abstract for practical application and researchers may misinterpret data due to the lack of understanding the local culture.

Table 1: Strengths and Weaknesses of Quantitative Research

Strengths and Weaknesses of Quantitative Research

Strengths

- Testing and validating already constructed theories about how (and to a lesser degree, why) phenomena occur.
- Testing hypotheses that are constructed before the data are collected. Can generalize research findings when the data are based on random samples of sufficient size.
- Can generalize a research finding when it has been replicated on many different populations and subpopulations.
- Useful for obtaining data that allow quantitative predictions to be made.
- The researcher may construct a situation that eliminates the confounding influence of many variables, allowing one to more credibly assess *cause-and-effect* relationships.
- Data collection using some quantitative methods is relatively quick (e.g., telephone interviews).
- Provides precise, quantitative, numerical data.
- Data analysis is relatively less time consuming (using statistical software).
- The research results are relatively independent of the researcher (e.g., effect size, statistical significance).
- It may have higher credibility with many people in power (e.g., administrators, politicians, people who fund programs).
- It is useful for studying large numbers of people.

Weaknesses

- The researcher's categories that are used may not reflect local constituencies' understandings.
- The researcher's theories that are used may not reflect local constituencies' understandings.

-
- The researcher may miss out on phenomena occurring because of the focus on theory or hypothesis *testing* rather than on theory or hypothesis *generation* (called the *confirmation bias*).
 - Knowledge produced may be too abstract and general for direct application to specific local situations, contexts, and individuals.
-

Note. Reprinted from “Mixed-Methods Research: A Research Paradigm Whose Time Has Come,” by R. B. Johnson and A. J. Onwuegbuzie, 2004.

For most scientists, quantitative research was considered the benchmark of exploration, but a new model was on the horizon. The emergence of qualitative research into mainstream investigations added a new dimension to the field of research and challenged the Positivism movement. Qualitative research rejected the Positivism theory and sparked a debate in the scientific world that would last well into the twenty-first century.

Qualitative Research

Qualitative research can trace its roots to the disciplines of anthropology and sociology. Anthropology is the study of human beings and their interactions with each other and the environment whereas sociology is the study of human societies and social structures.

Anthropology

Anthropology is the study of humankind with roots in natural and social science and the humanities. The first anthropologist was Abū Rayhān al-Bīrūnī (973-1048). Al-Bīrūnī was a Muslim scholar who engaged in personal research of the lives and customs of the people of the Middle East, the Mediterranean and Southern Asia. His primary method of research was participant observation. He presented his findings with

objectivity and neutrality using cross-cultural comparisons (Faratarazmarzha, 2007; O'Connor & Robertson, 1999).

The next major step in the evolution of anthropology was Marco Polo (1254-1324). He came to be known as "the father of modern anthropology." This title is based upon his book, "The Travels of Marco Polo" nicknamed "Il Milione." Some say it earned the title for the millions of lies told within the pages, whereas others claim it is a methodical observation of nature. Polo was a merchant by trade. As a young man he traveled with his father and uncle throughout Central Asia and China learning the industry. Polo's travels took him across various cultures where he met society's elite. Upon returning to his homeland a revolution had erupted and he found himself imprisoned. While in prison he dictated his stories to a cellmate. His accounts of the land and people he encountered during his twenty-four year journey were extremely detailed and became a source of inspiration for millions. His writings were used as a roadmap for exploration by such notable explorers as Abraham Cresque, author of the *Catalan Atlas*, and Christopher Columbus (Rosenberg, 2009; Sensenig, n.d.; Wikimedia Foundation Inc., 2009).

Other sources declared Claude Levi-Strauss (1908-2009) the true intellectual "father of modern anthropology." Levi-Strauss, not to be confused with the American jeans entrepreneur, was a French anthropologist who spent fifty-nine years studying the behavior of North and South American Indian tribes. He used structuralism to study the social organization of those tribes. He described structuralism as "the search for unsuspected harmonies within the social organizations." His greatest contribution to modern anthropology was this use of structuralism, but he brought forth many other

theories (Bloch, 2009). Another theory and part of the reason for his popularity was his rejection of humanism. Humanists believed that classical training alone could form a perfect man, whereas Levi-Strauss believed that the civilized and savage minds are equal in their natural state. His theory states that everyone's basic needs are the same until the introduction of cultural influences. These influences determine the acceptance of various standards such as food and social behaviors (Klages, 1997).

To accompany this belief, Levi-Strauss introduced the theory of binary opposites. This theory maintains that for every action there is an opposite action. One example of this theory is rational vs. emotional. Rational is considered a superior trait, whereas emotional is considered its opposite or an inferior trait. Men were considered the superior sex because they most often displayed rational thought and women were inferior because they displayed the binary opposite trait of emotion. Not everyone accepted this theory. It would be debated for years, but it was just one of many theories Levi-Strauss developed during his career (Schmitt, 1999). In addition to his studies, Levi-Strauss was an educator and author. His books included *The Raw and the Cooked*, *The Savage Mind*, *Structural Anthropology*, and *Totemism* (Bloch, 2009; Klages, 1997; Schmitt, 1999).

Sociology

Sociology can be traced back as far as the ancient Greeks. Sociological observation was used by such noted figures as Confucius (551 BC-479 BC) and Plato (428/427 BC – 348/347 BC) (Welty, 1973). The first sociologist was Ibn Khaldun (1332-1406), a North African astronomer, historian, scholar, mathematician, and social

scientist. His work provided guidelines on how societies should function more than four centuries before modern sociologists (Cheddadi, 1994).

Modern sociology did not evolve until after the French Revolution (1787-1799). Auguste Comte (1798-1857) attempted to unify history, psychology, and economics through the scientific understanding of the social realm. He proposed that social ills could be remedied through sociological positivism. Positivism is the belief that authentic knowledge is based only on actual sense experience. Although Comte is generally regarded as the "Father of Sociology," the academic architect of social science was formally established by Emile Durkheim, Karl Marx, and Max Weber (Boran, 1947; Kreis, 2000b; *New World Encyclopedia*, 2008).

Emile Durkheim (1858-1917) was a French sociologist commonly regarded as the principal architect of modern social science. He set up the first European department of sociology at the University of Bordeaux in 1895 and established the journal *L'Année Sociologique*. Although he made several literary contributions to the social sciences, his most distinguished contribution was the concept of structural functionalism. Structural functionalism allows one to view social structures through the lens of its principal elements, norms, customs, traditions, religious beliefs and institutions (Durkheim, 2002).

Karl Marx (1818-1883), a German philosopher, political theorist, and sociologist, is credited with the development of the conflict theory. The conflict theory emphasizes the social and political inequality of various social groups often referred to as the "class struggle." In his theory Marx categorizes the classes into two basic groups, the proletariat and the bourgeoisie. The proletariat are individuals who sell their labor for paid wages. The bourgeoisie are capitalists who receive income from the exploitation of

other people's labor. Using this theory Marx helped establish the foundations of modern Communism. Marx believed that internal tensions of capitalism would one day cause it to self-destruct and be replaced by socialism. His most famous work was published in 1848 and titled *The Communist Manifesto* (Brians, 1998; Kreis, 2000).

Max Weber (1864-1920) was a key figure in the development of the antipositivist movement in sociology. The anti-positivist supporter believes that academia must reject scientific methods in social research and instead rely on the subjectivity of the researchers as they view the issues through the lens of basic sociological foundations. He further argued that sociology was able to methodologically identify causal relationships, which made it a science in its own right. In addition to anti-positivist, Weber's major work dealt with rationalization or the process by which social actions and interactions were based. He believed that many actions were based on calculations and outcomes rather than created from motivations established by custom, tradition, or emotion (Asiado, 2008; Kim, 2007; New World Encyclopedia, 2008).

Up until the late nineteenth century most sociological work was done primarily outside of the United States, but in 1875 the first sociology course was offered by William Sumner, a Professor at Yale University. It was not until 1892 that sociology established roots with the founding of the first independent Department of Sociology at the University of Chicago. Albion Small (1854-1926) founded the first accredited department of sociology at the University of Chicago and two years later founded the *American Journal of Sociology* (AJS). The AJS was the first journal of its kind in the United States. His work was instrumental in establishing the academic field of sociology in the U.S. (American Sociological Association, 2005). As important as his work was,

many others made significant contributions. Two such figures were Robert Park and Ernest Burgess. Their groundbreaking research helped establish the University of Chicago as a sociological research institution.

Robert Park (1864-1944) was born in Pennsylvania. His concern for social issues, especially related to race in the cities, led him to become a journalist and formed the foundation for his later research interest. He eventually received a Ph.D. in Philosophy and went on to teach at Harvard and University of Chicago. He, along with Ernest Burgess, developed the idea of a marginal personality in a 1921 book titled *Introduction to the Science of Sociology*. This theory states that loyalties that bind people together in primitive societies are in direct proportion to the fear and hatred in which they view other societies (Cortese, 1995).

Ernest Burgess (1886-1966) was born in Ontario. His most famous work was the 1921 book with Robert Park, title *Introduction to the Science of Sociology*. It would become known as the “Sociology Bible” but that was just the beginning. He continued working with Park to divide Chicago into concentric zones. These concentric zones were rings that depict urban land use. These categories identified business districts, factory localities, residential areas and commuter zones. These zones were one of the earliest theoretical models to explain urban social structures. This groundbreaking research provided a foundation for the University of Chicago and helped establish rigorous scientific bases for the social sciences. Between 1915 and 1940, the University of Chicago dominated sociology in the U.S. (Cortese, 1995).

The foundation of sociology was built upon positivism or the belief that true knowledge is based on actual sense experience. Notable figures such as Emile Durkheim

and Karl Marx continued to advance the field with their introduction of additional theories, such as functionalism and conflict theory. Max Weber introduced anti-positivism to the field. The anti-positivism movement aimed to reject scientific methods in favor of establishing sociological research as its own science. The University of Chicago brought sociology to the forefront in the United States and helped establish the social sciences as solid scientific research.

Widespread Acceptance of Qualitative Research

Qualitative research did not reach its peak of popularity until the mid-twentieth century. It was used primarily in anthropological and sociological circles, but during the 1970s and 1980s it began to be used in other disciplines such as education studies, social work, and women's studies (Platt, 1985).

Qualitative research also became prevalent with many consumer products. Unlike quantitative methods of gathering data, qualitative techniques attempt to identify the human condition by understanding the thought process associated with various interactions. The very nature of qualitative research requires smaller focused samples than quantitative approaches. The ability to understand consumers and their spending habits made it an invaluable tool for manufacturers.

During the 80s and 90s, there was a slowdown in traditional media advertising spending, so there was heightened interest in making research related to advertising more effective (Platt, 1985). During that time, after criticisms from the quantitative side, new methods of qualitative research evolved to address the perceived problems with reliability and imprecise modes of data analysis.

Strengths and Weaknesses of Qualitative Research

Just as with the quantitative paradigm, qualitative research has its strengths and weaknesses. **Table 2: Strengths and Weaknesses of Qualitative Research** outlines the advantages and disadvantages of this paradigm. Information contained in this table is reprinted from “*Mixed-Methods Research: A Research Paradigm Whose Time Has Come,*” by R. B. Johnson and A. J. Onwuegbuzie, 2004. Some of its primary strengths include the ability to study a subject in depth, the ability to study dynamic processes, and the collection of data in a naturalistic setting. The primary weaknesses of this method is that knowledge is unique to the setting and therefore not generalizable. The results are more easily influenced by the researcher’s personal biases.

Table 2: Strengths and Weaknesses of Qualitative Research

Strengths and Weaknesses of Qualitative Research

Strengths

- The data are based on the participants’ own categories of meaning.
- It is useful for studying a limited number of cases in depth.
- It is useful for describing complex phenomena.
- Provides individual case information.
- Can conduct cross-case comparisons and analysis.
- Provides understanding and description of people’s personal experiences of phenomena (i.e., the “emic” or insider’s viewpoint).
- Can describe, in rich detail, phenomena as they are situated and embedded in local contexts.
- The researcher identifies contextual and setting factors as they relate to the phenomenon of interest.

- The researcher can study dynamic processes (i.e., documenting sequential patterns and change).
 - The researcher can use the primarily qualitative method of “grounded theory” to generate inductively a tentative but explanatory theory about a phenomenon.
 - Can determine how participants interpret “constructs” (e.g., self-esteem, IQ).
 - Data are usually collected in naturalistic settings in qualitative research.
 - Qualitative approaches are responsive to local situations, conditions, and stakeholders’ needs.
 - Qualitative researchers are responsive to changes that occur during the conduct of a study (especially during extended fieldwork) and may shift the focus of their studies as a result.
 - Qualitative data in the words and categories of participants lend themselves to exploring how and why phenomena occur.
 - One can use an important case to demonstrate vividly a phenomenon to the readers of a report.
 - Determine *idiographic* causation (i.e., determination of causes of a particular event).
-

Weaknesses

- Knowledge produced may not generalize to other people or other settings (i.e., findings may be unique to the relatively few people included in the research study).
- It is difficult to make quantitative predictions.
- It is more difficult to test hypotheses and theories.
- It may have lower credibility with some administrators and commissioners of programs.
- It generally takes more time to collect the data when compared to quantitative research.
- Data analysis is often time consuming.

- The results are more easily influenced by the researcher's personal biases and idiosyncrasies.

Note. Reprinted from "Mixed-Methods Research: A Research Paradigm Whose Time Has Come," by R. B. Johnson and A. J. Onwuegbuzie, 2004.

Mixed-Methods

Mixed-method research is the combination of both the quantitative and qualitative research paradigms. Proponents of mixed-methods research believe that the use of both quantitative and qualitative research allows the researcher to experience a deeper understanding of the topic. Using both methods removes the limitations established by the use of a single method of research. On the other hand the deep paradigm difference between quantitative and qualitative research are a barrier the mixed-method researcher must consider and address prior to establishing a mixed-methods study.

Quantitative research is based on positivism. With this method there is only one truth, one reality independent of human perception. There are two independent entities involved in the research, the investigator and the investigated. The investigator is capable of studying a phenomenon without influencing or being influenced by it (Guba & Lincoln, 1994; Sale, Lohfeld, & Brazil, 2002). The goal of quantitative research is to measure and analyze relationships between variables within a value-free framework (Denzin & Lincoln, 1994). Quantitative research has a long and varied history dating back to the Trial of the Pyx in the twelfth century. By the twentieth century it was a well-established and widely accepted method of research.

The qualitative paradigm is based on interpretivism (Altheide & Johnson, 1994; Guba & Lincoln, 1994; Kuzel & Like, 1991; Sale, et al., 2002; Secker & Milburn, 1995).

According to the qualitative approach of interpretivism there are multiple realities and truths. The investigator and the object of study are linked in such a way that findings are created within the context of the situation; in other words, if the players change, the results will change (Guba & Lincoln, 1994). The emphasis of qualitative research is on process and meanings. Qualitative research predates quantitative methods, but, despite its popularity by early explorers, its overall acceptance was restrained.

History of Mixed-Methods Research

The different assumptions of the quantitative/qualitative paradigms created a positivism-idealism debate in the late 19th century (Smith, 1983). According to Onwegbuzie and Leech there have been four major phases of social and behavioral research methodology within the past 100 years: (1) popularization of quantitative research, (2) the emergence of the qualitative research, (3) the post-positivism era, and (4) the emergence of the pragmatist or mixed-method paradigm (Onwegbuzie & Leech, 2005).

Phase one of social and behavioral research was the popularization of the quantitative method. This phase ended just prior to the late nineteenth century. Mathematical and statistical procedures were used to explain and predict behavior. Research was positivist in nature, and studies were believed to be value-free because of the methods employed to gather and analyze data (Onwegbuzie & Leech, 2005).

Phase two of the hundred year research paradigm began in the early twentieth century. This phase was marked by the emergence of the qualitative research model. Qualitative researchers rejected the positivist ideals associated with quantitative methods and advocated the use of interpretivism. These researchers believed that social reality

was subjective. The introduction of this method divided the research world into two camps, the positivist and the interpretivist. Both sides harbored purists, people who believed only their method was acceptable research (Onwegbuzie & Leech, 2005).

The third phase, the post-positivism era, emerged in the late 1950s and early 1960s. This phase marked the beginning of the conciliation between quantitative and qualitative research. Despite this compromise, radical philosophies such as post-structuralism and post-modernism began to arise. These ideas brought forth the belief that no single objective reality existed; instead, there were multiple realities. Thus, interpretation was dependent on the interpreter. Because the theories divided into two paradigms, it was not possible for the theories to co-exist (Onwegbuzie & Leech, 2005).

The fourth phase, the emergence of the pragmatist paradigm, began in the late 1960s. The pragmatist movement challenged the purists by contending that quantitative and qualitative paradigms were neither mutually exclusive nor interchangeable. They believed that theory played a major role in both methods and in the existence of both subjective and objective orientations. This movement challenged the philosophical idea researchers had fervently debated for years, but by the late 1980s mixed method research was gaining popularity. The next decade brought about mixed model studies. Researchers began to mix the two methods, which gave birth to the research called mixed-methods (Onwegbuzie & Leech, 2005).

Justification for Mixed-Method Research. Thus far we have explored the differences between quantitative and qualitative research. As we embrace mixed-methodology we must examine how two radically different methods of research can be combined into one study. The first thing one should recognize is that, although different,

the two methods have common goals. Both quantitative and qualitative research seeks to understand the world in which we live. Their primary purpose is to improve the human condition by disseminating knowledge (Sale, et al., 2002).

The second rationale for the compatibility of the two paradigms is that both subscribe to theory and adhere to strict rules during the inquiry process. They share a commitment to rigor and critique in the research process. Each has its own techniques based on the research objectives, but each is also a part of the continuum of research (Sale, et al., 2002).

The third justification for combining research methods is the complexity of research topics. Many topics require data from a large number of perspectives. One method is not sufficient to understand the complex world in which we live. It takes a combination of words and numbers to fully express the intricate details of our human existence (Sale, et al., 2002).

Finally, researchers must consider multiple phenomena within a single study and to do so they need a variety of tools. They must use the tool that fits the phenomenon they are examining. The primary purpose of research is to understand truth; therefore, researchers need to be open to various methodologies (Howe, 1988).

Arguments against Mixed-Methods. Many arguments exist against mixing methodologies. As discussed earlier, each method is fundamentally different in its approach to research and in its core belief systems. Quantitative research is based on positivism, whereas qualitative is based on interpretivism. Quantitative believes in one truth whereas qualitative believes in multiple realities.

A more complicated issue is the explanation of results from studies using different methods that appear to agree or disagree. Opponents question how results can be similar if the researcher is looking at two different phenomena. Proponents argue that it is merely a matter of perception. People often simplify the situation and highlight results to reflect what they believe is happening. In other words, adding a frequency count to an open-ended question is not quantitative research (Sale, et al., 2002).

Data collected from different methods cannot be simply added together to produce a rounded reality. When we combine methods, there are four possible outcomes: 1) corroboration, 2) elaboration, 3) complementarity, or 4) contradiction. Corroboration happens when the same results are derived from both methods, whereas elaboration exemplifies the quantitative findings with the qualitative results. Although the results are different, complementarity findings provide insight to the problem, and contradictory findings place each method in conflict (Brannen, 2005).

Widespread Acceptance of Mixed-Methods

In today's world research has three basic methods, quantitative, qualitative, and mixed-methods. Although at times they seem in contradiction, they also have commonalities. For years researchers have debated the use of the various methods and have shown allegiance to their own methodology. As knowledge has accumulated in favor of mixed-methods, researchers are beginning to accept the realities of mixing two paradigms. Slowly researchers are finding ways to combine methods, which has allowed for the emergence of mixed-method research. Although mixed-methods is not fully accepted by all researchers it is gaining momentum. As more examples of quality studies emerge, researchers are learning to value the research. They are beginning to understand

that the use of different data sets within one research project is a complementary way of designing richer and more meaningful studies (Brannen, 2005).

Strengths and Weaknesses of Mixed-Methods

Like quantitative and qualitative, mixed-methods research has its strong points and limitations. **Table 3: Strengths and Weaknesses of Mixed-Methods Research** outlines the dynamism and constraints of this paradigm. Information contained in this table is reprinted from “*Mixed-Methods Research: A Research Paradigm Whose Time Has Come*” by R. B. Johnson and A. J. Onwuegbuzie, 2004. Its primary strength is that it can answer more complex research questions than any single method. It also has the ability to add meaning to numbers. The principal weakness of this method is that it can be more complex and thereby more time consuming.

Table 3: Strengths and Weaknesses of Mixed-Methods Research

Strengths and Weaknesses of Mixed-Methods Research

Strengths

- Words, pictures, and narrative can be used to add meaning to numbers.
- Numbers can be used to add precision to words, pictures, and narrative.
- Can provide quantitative and qualitative research strengths (i.e., see strengths listed in Tables 1 and 2).
- Researcher can generate and test a grounded theory.
- Can answer a broader and more complete range of research questions because the researcher is not confined to a single method or approach.
- The specific mixed *research designs* have specific strengths and weaknesses that should be considered (e.g., in a two-stage sequential design, the Stage 1 results can be used to develop and inform the purpose and design of the Stage 2 component).

- A researcher can use the strengths of an additional method to overcome the weaknesses in another method by using both in a research study.
 - Can provide stronger evidence for a conclusion through convergence and corroboration of findings.
 - Can add insights and understanding that might be missed when only a single method is used.
 - Can be used to increase the generalizability of the results.
 - Qualitative and quantitative research used together produce more complete knowledge necessary to inform theory and practice.
-

Weaknesses

- Can be difficult for a single researcher to carry out both qualitative and quantitative research, especially if two or more approaches are expected to be used concurrently; it may require a research team.
 - Researcher has to learn about multiple methods and approaches and understand how to mix them appropriately.
 - Methodological purists contend that one should always work within either a qualitative or a quantitative paradigm.
 - More expensive.
 - More time consuming.
 - Some of the details of mixed research remain to be worked out fully by research methodologists (e.g., problems of paradigm mixing, how to qualitatively analyze quantitative data, how to interpret conflicting results).
-

Note. Reprinted from “Mixed-Methods Research: A Research Paradigm Whose Time Has Come,” by R. B. Johnson and A. J. Onwuegbuzie, 2004.

Gender in the Sciences

The primary purpose of this study was to determine methods of research used by authors in selected higher education journals. One of the important variables for this

investigation deals with gender and its contributions to methodological choices of authors.

Very little research is available on the topic of research methodologies by gender, but abundant research is available on gender in the math and science fields. This research provides the most relevant starting point in understanding research methodologies and gender. The University of Alabama hosts the website, *4000 Years of Women in Science* with an opening question asking, “How long have women been active scientists?” Their answer below provides a core definition of STEM. Literature refers to the fields of science, technology, engineering, and mathematics as STEM; therefore, it will be used throughout this discussion.

Actually, how long have *people* been active in science? The answer is the same for both women and men -- as long as we have been human. One of the defining marks of humanity is our ability to affect and predict our environment. *Science* - the creation of structure for our world - *technology* - the use of structure in our world - and *mathematics* - the common language of structure - all have been part of our human progress, through every step of our path to the present. Women and men together have researched and solved each emerging need (The University of Alabama, 2011).

History of Gender in the STEM

Mathematics has been around since the beginning of time. It was not until people started recording the numbers that it became a field. Recorded history of mathematics began as early as 2000 BC in Babylonia. Number problems, linear equations, and quadratic equations can be traced back as early as 1700 BC. Babylonian mathematics

was inherited by the Greeks around 450 BC. They continued to develop it from 300 BC to 200 AD where it was picked up by Islamic countries. Up to this point, mathematical history contained names like Zeno of Elea, Democritus of Abdera, and Apollonius of Perga. In the 16th century, European progress continued with men like Luca Pacioli, Girolamo Cardan, and Nicolo Tartaglia. The field continued to grow, and by the 18th century notable men such as Isaac Newton and Benjamin Franklin were added to the list of historical mathematicians and scientists (O'Connor & Robertson, 1997).

As evident above, history is very good at recording the achievements of man. Similar results listing male scientists and their accomplishments fill textbooks around the world. Unfortunately, roughly 50 percent of the population (women) has been ignored for the major part of written history; therefore, it is difficult to recount, with any real precision, the contributions of women to STEM.

In 1660 the first major scientific institution was created in London. This institution called, The Royal Society, was founded to help like-minded men exchange scientific ideas. Women were excluded because they were considered incapable of understanding the complexities of science. Women were expected to marry and devote their lives to husband and family. They were not routinely educated by traditional means, but a few from wealthy families or those who were fortunate enough to have brothers, husbands, and/or fathers willing to work with them could participate in STEM activities (Drew, 2010).

Despite the lack of opportunities in science, a few women made it into the history books. Women like Hypatia of Alexandria (370-415) who was the first known woman mathematician. She taught at the University of Alexandria and invented several scientific

instruments. She was eventually murdered because of her work and her writings were destroyed (Deakin, 1994). Hildegard of Bingen (1098-1179), wrote medical and natural history books. She was among the first to write about the need to boil water for sanitary reasons. She also wrote about diet and exercise and is the first female scientist whose writings still exist (Epstein, 2006). Then there was Maria Mitchell (1818-1889), an astronomer who discovered a comet in 1847 (Bois, 1996). These women made great contributions and were fortunate to be given credit for their work.

In the past 100 years it has become a little easier for women to be recognized for their contributions to science. Gertrude B. Elion (1918-1999), a research scientist in chemistry, helped develop drugs to fight diseases such as leukemia, malaria, and AIDS. She won the Nobel Prize in medicine and held 45 patents for drugs she developed. Before her death she was the first woman to be invited into the National Inventors Hall of Fame (Elion, 2012). Another example is Jane Goodall (1934-present), who spent thirty years of her life observing chimpanzees and writing books about her research. Today, she still travels around the world lecturing and has created the Jane Goodall Institution, an international wildlife and environment conservation organization (Jane Goodall Institution, 2011). The women previously discussed have contributed to the science and mathematics fields. Many others, however, are will be forever lost to history. Their contributions are unrecognized because of their gender. Thanks to the works of women recognized by history, and many other unnamed female scientists, the stereotype of women being unable to grasp the field of science has been challenged and gender roles are changing.

Current Situation of Gender in the Sciences

In 2006 President George W. Bush started the *American Competitiveness Initiative*. This initiative addressed the need for more cutting-edge research in America. It committed \$50 billion to increase funding for research and development and addressed many needs in the field of STEM (Domestic Policy Council, 2006). In 2009 President Barack Obama took the next step and started his “Educate to Innovate” campaign. The campaign is a nationwide effort to improve science and math achievement for all students in the US. Recognizing the fact that women were underrepresented in STEM, the campaign has a provision to deal specifically with that underrepresentation. This program recognizes that women have the ability, but for various reasons lack the incentive for a career in the STEM fields (Office of the Press Secretary, 2009).

According to a survey conducted by the National Science Foundation, women have made a lot of progress in STEM fields but still trail behind men in many areas. The survey looked at graduation rates, gender, and field of study of U.S. doctoral students from 2000 through 2008. **Table 4: S&E Doctorates awarded in US 2000- 2008** shows the exact number of doctoral graduates from 2000 to 2008. Women went from 7,421 (43%) graduates in 2000 to 9,476 (47%) in 2008, whereas men went from 10,025 (57%) to 10,708 (53%). The actual number of male graduates increased, but overall percentages show a decrease. Women have made progress in both numbers and percentages of graduates in STEM, but under closer examination this trend is primarily due to increases in the social sciences. Men have remained dominant in the computer, math, and engineering fields (National Science Foundation, 2012).

Table 4: S & E Doctorates awarded in US 2000-2008

S&E doctorates awarded to U.S. citizens and permanent residents by field: 2000-08									
Field, sex, and race/ethnicity	2000	2001	2002	2003	2004	2005	2006	2007	2008
All S&E	17,446	17,261	16,314	16,855	17,271	17,829	18,400	19,595	20,184
Female	7,421	7,570	7,245	7,588	7,800	8,364	8,543	9,228	9,476
Male	10,025	9,691	9,069	9,267	9,471	9,465	9,857	10,367	10,708
Science	14,790	14,699	14,053	14,618	14,924	15,377	15,686	16,601	17,004
Female	6,925	7,087	6,794	7,158	7,307	7,853	7,937	8,551	8,672
Male	7,865	7,612	7,259	7,460	7,617	7,524	7,749	8,050	8,332
Agricultural sciences	553	544	549	626	601	611	640	643	668
Female	194	210	205	238	234	235	259	278	274
Male	359	334	344	388	367	376	381	365	394
Biological sciences	3,724	3,579	3,443	3,901	4,118	4,330	4,377	4,713	5,091
Female	1,703	1,616	1,550	1,833	1,929	2,145	2,140	2,327	2,560
Male	2,021	1,963	1,893	2,068	2,189	2,185	2,237	2,386	2,531
Computer sciences	402	395	410	413	455	500	551	680	667
Female	73	84	102	90	110	103	130	145	153
Male	329	311	308	323	345	397	421	535	514
Earth, atmospheric, and ocean sciences	409	362	368	376	356	360	389	481	436
Female	120	119	135	127	130	126	148	205	168
Male	289	243	233	249	226	234	241	276	268
Mathematics and statistics	588	525	438	513	508	540	583	645	671
Female	165	145	129	149	153	152	151	193	218
Male	423	380	309	364	355	388	432	452	453
Physical sciences	2,148	2,156	2,044	2,060	1,969	2,036	2,183	2,266	2,307
Female	563	599	578	599	555	610	655	713	692
Male	1,585	1,557	1,466	1,461	1,414	1,426	1,528	1,553	1,615
Psychology	4,042	4,381	4,042	4,059	4,191	4,452	4,230	4,450	4,357
Female	2,746	3,012	2,749	2,804	2,898	3,178	3,083	3,235	3,141
Male	1,296	1,369	1,293	1,255	1,293	1,274	1,147	1,215	1,216
Social sciences	2,924	2,757	2,759	2,670	2,726	2,548	2,733	2,723	2,807
Female	1,361	1,302	1,346	1,318	1,298	1,304	1,371	1,455	1,466
Male	1,563	1,455	1,413	1,352	1,428	1,244	1,362	1,268	1,341
Engineering	2,656	2,562	2,261	2,237	2,347	2,452	2,714	2,994	3,180
Female	496	483	451	430	493	511	606	677	804
Male	2,160	2,079	1,810	1,807	1,854	1,941	2,108	2,317	2,376

SOURCE: National Science Foundation, Division of Science Resources Statistics, special tabulations of U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey, 2000-08.

Figure 1: Doctorates Earned by Women in Selected STEM Fields is a graphic of the percentage of women who have earned doctoral degrees in STEM fields over a forty-year span of time. This chart is an adaption from the National Science Foundation,

Division of Science Resources Statistics, 2008 Science and engineering degrees: 1966-2006. This graphic shows an increase in doctorates for women in all fields. In math, science, engineering, and physics women still receive a relatively small percentage of the degrees granted, according to a report from the National Science Foundation (Hill et al., 2010).

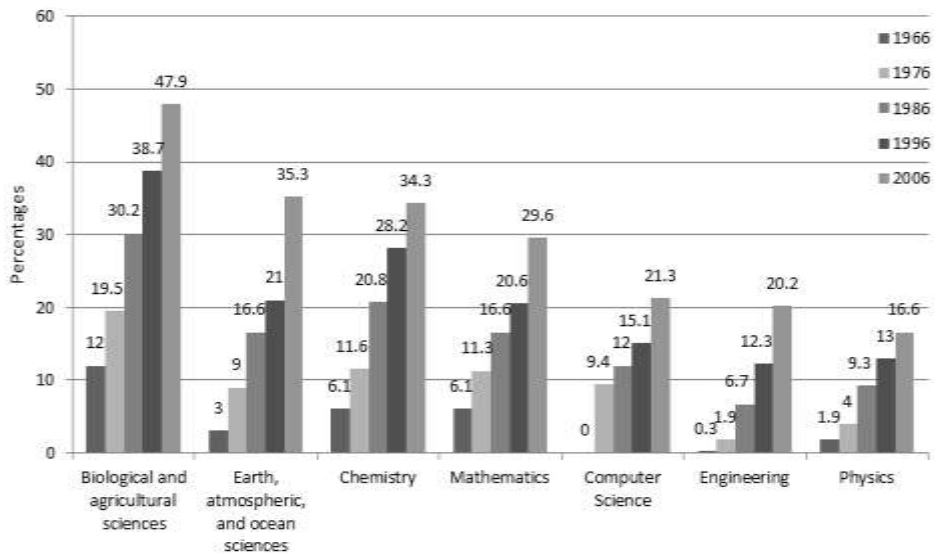


Figure 1: Doctorates Earned by Women in Selected STEM Fields, 1966 – 2006

Table 5: Employment in STEM Occupations in 2009 shows the number of employees in STEM occupations by gender and the percent of females from 2000 and 2009. This information is provided by the U.S. Department of Commerce (Beede, Julian, Langdon, McKittrick, Khan, & Doms, 2011). In 2009 women ranged from 14 percent of employees in Engineering to 40 percent of employees in Physical and Life Sciences. Gains in the percent of women in STEM fields increased 1 percent in Physical and Life Sciences, decreased 3 percent in Engineering, and did not change in Computer Science and Math in the nine years. This reinforces the need to increase the presence of women in the STEM fields.

Table 5: Employment in STEM Occupations in 2009

(thousands of workers)

	Male		Female		Percent Female	
	2000	2009	2000	2009	2000	2009
STEM total	5,321	5,640	1,680	1,790	24%	24%
Computer science and math	2,202	2,534	940	929	30%	27%
Engineering	2,185	2,079	318	330	13%	14%
Physical and life sciences	551	553	310	374	36%	40%
STEM managers	382	474	111	157	23%	25%

Source: ESA calculations from Census 2000 and 2009 American Community Survey public-use microdata.
Note: Estimates are for employed persons age 16 and over.

A report from Bloomberg says that in the overall market-place for all occupation, women hold 48 percent of the jobs, but in the STEM fields they only average 24 percent of the workers. It was also revealed that in STEM occupations women average 14 percent less in wages than their male counterparts. Women make an average of \$0.86 cents to every dollar a man earns. On the positive side, women in STEM fields earn 33 percent more than female peers in other fields. (Berman, 2011). In the general population women earn \$0.77 cents for every dollar earned by their male counterparts (Majority Staff of the Joint Economic Committee, 2010). The gender gap in the STEM fields is well documented and a national concern.

Reasons for the Gender Difference

Throughout primary and secondary school, math and science courses experience roughly equal participation and performance from males and females. Genders prepare equally to pursue science and engineering majors in college. Somewhere between high school graduation and freshmen college something changes and women turn away from STEM and by college graduation men outnumber women in the sciences. Researchers find another decline in female participation from college graduation to the workplace (Hill et al., 2010).

There are several possible reasons for this disparity, including cognitive differences, lack of interest, bias, discrimination, workplace environment, and family responsibilities.

Cognitive Differences. Researchers have found that boys and girls perform equally through high school science and math. There are no differences in intelligence between the sexes (Lynn & Irwing, 2004). However, some researchers have found that there are differences in cognitive abilities between genders. Boys tend to do better with spatial orientation and visualization, while girls perform better on verbal skills and perceptual speeds (Aronson, Fried, & Good, 2007; Hedges & Nowell, 1995). Although spatial skills are considered by many to be important in STEM, no research supports that it is essential for success in the field. Research does show that spatial skills can be improved with training; therefore, it should not be a barrier to individuals wishing to pursue a career in STEM (Baenninger & Newcombe, 1989). Although there is no definitive research stating cognitive differences influence decisions to enter STEM, there is enough evidence to suggest that it may play a role in the decision.

Lack of Interest. Another theory exists that women are ‘just not interested’ in STEM fields. According to a 2009 poll of young people 8-17 by the American Society for Quality only 5 percent of girls said they were interested in an engineering career while 24 percent of boys were interested (American Society for Quality, 2009). Even women who excel in mathematics are more likely to pursue degrees in humanities and social sciences than in science and engineering (Lubinski & Benbow, 1992).

Many factors can influence how interest in an occupation develops. Individual choice is a major reason to consider or eliminate a career. Other factors may include lack

of self-confidence in abilities, not feeling accepted within the field, or feeling the chance of success is limited. Culture can also direct individual interest in career selections by labeling professions gender specific (Hill et al., 2010).

Bias. Biases are tendencies or inclinations to hold a perspective at the expense of equally valid alternative perspectives. In the case of scientists and engineers, gender and ethnic bias may lead individuals to believe that men are better suited for the career in STEM than women. Even people who believe in gender equity may embrace biases and negative gender stereotypes concerning women in the science and mathematics fields (Valian, 1998). Many times society holds a negative opinion of women in “masculine” positions. Women are perceived as less competent, than men. Even when she is found competent a woman is often considered less likable than her male counterpart (Hill et al., 2010). Women may not want to be subjected to these biases or may themselves believe the stereotypes. In either case this bias makes them unwilling to seek a career in a field that they believe does not want them.

Discrimination. Sometimes bias crosses the border into discrimination. Discrimination functions at many levels within science to include funding, employment and publications. These discriminatory practices can affect hiring and funding of females and cause their underrepresentation in STEM. Several studies have revealed that gender influences hiring recommendations. One survey sites a mock committee designed to hire professors. The committee reviewed fictitious candidate vitas. The researcher used the same vitas but changed the sex and names. In cases of both male and female reviewers, they gave women less credit than men for identical work, especially if the job was a stereotypically male position (Ceci & Williams, 2010).

Workplace Environment. One study of STEM professionals, *The Athena Factor: Reversing the Brain Drain in Science, Engineering, and Technology*, found that many women in STEM feel isolated in their careers. This study states that 52 percent of highly qualified women quit their jobs due to a hostile work environment. In addition to isolation, they cite hostile macho cultures, unsupportive work environments, extreme work schedules, and unclear rules about career advancements as reasons for leaving the field (Hewlett, et al., 2008).

Family Responsibilities. When a person chooses a career in STEM he or she often experiences long hours, travel, and a high pressured work environment. To be successful in a STEM career, the employee must be willing to sacrifice personal time and energies. In American industry, family responsibilities are often considered barriers to advancement. This “family penalty” concept can destroy promising careers. Although society has come a long way in equalizing family responsibilities, women still find themselves in the position of primary care givers more often than men. In addition, at an age when careers are being built, women must face the dilemma of whether or not to have children. Although both genders experience family penalty pressure from the workplace, women are more likely to forego or delay marriage and children than men. In addition, women in STEM are more likely to partner with men who also work in the STEM field. When both partners have equally demanding work schedules, often a man’s career is given priority and the woman suffers the career setbacks (Hill et al., 2010).

Another report from the Government Accounting Office reports that women in math-intensive fields prefer working fewer hours and in part-time positions so they can achieve a better work-family balance. Although 77 percent of female graduate students

believe a fulltime job is important for their careers, upon closer examination, 31 percent think it is acceptable to work part-time for a period, and 19 percent feel having a permanent part-time career is appropriate. Conversely, 81 percent of male graduates believe full time work is important, 9 percent feel part-time/temporary is appropriate, and 9 percent support permanent part-time employment (Ceci & Williams, 2010).

Conclusion

The creation of new knowledge is essential for the continued growth and understanding of the world around us. Research is the method by which that knowledge is created and quantitative research was considered the principal method. It relied on the hard sciences to prove or disprove theory. As knowledge accumulated researchers rediscovered the need for the social sciences. Although different from the hard sciences, qualitative methods were important tools in understanding social phenomena. Researchers furiously debated the various paradigms. In time, qualitative methods were accepted by the research world. Researchers moved to the next phase by combining the two types of research into one called mixed-methods. The debate is ongoing, but mixed-method models have made their way into the mainstream methodologies. Today research can be divided into three basic categories, quantitative, qualitative, and mixed-methods. Researchers understand the importance of viewing the larger picture, which is only available through the use of multiple methods of inquiry.

CHAPER III: METHODS

This chapter describes the procedures used to investigate research methodologies by authors in peer-reviewed higher education journals. The variables included gender of the lead author, academic rank of the lead author and co-author; and the predominate methodology of research articles (quantitative, qualitative, or mixed).

Statement of the Problem

A great deal of debate concerning research methods has taken place over the years. Quantitative research has been well established within academia since the nineteenth century. It is based on the belief in one truth and one reality independent of human perception. It is also based on the belief that the investigator is capable of studying a phenomenon without influencing or being influenced by it (Guba & Lincoln, 1994; Sale, et al., 2002). This movement was called Positivism. In this paradigm, everything had to be confirmed by observation and experiment (Ryan, 2006; Trochim, 2006).

Qualitative research reached its peak of popularity in the mid-twentieth century. The qualitative paradigm was based on interpretivism (Altheide & Johnson, 1994; Guba & Lincoln, 1994; Kuzel & Like, 1991; Sale, et al., 2002; Secker & Milburn, 1995) where multiple realities and truths were believed to exist.

Mixed-methods research is the combination of both the quantitative and qualitative research paradigms. As mixed-methodology becomes more popular, researchers are busy establishing the foundations of this new paradigm. Researchers are

just beginning to understand the use of different data sets within one research project as a complementary way to design richer and more meaningful studies (Brannen, 2005).

This study examined five higher education journals within a five year period, 2006-2010, to determine the frequency with which various research methods were utilized.

Research Questions

1. What is the predominant method of research for published authors in selected peer-reviewed higher education journals?
2. Does gender play a role in determining the method of research for published authors in select peer-reviewed higher education journals?
3. Does academic rank play a role in determining the method of research for published authors in select peer-reviewed higher education journals?
4. Do primary authors prefer co-authors of a certain academic rank in select peer-reviewed higher education journals?

Selection of Journals for Inclusion

The journals selected for this study focused on a variety of issues of importance to faculty and administrators in higher education. Topics ranged from management issues, to technology, to emerging public policies. All journals were current and readily available online. The five journals used in this research are *The Review of Higher Education*, *Journal of Computing in Higher Education*, *The Journal of Higher Education*, *Journal of Higher Education Policy and Management*, and *Higher Education Quarterly*.

Table 6: Journal Selections outlines the various journal selections. Also included are the publication rates, publisher, acceptance rate, and method of review.

Table 6: Journal Selections

Journal	Published	Publisher	Acceptance Rate	Review
<i>The Review of Higher Education (The Review)</i>	Quarterly	Johns Hopkins University Press	5-8 percent	Peer-reviewed
<i>Journal of Computing in Higher Education (The Journal)</i>	Bi-yearly	Springer Publishing	20 percent	Double-blind peer-review
<i>Journal of Higher Education (JHE)</i>	Bi-monthly	Ohio State University Press	9 percent	Blind peer-review
<i>The Journal of Higher Education Policy and Management (JHEPM)</i>	Quarterly	Routledge, Taylor and Francis Ltd.	20 percent	Editor screening and Peer-review
<i>Higher Education Quarterly (HE)</i>	Quarterly	Wiley-Blackwell	20 percent	Peer reviewed

These journals were included as part of this study because they are the leading journals in their fields. According to a 2007 survey, *The Higher Education Executive Issues Study (HEEIS)*, many of the leading concerns of higher education at that time were Accountability and Assessment; Campus Management; Program and Curriculum Development; New Revenue and Fundraising; Student Retention; Enrollment Management and Growth; Faculty Development; Quality and Recruiting; Technology; Capital Needs; and Community Partnering. This survey included 557 presidents, provosts, deans, faculty, and other administrators from more than 500 institutions nationwide (DRC GROUP Incorporated, 2007). My experience, and an ongoing review of higher education publications, suggests that the issues of 2007 are similar to those of

2012. The five journals reviewed in this current study address many of the leading concerns of higher education and were often cited by administrators, faculty, and graduate students. In addition, these journals have been cited in various studies as educational standards (Budd & Magnuson, 2010; Hutchinson, 2004; Keister, 1990; Richardson & McLeod, 2009).

Although each journal focused on a single aspect of concern, the collection contained an assortment of issues faced by the higher education community. Articles featured in these journals pertain to research, leadership, instructional technology, faculty, administration, and policy all of which are quoted in the *HEEIS* study as primary challenges.

Another criterion for selection was the accessibility of the journal. Each journal was offered both in print and digital formats. Because this study covered a five-year span of time, online access made the tracking of archival copies of the older journals less complicated. Having access to only printed materials would have made the process more time consuming and problematic. With the information available in both printed and electronic formats the increased probability of locating all journals for the given timeframe was greatly increased.

Data Collection and Analysis

This study involved an analysis of selected author characteristics and research methods of articles published in five higher education journals for a five-year period, 2006-2010. Only research articles were included; other types of articles, such as book reviews and opinion pieces, were excluded. The number of articles reviewed for this study was 531. Analysis of the data was based on descriptive and Chi-square statistics.

Descriptive statistics were used to summarize the data set. It gave information such as sample size and characteristics such as gender, number of authors, and rank. In this study descriptive statistics were used to understand basic demographics on the articles and authors.

The Chi-square statistic compared categorical responses between two or more independent groups to determine if the actual events occur at the same frequency as expected. The Chi-square test set the confidence interval, or the upper and lower bounds, on the probability that the variation in data was due to chance. Basically the Chi-square established the probability of the differences being by chance. After collection and coding of the data, Statistical Package for the Social Sciences (SPSS) 16.0 was used to calculate inferential statistics for each research question (RQ) using the Chi-square test. Each question was tested at the $p < 0.05$ level of significance.

For the first question, “What is the predominant method of research for published authors in selected peer-reviewed higher education journals?” a column was created that contains three methods of research: quantitative, qualitative and mixed-methods. The primary method for each article was identified and both descriptive and Chi-square statistics were run. Descriptives were used to calculate the percentage each method was used throughout the articles. The Chi-square test searched for significant differences in the methodologies used by the primary authors for their research.

The second question, “Does gender play a role in determining the method of research for published authors in select peer-reviewed higher education journals?” compared the lead author’s gender to the methodology used in the articles to determine

the percent each method was used by each gender. To analyze this data a Chi-square cross tabulation was used.

The third question, “Does academic rank play a role in determining the method of research for published authors in select peer-reviewed higher education journals?” looked at the academic rank of the lead author and compared it to the method of research. Descriptive statistics were used to determine what percentage of each academic rank used each method of research. A Cross Tabulation Chi-square was used to determine the method of research by academic rank for the data. The academic ranks were professor, associate professor, assistant professor, lecturer, administrator, consultant, doctoral student, researcher, and other.

The final question, “Do primary authors prefer co-authors of a certain academic rank in selected peer-reviewed higher education journals?” helped determine senior faculty’s involvement in mentoring junior faculty members in research. A separate Chi-square test was run on each rank of primary author to determine how often they chose a specific rank of co-authors. These data were used to determine if those co-authors were junior faculty members and the most often used rank.

Once the leading journals were identified, copies of all issues for the five year span were obtained and the variables for each article were collected. Variables included gender of the lead author, academic rank of the lead author and co-authors, and the predominate method of research used in the research articles (quantitative, qualitative, or mixed). Some data were not apparent from the published articles, specifically, gender-ambiguous first names and biographical statements that do not list academic rank. In those instances, institutional and personal web pages were searched to determine gender

and rank at the time of the publication's appearance. All data were collected by the researcher of this study.

Data Collection Method

Data were stored in spreadsheet format. The first item developed was a Journal Information Database. That database was used to collect the initial journal information such as name, issues per year, and number of articles per issue. Additional information such as journal codes, a code used by the author to identify the various journals, was used to reduce the amount of data to be entered in the article database, thereby reducing the chance of input errors. Because the number of articles varied in each journal, it was necessary to record the month and date of each publication with the number of articles appearing in each. The spreadsheet was used to cross-check the number of collected articles in the Article Database.

Table 7: Journal Information Database identified the various fields associated with the Journal Information Database. Each journal was identified by name, journal code, issues per year, month/year of publication, and number of articles per issue.

Table 7: Journal Information Database

Journal Information
Journal Name
*Journal Code
Issues Per Year
Month/Year Of Publication
Number Of Articles Per Issue

** Journal code is a code used by this author to identify journals.*

After the basic journal information was gathered the author collected the journal articles. As each journal article was collected, it was saved in the appropriate folder, and the basic information was added to the Article Database. The journal code, volume, issue, month of publication, year, and name of file were recorded in the Article

Database. Once the articles were downloaded, a cross check was made with the Journal Information Database to assure all articles were collected and catalogued.

After the collection phase, each article was reviewed to extract the variables for the Article Database. **Table 8: Article Database** shows the complete design of the Article Database. It contained the following fields for each article: Journal code, volume, issue, month of publication, year, filename, article title, lead author, gender, academic rank, number of authors, rank of co-authors, number of pages, primary methodology, lead author’s place of employment, multi-institution status, and institutional size.

Table 8: Article Database

Article Database
Journal code
Volume
Issue
Month of Publication
Year
Filename
Article Title
Lead Author
Gender of Lead Author
Academic Rank of Lead Author
Number Of Authors
Rank of Co-Author
Number Of Pages
Primary Methodology
Lead Author’s Place Of Employment
Multi-institutional status
Institution Size

The data were analyzed with Statistical Package for the Social Sciences (SPSS). This program contained the tools to run both the descriptive statistics and the Chi-square test.

Summary

This study looked at five different education journals over a five-year span and determined the methodology used in the research. With the use of SPSS, statistical data were analyzed to establish a visual representation of the modern educational researcher. This representation included gender, rank and academic standings of authors and co-authors.

CHAPTER FOUR: PRESENTATION AND ANALYSIS OF THE DATA

The research for this study consisted of analyzing five journals of higher education over a five-year period from 2006 through 2010. The journals include: *The Journal of Higher Education (JHE)*, *The Review of Higher Education (The Review)*, *The Journal of Computing in Higher Education (The Journal)*, *The Journal of Higher Education Policy and Management (JHEPM)*, and *Higher Education Quarterly (HE)*.

For this study, all the journals were accessed online and individual research articles were downloaded. After the initial download the individual articles were reviewed by the researcher to extract the demographics and variables. The demographics included the journal volume, issue and year, file name, article title, number of authors, number of co-authors, gender, rank of authors, number of pages, institution, and multi-institutional status. Multi-institutional status refers to the places of employment for article authors. If authors were at the same institution it was a single institution, but if they came from more than one institution they were considered multi-institutional. The variables examined with inferential statistics include gender of the lead author, academic rank of the lead author and co-authors, and the predominate method of research used in the research articles (quantitative, qualitative, or mixed).

Demographic Information

Overall there was a total of 531 research articles and 1,078 authors. Each article ranged from 1 to 10 authors with an average of approximately 2 authors per article. The number of pages per article ranged from 6 to 49 with an average of 20 pages per article.

Figure 2: Authors per Article indicates the number of authors who worked on the

article. Nearly half, 231 (44%) were written by single authors. Of the remaining, 161 (30%) used two authors, 82 (15%) used 3 authors, and 57 (11%) used four or more authors.

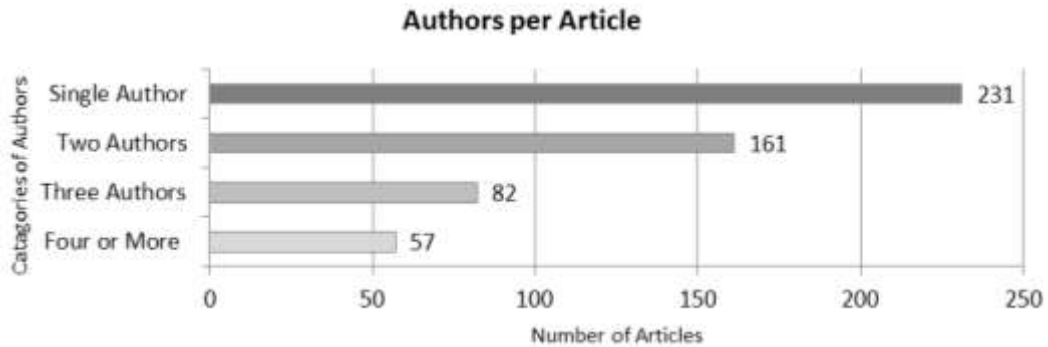


Figure 2: Authors per Article

Figure 2: Authors by Gender shows that 236 (44%) of the primary authors were female and 295 (56%) male. Of the 547 co-authors, 258 (47%) were female and 289 (53%) were male. Overall there was a total of 494 (46%) female and 584 (54%) male authors.

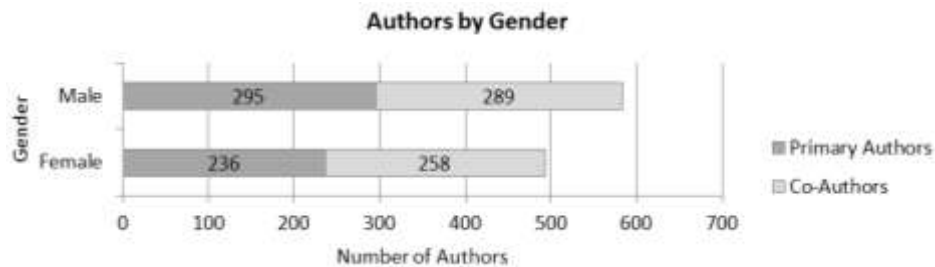


Figure 3: Authors by Gender

Ranking of Authors

The ranks of authors were divided into the following categories: Professor, Associate Professor, Assistant Professor, Lecturer, Administrator, Consultant, Doctoral Student, Researchers, and Other. The ranks of professors, associate professors, and

assistant professors were not defined because of their universal acceptance in higher education.

- A **Lecturer** for this study was defined as a senior lecturer, principal lecturer, lecturer, and reader. They can be employed full or part-time.
- **Consultants** were authors from the business world and include business partners, senior associates, independent scholars, economists, and associate curators.
- **Doctoral Student** included students working toward a terminal degree.
- **Researchers** referred to professional researchers from research institutions outside of higher education.
- **Other** referred to Honorary Senior Fellow, Postdoctoral Fellow, Entrepreneur, Knowledge Transfer Specialist, Senior Scholar, Alumna, Retired, Adjunct, and Instructors.

Table 9: Academic Rank of Primary Author by Gender summarizes the academic rank of primary authors by gender. Of the total (see Figure 3) 531 primary authors 295 (56%) were male, and the remaining 236 (44%) were female. The top five academic ranks that performed the most published research were Professors 118 (22%), Assistant Professors 116 (22%), and Administrators 85 (16%). When looking at gender data, the top three male ranks were Professors 76 (64%), Assistant Professors 61 (53%), and Administrators 46 (54%). For the female gender, the top three ranks that published were Assistant Professors 55 (47%), Professors 42 (36%), and Associate Professors 39 (48%). Ranks that published the least were Consultants 7 (1%), Other 22 (4%), and Doctoral Students 24 (5%). Of the primary authors who were doctoral students, females 13 (54%) published slightly more than males 11 (46%).

Table 9: Academic Rank of Primary Author by Gender

Academic Rank	Gender		Total	Overall Percent
	Female	Male		
Administrator	39	46	85	16
Assistant Professor	55	61	116	22
Associate Professor	39	43	82	16
Consultant	1	6	7	1
Doctoral Student	13	11	24	5
Lecturer	22	21	43	8
Other	10	12	22	4
Professor	42	76	118	22
Researcher	15	19	34	6
Totals	236	295	531	100

Institutional Profile

For this study, institutions were divided into four basic categories according to student population.

- **Small** institution had fewer than 20,000 students
- **Medium** institution had a student population between 20,000 and 39,999
- **Large** institution had a student population between 40,000 and 99,999
- **Mega** institution had a student population of over 100,000 students
- **Other** referred to research groups, national ministries, policy commissions, businesses, and independent researchers.

Table 10: Articles by Institutional Classification and Location illustrated the total number of articles in each institutional classification and whether the institution was located in the US or was International. There were 531 total articles with 255 (48%) of the primary author coming from the US and 276 (52%) coming from International institutions. Authors from medium institutions produced the most articles--208 (39%). Authors from small institutions produced 152 (29%). The institutional size with the least published articles was Other at 28 (5%).

Table 10: Articles by Institutional Classification and Location

Institutional Classification	Location		Total
	US	International	
Small	78	74	152
Medium	103	105	208
Large	42	66	108
Mega	13	22	35
Other	19	9	28
Totals	255	276	531

There was a total of 249 non-duplicate institutions of higher learning and 26 other groups had one or more articles published in the selected journals. **Figure 4: Non-duplicate Institutions by Size and Location** indicates the number of non-duplicate institutions, size of the institution, and whether it was based in the US or was International. The two types of institutions observed most often were medium at 104 (38%) and small at 95 (36%). Large institutions had 40 (14%) occurrences, Mega 7 (3%) and other 27 (10%).

The physical location of institutions that contributed to the journals were international institutions 153 (56%), and the remaining 122 (44%) were in the US. Institutions that contributed the most articles were medium international institutions 58 (21%) followed by small international institutions 55 (20%). Medium 46 (17%) and small 42 (15%) US institutions were third and fourth, respectively, in the number of articles contributed.

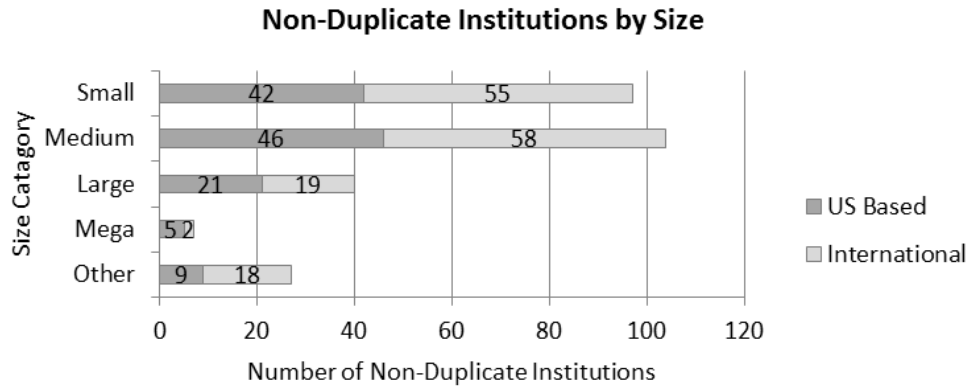


Figure 4: Non-duplicate Institutions by Size and Location

Journal Profiles

There was a total of 531 articles reviewed for this study. **Figure 5: Articles per Journal** gives an overview of the number of articles per journal. The journal with the most articles was the *JHEPM* with a total of 140 (27%) articles, followed by the *JHE* with 138 (26%) articles. The *HE* was third with 112 (21%) followed by *The Review* with 81 (15%) *The Journal* had the least amount with 60 (11%) published articles.

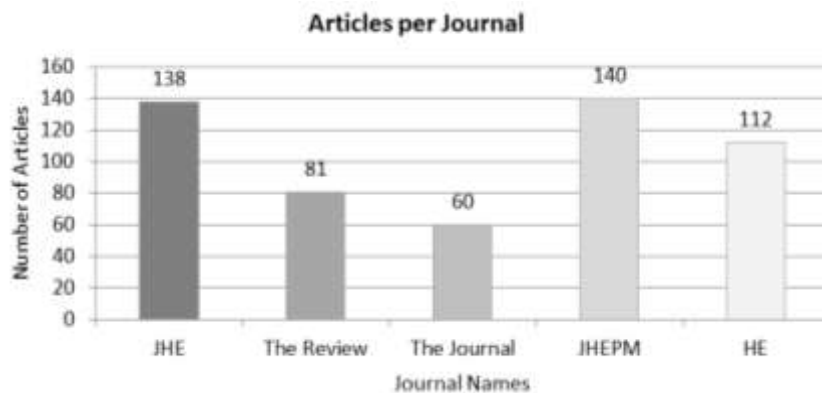


Figure 5: Articles per Journal

Figure 6: Authors and Co-Authors per Journal by Gender displays the author gender by journal. The journal with the most authors was the *JHE* with 301 (28%)

followed by *JHEPM* with 246 (23%) and the *HE* with 207 (20%). *The Review* with 155 (15%) and *The Journal* with 150 (14%) had the least number of authors. Of the total 1078 authors, the males totaled 581 (54%), whereas the females totaled 497 (46%).

The *JHE* had 138 primary authors and 163 co-authors to total 301 authors. Primary authors were divided into 67 (49%) males and 71 (51%) females. There were 81 (50%) male and 82 (50%) female co-authors.

The Review had 81 primary authors and 74 co-authors to total 155 authors. Primary authors were divided into 45 (56%) males and 36 (44%) females. There were 39 (53%) male and 35 (47%) female co-authors.

The Journal had 60 primary authors and 90 co-authors to total 150 authors. Primary authors were divided into 38 (63%) males and 22 (37%) females. There were 45 (50%) male and 45 (50%) female co-authors.

The *JHEPM* had 140 primary authors and 106 co-authors to total 246 authors. Primary authors were divided into 73 (52 %) males and 67 (48%) females. There were 58 (55%) male and 48 (45%) female co-authors.

The *HE* had 112 primary authors and 95 co-authors to total 207 authors. Primary authors were divided into 72 (64%) males and 40 (36%) females. There were 57 (60%) male and 38 (40%) female co-authors.

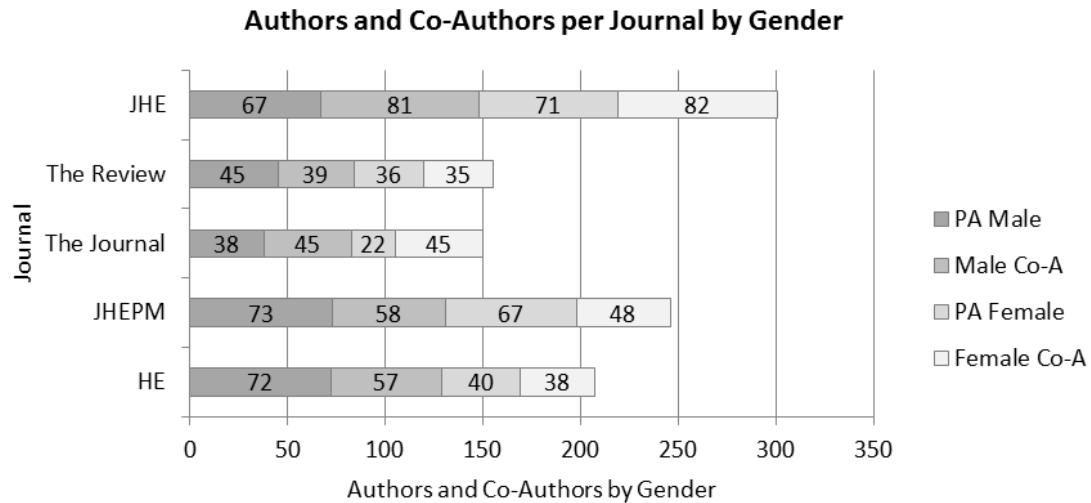


Figure 6: Authors and Co-Authors per Journal by Gender

The academic rank by journal showed that the leading primary authors overall were Professors 118 (22%), followed by Assistant Professors 116 (22%), and Administrators 85 (16%). **Table 11: Primary Author Rank by Journal** showed the top three ranks for *JHE* were Assistant Professors 53 (38%), Professors 28 (20%), and Associate Professors 21 (15%). *The Reviews* top ranks were Assistant Professors 38 (47%), Associate Professors 12 (15%), and Administrators 11 (14%). Assistant Professors 16 (27%), Associate Professors 14 (23%), and Professors 13 (22%) ranked the highest for *The Journal*. The JHEPM had the greatest number of authors at 140 (26%), and the top ranks include: Professor 30 (21%), Administrator 27 (19%), and Associate Professor 24 (17%). The *HE* had the highest number of Professor authors at 42 (38%), followed by 22 (20%) Administrators, and 19 (17%) Lecturers.

Table 11: Primary Author Rank by Journal

	Journals					Total	Overall Percentage
	JHE	The Review	The Journal	JHEPM	HE		
Administrator	19	11	8	27	22	85	16
Assistant Professor	53	38	16	6	3	116	22
Associate Professor	21	12	14	24	11	82	15
Consultant	2	0	2	2	1	7	1
Doctoral Student	5	8	2	8	1	24	4
Lecturer	0	0	1	23	19	43	8
Other	8	2	5	5	4	22	4
Professor	26	7	13	30	42	118	22
Researcher	6	3	1	15	9	34	6
Totals	138	81	60	140	112	531	

The Journal of Higher Education publishes six issues a year for a total of 60 issues and averaged 5 articles per issue. For this study the *JHE* provided 138 research articles and had a total of 301 authors. The average number of authors per article was approximately 2 with an average article length of 27 pages. Seventy-four of the articles originated from single institutions, whereas sixty-four originated from multiple institutions. Of the institutions involved 131 were US based and the remaining 7 were International. The acceptance rate for this journal is nine percent.

The Review of Higher Education is published quarterly for a total of 20 issues and averaged 4 articles per issue. For this study, *The Review* provided 81 research articles and had a total of 155 authors. The average number of authors per article was approximately 2 with an average article length of 26 pages. Forty-nine of the articles originated from single institutions, whereas thirty-two originated from multiple institutions. Of the institutions involved 79 were US based and the remaining 2 were International. The acceptance rate for this journal is between five and eight percent.

Journal of Computing in Higher Education is published semi-annually until 2009, then in 2010 it added a third issue for a total of 11 issues and averaged 5 articles

per issue. For this study, *The Journal* provided 60 research articles and had a total of 150 authors. The average number of authors per article was approximately 3 with an average article length of 18 pages. Thirty-nine of the articles originated from single institutions, whereas twenty-one originated from multiple institutions. Of the institutions involved, 46 were US based and the remaining 14 were International. The acceptance rate for this journal is about 20 percent.

The *Journal of Higher Education Policy and Management* started publication with 3 issues a year in 2006 and 2007, in 2008 and 2009 it published 4 times a year and in 2010 had grown to 5 issues per year for a total of 19 issues and averaged 5 articles per issue. For this study the *JHEPM* provided 140 research articles and had a total of 246 authors. The average number of authors per article was approximately 2 with an average article length of 12 pages. One hundred and six of the articles originated from single institutions, while thirty-four originated from multiple institutions. Of the institutions involved 16 were US based and the remaining 124 were International. The acceptance rate for this journal is twenty percent.

The *Higher Education Quarterly* published quarterly, but in 2008 the first and second issues were combined into one publication. The *HE* created a total of 19 issues and averaged 6 articles per issue. For this study the *HE* provided 112 research articles and had a total of 207 authors. The average number of authors per article was approximately 2 with an average article length of 19 pages. Eighty-five of the articles originated from single institutions, while twenty-seven originated from multiple institutions. Of the institutions involved 4 were US based and 108 were International. The acceptance rate for this journal is twenty percent.

Research Questions and Inferential Analysis

After collection and coding of the data, SPSS 16.0 was used to calculate inferential statistics for each research question (RQ) using the Chi-square test. Each question was tested at the $p < 0.05$ level of significance

Research Question 1

RQ1: What is the predominant method of research for published authors in selected peer-reviewed higher education journals?

Research Question 1 involved the 531 primary authors of this study and the research methods that they used: quantitative, qualitative, and mixed-methods. The Chi-square statistic was used to test for significant differences in the methodologies used by the primary authors for their research. **Table 12: RQ1 Frequencies of Research Methods Used by Primary Authors** presents the number of primary authors who used each method of research: quantitative 212 (40%), qualitative 249 (47%) and mix-methods 70 (13%). The Chi-square value attained resulted in a probability level of $p < 0.05$. Examining the observed frequencies in Table 10 indicated that there was a significant difference between the use of quantitative and mixed-methods and between qualitative and mix-methods research. There does not appear to be a significant difference between the use of quantitative and qualitative research methods for the primary authors of this study.

Table 12: RQ1 Frequencies of Research Methods Used by Primary Authors

Method	Observed N	Expected N	Chi-square
Quantitative	212	177.0	100.893 p = .000
Qualitative	249	177.0	
Mix-Methods	70	177.0	
Totals	531	531	

Research Question 2

RQ2: Does gender play a role in determining the method of research for published authors in select peer-reviewed higher education journals?

Research Question 2 involved the research methods used by the 531 primary authors of this study and their gender. A cross-tabulation Chi-square statistic was used to test for significant differences in the methodologies used by the primary authors for their research due to gender. **Table 13: RQ2 Research Methods Used by Primary Author due to Gender** presents the number of primary authors who used each method of research organized by gender. Female researchers used qualitative methods 117 (59%) times, quantitative methods 86 (30%) times, and mixed methods 33 (11%) times. Male researchers had similar results with qualitative methods used 132 (45%) times, quantitative 126 (43%) times, and mixed methods 37 (12%) times. The Chi-square value attained resulted in a probability level of $p > 0.05$. This indicated that there was no significant difference in the use of research methods used due to gender. However, taking into consideration the different research methods, qualitative and quantitative methods appear to be used more often than mixed methods when considering gender, which is consistent with the findings in Research Question 1.

Table 13: RQ2 Research Methods Used by Primary Author due to Gender

Gender	Primary Method			Chi-square
	Quantitative	Qualitative	Mix-Methods	
Female	86	117	33	2.150 $p = 0.341$
Male	126	132	37	
Totals	212	249	70	

Research Question 3

RQ3: Does academic rank play a role in determining the method of research for published primary authors in select peer-reviewed higher education journals?

Research Question 3 involved the research methods used by the 531 primary authors of this study and their academic rank. A cross-tabulation Chi-square statistic was used to test for significant differences in the methodologies used by the primary authors for their research due to academic rank. **Table 14: RQ3 Research Methods Used by Primary Author due to Academic Rank** presents the number of primary authors who used each method of research organized by academic rank. The Chi-square value attained resulted in a probability level of $p < 0.05$. Looking at the overall totals, Professors, Assistant Professors, Administrators, and Associate Professors appear to be publishing articles significantly more than all of the other ranks examined by this study. Taking into consideration the different research methods, qualitative and quantitative methods appear to be used more often than mixed methods when considering the rank of the primary authors, which is consistent with the findings in Research Question 1.

Table 14: RQ3 Research Methods Used by Primary Author due to Academic Rank

Rank	Methods			Total	Chi-square
	Mixed	Qualitative	Quantitative		
Administrator	12	42	30	85	P = 0.019
Assistant Professor	8	47	61	116	
Associate Professor	18	36	28	82	
Consultant	0	7	0	7	
Doctoral Student	2	13	9	24	
Lecturer	5	23	15	43	
Other	3	10	9	22	
Professor	19	50	49	118	
Researcher	2	21	11	34	
Totals	70	249	212	531	

Research Question 4

RQ4: Do primary authors prefer co-authors of a certain academic rank in selected peer-reviewed higher education journals?

Table 15: RQ4 Authors/Co-Authoring Demographics shows that there were 300 articles that involved co-authors. The top performing primary author rank when published articles had two or more co-authors was professor. Overall they used co-authors 72 times. Professors authored with other professors 29 (40%) times, administrators 11(15%) times, and associate professors 8 (11%) times. Professors paired with doctoral students only 2 (2%) times in these journal articles. Assistant professors used co-authors 57 times. Of those 57 times, assistant professors used professors as co-authors 21(37%) times, assistant professors 8 (14%) times, and doctoral students 7 (12%) times. The associate professors used co-authors 52 times and were most likely to pair with professors 20 (38%), followed by associate professors 8 (15%) and doctoral students 7 (13%).

Table 15: RQ4 Authors/Co-Authors Demographics

Primary Author Rank	Highest Rank of Co-Author									Total
	Administrator	Assistant Professor	Associate Professor	Consultant	Doctoral Student	Lecturer	Other	Professor	Researcher	
Administrator	12	3	4	1	1	5	2	18	3	49
Assistant Professor	6	8	6	1	7	0	4	21	4	57
Associate Professor	4	5	8	0	7	0	5	20	3	52
Consultant	1	0	0	0	0	0	1	0	0	2
Doctoral Student	2	0	2	0	0	2	1	6	1	14
Lecturer	1	0	4	0	1	3	1	8	3	21
Other	3	1	2	1	0	1	0	6	0	14
Professor	11	6	8	4	2	4	2	29	6	72
Researcher	1	2	1	3	0	1	0	6	5	19
Total	41	25	35	10	18	16	16	114	25	300

To test for significance, a Chi Square test was run for each type of primary author. **Table 16: RQ4 Primary Authors Use of Co-Authors** shows a summary of the Chi-square results. Academic rank did play a role in co-authoring (CA) for the following primary authors: Professor, Associate Professor, Assistant Professor, Administrator, and Lecturer. The data revealed that primary authors preferred a co-author with the rank of professor. In the case of administrators, the favored academic ranks of co-authors were split between professors and other administrators. Results further revealed academic ranks did not play a role in co-authoring for the following primary authors: Doctoral Students, Researchers, and Other. The rank of Consultant could not be calculated because of the low numbers of participants.

Table 16: RQ4 Primary Authors Use of Co-Authors

Main Author	Chi-square	P Value	Interpretation where significance occurs
Administrators	48.898	0.000	Professor CA Administrator CA
Assistant Professors	35.491	0.000	Professor CA
Associate Professors	27.154	0.000	Professor CA
Consultant	Unable to Compare	NA	NA
Doctoral Students	7.429	0.191	No Significance
Lectures	12.667	0.049	Professor CA
Other	8.286	0.141	No Significance
Professors	70.250	0.000	Professor CA
Researchers	9.368	0.154	No Significance

Summary

This study examined five journals of higher education to analyze the methods of research used by the higher education community. The methods of research utilized by the authors were quantitative, qualitative, and mixed-methods. The demographics revealed that there were a total of 531 articles with 531 primary authors and 547 co-authors. Overall there were 494 female and 584 male authors. The primary authors

observed most often in the data held the rank of professor 118 (22%), assistant professor 116 (22%), and administrator 85 (16%).

Overall this study revealed that men outnumber women in authoring research articles in the selected higher education journals. Qualitative research was most often the method of choice for authors of these journal articles for both genders. Men (43%) use quantitative research slightly more than women (30%). Mixed-method research is the least popular method of research for all authors, (11%) female and (12%) male. Professors are evenly divided in the qualitative/quantitative research methods, but assistant professors showed a preference for quantitative research. For the majority of primary authors, the co-author academic rank in the greatest demand was professor.

CHAPTER FIVE: FINDINGS, CONCLUSIONS, ANCILLARY, AND RECOMMENDATIONS

Purpose of the Study

The purpose of this study was to examine the methods of research used by the higher education community in articles published in selected peer reviewed journal articles over a five year span from 2006 - 2010. This study examined the effects of author, gender, and academic rank on the research methods selected.

Population

The five journals used in this study were *Journal of Higher Education (JHE)*, *The Review of Higher Education (The Review)*, *Journal of Computing in Higher Education (The Journal)*, *Journal of Higher Education Policy and Management (JHEPM)*, and *Higher Education Quarterly (HE)*.

There was a total of 531 articles for this study; 231 had single authors; 162 had two authors; and 138 had three or more authors. The *JHE* had 138 articles; *The Review* consisted of 81; *The Journal* contained 60; the *JHEPM* had 140; and the *HE* contained 112 articles.

There were 1,078 authors, of which 531 were primary and 547 were co-authors. There were 548 male and 494 female authors. There were nine ranks of authors involved in the study: Professors, Associate Professors, Assistant Professors, Lecturers, Administrators, Doctoral Students, Researchers, Consultants, and Others.

The workplace locations of the primary authors varied, 255 were located in the US, while the remaining 276 were International. The sizes of the institutions included: Small (less than 20,000 students), Medium (between 20,000 and 39,999 students), Large

(between 40,000 and 99,999 students), Mega (over 100,000 students), and Other (referred to research groups, national ministries, policy commissions, businesses, and independent researchers). The majority of the authors came from medium institutions, followed by small and large.

Methods

The primary method of research used in this study was quantitative although a certain amount of qualitative research was necessary in coding data from each journal. Once the journals were downloaded, a review to extract the demographics and variables was performed. The variables studied with inferential statistics included gender of the lead author, academic rank of the lead author and co-authors, and the predominate method of research (quantitative, qualitative, or mixed).

The demographics included the journal volume, issue and year, file name, article title, number of authors, number of female co-authors, number of pages, and name of institution of lead author. An Excel spreadsheet was used to track the data. After its collection, a statistical program, SPSS, was used to test the level of significance for each research question and demographics.

Study Limitations

This study had three primary limitations: selection of journal, non-discipline specific, and generalizability. The journals selected for this study were from scholarly publications of higher education over a five-year period. Other journals and timeframes may produce different outcomes. This study examined higher education as a whole, and therefore, was not discipline specific. Specific disciplines may receive different results. The extent to which these findings may be generalized is indeterminate. All journals

associated with the study are available through printed media and accessible online. Journals that are strictly print or solely online were not included in this study therefore may experience different results.

Findings

There were four research questions associated with this study:

1. What is the predominant method of research for published authors in selected peer-reviewed higher education journals?
2. Does gender play a role in determining the method of research for published authors in select peer-reviewed higher education journals?
3. Does academic rank play a role in determining the method of research for published authors in select peer-reviewed higher education journals?
4. Do primary authors prefer co-authors of a certain academic rank in selected peer-reviewed higher education journals?

Research Question 1

What is the predominant method of research for published authors in selected peer-reviewed higher education journals?

Research Question 1 involved 531 primary authors and the research methods they used: quantitative, qualitative, and mixed-methods. The results revealed that there was a significant difference between the use of quantitative and mixed-methods and between qualitative and mixed-methods research. There did not appear to be a significant difference between the use of quantitative and qualitative research methods for the primary authors. Qualitative (47%) and quantitative (40%) were the most popular

methods of research for the articles of this study. Mixed-method was used for 13 percent of the articles.

Qualitative and quantitative were the most popular methods of research for this study. Mixed-method was used for only 13 percent of the articles in this study. Although the study did not focus on the reasons researchers chose one method over another, there are factors that may help explain why they may not have participated in mixed-method research. There are three basic explanations: time and complexity, subject matter, and the lack of acceptance of the research method.

One of the primary strengths of mixed-method research is its ability to answer a broad range of questions. The researcher is not confined to one single method of research; therefore, questions can be asked that fit both the qualitative and quantitative paradigms. This depth of research can add insights and understandings that may not be present when a single method is used. Its strength is also its principal weakness. The use of both quantitative and qualitative methods makes it more complex and thereby more time consuming for the researcher. The researcher, if working alone, would need expertise in both methods of research to complete the project. It would also involve additional time to design and implement two separate research models to accommodate the subject (Johnson & Onwuegbuzie, 2004).

The second rationale to explain the unpopularity of mixed-methods research deals with subject matter. More often than not the subject, not the researcher, determines the method of research for the study. Some topics are better suited to quantitative and some for qualitative, while other topics need a combination of both methods. Quantitative research is used to measure and analyze relationships between variables; it is often used

when a basic knowledge of the subject is pre-existing (Denzin & Lincoln, 1994). One of the strengths of quantitative research is its generalizability to larger groups. Qualitative research focuses on process and meanings (Guba & Lincoln, 1994). It is best applied to small groups in which miniscule knowledge exists. Mixed-methods research is a combination of the two paradigms. It is best used when researchers need specific answers, but so little research is available on the topic that determining the right questions to ask is problematic.

Although mixed-methods research is more widely accepted today, it is not without its critics. There are supporters in all three methodological camps. The quantitative disciples feel that quantitative research is the only true scientific method of research, thereby the only valid method to attain true knowledge. The qualitative advocates say their method is as valid as quantitative, it is just designed to answer different types of questions. Mixed-method supporters feel that research requires the use of both methods to achieve its full potential and that the co-mingling of the two produces a deeper knowledge than either single method (Sale, et al., 2002).

The fact that mixed-methods was less mature than qualitative and quantitative methods, combined with the debate surrounding the methodology, may make many researchers hesitant to use the method. To be accepted in the research community, researchers need to have their research recognized as valid. They are publishing to make and maintain their reputations and positions at institutions. Researchers recognize their careers depend on the acceptance of their scholarly activities.

Research Question 2

Does gender play a role in determining the method of research for published authors in select peer-reviewed higher education journals?

Research Question 2 involved the research methods used by the 531 primary authors of this study according to gender. The Chi-square test indicated that there was no significant difference in the use of research methods due to gender.

Throughout this study, quantitative and qualitative were the most popular methods of research. For this question, a closer look revealed a slight gender gap with quantitative research. Although there is no significant difference, descriptive statistics show that females are 14 percent more likely to do qualitative research. Men are 13 percent more likely to do quantitative research.

The reason for this difference was beyond the scope of this study, but because quantitative research is based on mathematical equations, it is reasonable to associate a relationship between gender participation in quantitative research and the national trend of gender disparity in the STEM fields. Research confirmed that there are many capable women working in mathematical fields, in our society women are not as likely to pursue careers in mathematics and sciences as men. In a study by the U.S. Department of Commerce in 2009 women were between 14 and 27 percent less likely to have careers in the STEM fields, such as math and engineering, than their male colleagues (Beede, etc., 2011).

Research Question 3

Does academic rank play a role in determining the method of research for published authors in select peer-reviewed higher education journals?

Research Question 3 involved the research methods used by the primary authors according to their academic rank. The data indicated Professors published 118 articles, Assistant Professors 116 articles, Administrators 85 articles, and Associate Professors 82 articles. Taking into consideration the different research methods, qualitative and quantitative methods appear to be used more often than mixed-methods when considering the rank of the primary authors.

Research Question 3 involved the research methods in the articles used by the primary authors and their academic rank. The test indicated 118 Professors, 116 Assistant Professors, 85 Administrators, and 82 Associate Professors published significantly more articles than all of the other ranks examined in this study. Qualitative and quantitative methods were used more often than mixed methods.

Professors were top performers in both qualitative and mixed-methods research. Assistant professors were the only top ranked authors who favored quantitative research, with all other ranks preferring qualitative. None of the top authors preferred mixed-methods. The reason for these differences is unclear, but pure speculation would suggest, as discussed earlier, mixed-methods research is relatively new and although gaining popularity, is not as widely accepted as qualitative and quantitative methods.

As for the difference in methodological choices by assistant professors, the reasoning may be found in the researcher's status within their profession. The assistant professor would typically be the early stage of his\her career and would choose to use the fastest and least controversial method. As careers advance, associate and full professors are more likely to be open to alternative methods of research. Because administrators were not classified by rank for this study, the administrator researchers could be at

various levels of their career. When examined closely, their numbers are similar to the associate professor, favoring qualitative methods but still reliant on quantitative research.

Research Question 4

Do primary authors prefer co-authors of a certain academic rank in selected peer-reviewed higher education journals?

This study had 300 articles with two or more authors. Authors were categorized into the following nine ranks: Professors, Associate Professors, Assistant Professors, Lecturers, Administrator, Doctoral Students, Researchers, Consultants and Others. The data showed that five of the nine categories of primary authors were significantly influenced by the academic rank of the co-author. The ranks of Professor, Associate Professor, Assistant Professor, Administrator, and Lecturer preferred to co-author with a professor. The ranks of Doctoral Student, Researchers, and Others were not significant, whereas the rank of Consultant could not be calculated because of the low number of participants.

Research Question 4 involved the primary author's choice of co-authors according to academic rank. This research found that most authors prefer to work with professors when publishing research findings. The reason for this trend of seeking professors as co-authors is not addressed in this study, but expertise and mentorship could explain this occurrence.

The nature of rank is to recognize the amount of time and expertise a person has within the academic world. A professor has already experienced the trial and error associated with junior faculty positions and has earned a reputation as an expert in the field. Junior faculty members struggling to build careers often look to professors as

examples. Generally, an expert co-author imparts a certain amount of name recognition to the work and help junior faculty get published. Therefore, part of the reason professors were such a high percentage of co-authors could be because junior faculty members actively sought their assistance.

The second rationale, mentorship, would involve the senior ranking member of the faculty, professors, lending their expertise and leadership to the team. Professors are reasonably secure in their careers and understand that their professional growth is fostered by previous generations.

Implications

The basic function of higher education is to educate and to create knowledge. Research is the means by which educators create knowledge. Publishing their research not only allows researchers to share the new knowledge, but also puts that knowledge into the public arena for peer verification of accuracy. This process adds credibility to the author's reputation and profession as well as contributes to the overall body of accumulated knowledge.

The findings of this study will be useful for future researchers in understanding the changing landscape of research methodologies. The acceptance of a broader range of methodologies opens the door for more researchers to explore topics previously untouchable because the methodology to acquire the knowledge was considered unscientific. Researchers are learning not only how to research differently, but also how to take apparently opposite paradigms and combine them into a complementary research design. Examining research in different ways can prove invaluable as new questions and topics are explored.

The old military saying, “Rank has its privileges,” holds true with academic rank and research. According to this study, the higher the rank of the researcher, the more willing he or she is to vary from the traditional methods of research. In scientific research quantitative research is traditional, the lowest academic rank, the assistant professor, performed the most quantitative research, whereas the highest rank, professor, performed the most research in both qualitative and mixed-methods. This finding suggests that professors are leading the way in the acceptance of non-traditional research methods. It further suggests that as the door opens to new methodologies, more researchers will become involved in non-traditional choices.

Summary

This study revealed the following:

- There is a significant difference between the use of quantitative and mixed-methods and between qualitative and mixed-methods research.
- There is no significant difference in the use of research methods due to gender.
- There is a significant difference in publishing based on rank.
- There is a significant difference among ranks when considering co-authors.

Recommendations for Further Study

The following recommendations for further study emerged from the findings and analysis of data.

1. The findings of this study can be generalized only to the five higher education journals used in the study. A recommendation for further study would be a replication of this study with a different set of journals.
2. Another recommendation for further study would be to investigate the research methodologies of professionals outside of the higher education community.
3. A longitudinal study of how research methodologies have changed with the use of technology and the Internet would be another topic for future studies.
4. Another recommendation for further study would be to investigate how institutional size, as well as Carnegie classification, impacts the method of research used by the primary author.
5. An analysis of the changes across journals in methodology as reflected in research articles.
6. A final recommendation for further study would be to research the methodology preferences of journals published in other countries compared to the US.

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APPENDICES

APPENDIX A

Journal Information Database

Journal Information Database

Journal Code	2006						2007						2008						2009						2010						Total	
	Iss 1	Iss 2	Iss 3	Iss 4	Iss 5	Iss 6	Iss 1	Iss 2	Iss 3	Iss 4	Iss 5	Iss 6	Iss 1	Iss 2	Iss 3	Iss 4	Iss 5	Iss 6	Iss 1	Iss 2	Iss 3	Iss 4	Iss 5	Iss 6	Iss 1	Iss 2	Iss 3	Iss 4	Iss 5	Iss 6		
1	6	7	6	5	6	6	5	4	4	4	4	3	4	4	4	4	4	5	4	4	4	5	4	4	4	4	5	7	4	4	4	138
2	4	5	4	4	4		3	3	4	4		5	3	4	4		5	4	5	3			4	4	4	5			81			
3	2	6	5				6	5				4	9				5	4	4				4	4	4			60				
4	3	6	7	7			8	7	6			8	7	8	7		8	8	7	7			8	8	9	7	7	140				
5	4	5	5	5	6		5	6	8	9		7		8	6		5	4	4	11			5	6	7			112				
	Jour: Journal Name 1 Journal of Higher Education 2 The Review of Higher Education 3 The Journal of Computing in Higher Education 4 Journal of Higher Education Policy and Management 5 Higher Education Quarterly																															

APPENDIX B
Article Database

Number	Journal	Vol	Issue	Year	Filename	Title	Primary Author	Gender	PA Academic rank	No. Author	Highest Rank of Co-author	No. Full Time Faculty in Research and Doctoral Institutions	No. Part Time Faculty in Research and Doctoral Institutions	No. Postdoc	No. Ph.D.	No. M.A.	No. M.S.	No. Other	US Base Size	Classification						
1	177	1	2006	1941781	The Mission of the University: Medieval to Postmodern Transformations	John C. Scott	Male	Consultant	1	0	0	0	0	0	0	0	0	0	0	0	Other					
2	177	1	2006	1941782	Democratizing Public 2+ Year College Faculty's Incent to Leave: An Empirical Model	John C. Scott	Male	Assistant Professor	2	1	0	0	0	0	0	0	0	0	0	0	39	Qualitative				
3	177	1	2006	1941783	Factors Contributing to Faculty Incorporation of Diversity-Related Course Content	Mark J. Poeser	Female	Administrator	2	1	0	0	0	0	0	0	0	0	0	0	0	21	Quantitative			
4	177	1	2006	1941784	Faculty Experiences with Diversity at Liberal Arts Colleges: Another Claim to Distinctiveness	Paul D. Umbach	Male	Assistant Professor	2	1	0	0	0	0	0	0	0	0	0	0	0	0	24	Quantitative		
5	177	1	2006	1941785	Faculty Work, Tensions between Educational and Economic Values	John S. Levin	Male	Administrator	1	0	0	0	0	0	0	0	0	0	0	0	0	0	27	Qualitative		
6	177	1	2006	1941786	The Impact of Appointment Type on the Productivity and Commitment of Full-Time Faculty in Research and Doctoral Institutions	Carol A. Bland	Female	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	35	Qualitative	
7	177	1	2006	1941787	Faculty Salary Equity Cases: Combining Statistics with the Law	Andrew L. Luna	Male	Administrator	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	Qualitative	
8	177	1	2006	1941788	Equity in Intercollegiate Athletics: Determinants of Title IX Compliance	Debra J. Anderson	Female	Assistant Professor	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
9	177	1	2006	1941789	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
10	177	1	2006	1941790	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
11	177	1	2006	1941791	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
12	177	1	2006	1941792	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
13	177	1	2006	1941793	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
14	177	1	2006	1941794	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
15	177	1	2006	1941795	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
16	177	1	2006	1941796	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
17	177	1	2006	1941797	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
18	177	1	2006	1941798	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
19	177	1	2006	1941799	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
20	177	1	2006	1941800	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
21	177	1	2006	1941801	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
22	177	1	2006	1941802	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
23	177	1	2006	1941803	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
24	177	1	2006	1941804	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
25	177	1	2006	1941805	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
26	177	1	2006	1941806	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
27	177	1	2006	1941807	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
28	177	1	2006	1941808	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
29	177	1	2006	1941809	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
30	177	1	2006	1941810	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
31	177	1	2006	1941811	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
32	177	1	2006	1941812	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
33	177	1	2006	1941813	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
34	177	1	2006	1941814	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
35	177	1	2006	1941815	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
36	177	1	2006	1941816	Gender Equity in Academic Athletics: Determinants of Title IX Compliance	Ernest J. Scarsella	Male	Professor	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	Qualitative
37	178	1	2007	2000146	Demographic Inertia Revisited: An Immodest Proposal to Achieve Equitable Gender Representation among Faculty in Higher Ed	Robyn Marschoke	Female	Other	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	Qualitative	
38	178	1	2007	2000147	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
39	178	1	2007	2000148	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
40	178	1	2007	2000149	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
41	178	1	2007	2000150	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
42	178	1	2007	2000151	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
43	178	1	2007	2000152	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
44	178	1	2007	2000153	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
45	178	1	2007	2000154	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
46	178	1	2007	2000155	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
47	178	1	2007	2000156	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
48	178	1	2007	2000157	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
49	178	1	2007	2000158	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
50	178	1	2007	2000159	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
51	178	1	2007	2000160	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
52	178	1	2007	2000161	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
53	178	1	2007	2000162	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
54	178	1	2007	2000163	Higher Education Journals' Discourse about Adult Undergraduate Students	Joe F. Donaldson	Male	Professor	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	Qualitative
55	178	1	2007	2000164	Higher Education Journals' Discourse about Adult Undergraduate Students																					

Number	Journal	Year	Issue	File Name	Title	Primary Author	Gender	PA Academic Rank	No. Author	Highest Rank of Co-auth	No. From Doc Stu	No. From	Doc Stu	No. From	Doc Stu	Multi-Inst. Work Place	US Base	Size	Classification
69	1	79	3	2008	31597076	A Typology of Federal and State Programs Designed to Promote College Enrollment	Laura V. Perna	Female	Associate Professor	3	2	25	Quantitative	Y	22000	Medium			
70	1	79	3	2008	31597080	Explaining Increases in Higher Education Costs	Robert E. Lovitt	Male	Professor	1	0	0	30	Qualitative	N	College of William and Mary	Y	8,000	Small
71	1	79	3	2008	31597081	The Transition to Independent Research: Who Makes It, Who Doesn't, and Why	Barbara E. Lovitt	Female	Assistant Professor	1	0	0	23	Qualitative	N	Abt Associates in Bethesda, MD	Y	5,000	Small
72	1	79	3	2008	31597082	Whom's too much and what's too little? The Process of Becoming an Independent Researcher in Doctoral Education	Suzan K. Carner	Female	Assistant Professor	1	0	0	20	Qualitative	N	University of Maine	Y	4,000	Small
73	1	79	3	2008	31597083	Whom's too much and what's too little? The Process of Becoming an Independent Researcher in Doctoral Education	Robert E. Lovitt	Male	Professor	1	0	0	20	Qualitative	N	Abt Associates in Bethesda, MD	Y	5,000	Small
74	1	79	4	2008	32878888	Problems in the Pipeline: Gender, Marriage, and Family in the Post-2000	Nicholas H. Volinger	Male	Associate Professor	1	0	0	18	Qualitative	Y	University of Utah	Y	3,000	Medium
75	1	79	4	2008	32878889	Understanding Leadership Strategies for Addressing the Politics of Diversity	Adrianna Kezar	Female	Associate Professor	1	0	0	31	Qualitative	N	University of Southern California	Y	37,000	Medium
76	1	79	4	2008	32878893	Transfer Access from Community Colleges and the Distribution of Elite Higher Education	Allisa C. Dowd	Female	Assistant Professor	2	1	0	31	Qualitative	Y	University of Southern California	Y	37,000	Medium
77	1	79	5	2008	34160083	Valuing and Evaluating Teaching in Academic Hiring: A Multidisciplinary, Cross-Institutional Study	Deborah Welsh	Female	Administrator	2	1	0	24	Mixed	Y	University of Michigan	Y	42,000	Large
78	1	79	5	2008	34160084	The Effect-Drivers Capabilities for African American and Hispanic Community College Students in Student Engagement	James D. Greene	Male	Administrator	2	1	0	25	Qualitative	Y	Sacramento City College	Y	10,000	Medium
79	1	79	5	2008	34160085	Parental Involvement in College Going: Variations by Socioeconomic Class	Heather T. Rowan-Kongon	Female	Assistant Professor	2	1	0	21	Qualitative	Y	University of Virginia	Y	21,000	Medium
80	1	79	5	2008	34160086	A Multidimensional Scaling of College Students' Perceptions of Academic Dishonesty	Louis Peflazou-Smaliekin	Female	Administrator	3	2	1	21	Qualitative	Y	Hofstra University	N	13,000	Small
81	1	79	5	2008	34160087	Developing Academic Strategic Alliances: Reconciling Multiple Institutional Cultures, Policies, and Practices	Peier D. Eckart	Male	Professor	2	1	0	33	Qualitative	Y	University of Arizona	Y	4,000	Large
82	1	79	5	2008	34160088	The State-Sponsored Student Entrepreneur	Matthew M. Mars	Male	Other	2	1	0	33	Qualitative	Y	University of Arizona	Y	4,000	Large
83	1	79	5	2008	34160089	Using the State-Sponsored Student Entrepreneur	Matthew M. Mars	Male	Other	2	1	0	33	Qualitative	Y	University of Arizona	Y	4,000	Large
84	1	79	5	2008	34160090	Using the State-Sponsored Student Entrepreneur	Matthew M. Mars	Male	Other	2	1	0	33	Qualitative	Y	University of Arizona	Y	4,000	Large
85	1	79	5	2008	34160091	Using the State-Sponsored Student Entrepreneur	Matthew M. Mars	Male	Other	2	1	0	33	Qualitative	Y	University of Arizona	Y	4,000	Large
86	1	79	5	2008	34160092	Using the State-Sponsored Student Entrepreneur	Matthew M. Mars	Male	Other	2	1	0	33	Qualitative	Y	University of Arizona	Y	4,000	Large
87	1	80	1	2009	20090101-36653538	Towards a Theory of Doctoral Student Professional Development: Assess Institutional and Disciplinary Boundaries	Nobuko Ito	Female	Assistant Professor	1	0	0	33	Qualitative	N	Albion College	Y	1,800	Small
88	1	80	1	2009	20090101-36653538	Towards a Theory of Doctoral Student Professional Development: Assess Institutional and Disciplinary Boundaries	Nobuko Ito	Female	Assistant Professor	1	0	0	33	Qualitative	N	Albion College	Y	1,800	Small
89	1	80	1	2009	20090101-36653538	Towards a Theory of Doctoral Student Professional Development: Assess Institutional and Disciplinary Boundaries	Nobuko Ito	Female	Assistant Professor	1	0	0	33	Qualitative	N	Albion College	Y	1,800	Small
90	1	80	1	2009	20090101-36653538	Towards a Theory of Doctoral Student Professional Development: Assess Institutional and Disciplinary Boundaries	Nobuko Ito	Female	Assistant Professor	1	0	0	33	Qualitative	N	Albion College	Y	1,800	Small
91	1	80	1	2009	20090101-36653538	Towards a Theory of Doctoral Student Professional Development: Assess Institutional and Disciplinary Boundaries	Nobuko Ito	Female	Assistant Professor	1	0	0	33	Qualitative	N	Albion College	Y	1,800	Small
92	1	80	2	2009	20090302-36622340	White, Male, and "Midrange": Racial Consciousness Among White Male Undergraduates Attending a Historically Black University	R. Daniel Peterson	Male	Researcher	2	1	0	25	Qualitative	Y	University of California	Y	19,000	Mega
93	1	80	2	2009	20090302-36622340	White, Male, and "Midrange": Racial Consciousness Among White Male Undergraduates Attending a Historically Black University	R. Daniel Peterson	Male	Researcher	2	1	0	25	Qualitative	Y	University of California	Y	19,000	Mega
94	1	80	2	2009	20090302-36622340	White, Male, and "Midrange": Racial Consciousness Among White Male Undergraduates Attending a Historically Black University	R. Daniel Peterson	Male	Researcher	2	1	0	25	Qualitative	Y	University of California	Y	19,000	Mega
95	1	80	2	2009	20090302-36622340	White, Male, and "Midrange": Racial Consciousness Among White Male Undergraduates Attending a Historically Black University	R. Daniel Peterson	Male	Researcher	2	1	0	25	Qualitative	Y	University of California	Y	19,000	Mega
96	1	80	2	2009	20090302-36622340	White, Male, and "Midrange": Racial Consciousness Among White Male Undergraduates Attending a Historically Black University	R. Daniel Peterson	Male	Researcher	2	1	0	25	Qualitative	Y	University of California	Y	19,000	Mega
97	1	80	3	2009	20090503-40071003	Assessing Creditability and Authority as an Instructor of Color in Diversity Education Classrooms: A Qualitative Inquiry	Cheryl Keen	Female	Assistant Professor	2	1	0	25	Qualitative	Y	Valdieu University	Y	4,800	Large
98	1	80	3	2009	20090503-40071003	Assessing Creditability and Authority as an Instructor of Color in Diversity Education Classrooms: A Qualitative Inquiry	Cheryl Keen	Female	Assistant Professor	2	1	0	25	Qualitative	Y	Valdieu University	Y	4,800	Large
99	1	80	3	2009	20090503-40071003	Assessing Creditability and Authority as an Instructor of Color in Diversity Education Classrooms: A Qualitative Inquiry	Cheryl Keen	Female	Assistant Professor	2	1	0	25	Qualitative	Y	Valdieu University	Y	4,800	Large
100	1	80	3	2009	20090503-40071003	Assessing Creditability and Authority as an Instructor of Color in Diversity Education Classrooms: A Qualitative Inquiry	Cheryl Keen	Female	Assistant Professor	2	1	0	25	Qualitative	Y	Valdieu University	Y	4,800	Large
101	1	80	3	2009	20090503-40071003	Assessing Creditability and Authority as an Instructor of Color in Diversity Education Classrooms: A Qualitative Inquiry	Cheryl Keen	Female	Assistant Professor	2	1	0	25	Qualitative	Y	Valdieu University	Y	4,800	Large
102	1	80	3	2009	20090503-40071003	Assessing Creditability and Authority as an Instructor of Color in Diversity Education Classrooms: A Qualitative Inquiry	Cheryl Keen	Female	Assistant Professor	2	1	0	25	Qualitative	Y	Valdieu University	Y	4,800	Large
103	1	80	3	2009	20090503-40071003	Assessing Creditability and Authority as an Instructor of Color in Diversity Education Classrooms: A Qualitative Inquiry	Cheryl Keen	Female	Assistant Professor	2	1	0	25	Qualitative	Y	Valdieu University	Y	4,800	Large
104	1	80	3	2009	20090503-40071003	Assessing Creditability and Authority as an Instructor of Color in Diversity Education Classrooms: A Qualitative Inquiry	Cheryl Keen	Female	Assistant Professor	2	1	0	25	Qualitative	Y	Valdieu University	Y	4,800	Large
105	1	80	3	2009	20090503-40071003	Assessing Creditability and Authority as an Instructor of Color in Diversity Education Classrooms: A Qualitative Inquiry	Cheryl Keen	Female	Assistant Professor	2	1	0	25	Qualitative	Y	Valdieu University	Y	4,800	Large
106	1	80	3	2009	20090503-40071003	Assessing Creditability and Authority as an Instructor of Color in Diversity Education Classrooms: A Qualitative Inquiry	Cheryl Keen	Female	Assistant Professor	2	1	0	25	Qualitative	Y	Valdieu University	Y	4,800	Large
107	1	80	3	2009	20090503-40071003	Assessing Creditability and Authority as an Instructor of Color in Diversity Education Classrooms: A Qualitative Inquiry	Cheryl Keen	Female	Assistant Professor	2	1	0	25	Qualitative	Y	Valdieu University	Y	4,800	Large
108	1	80	3	2009	20090503-40071003	Assessing Creditability and Authority as an Instructor of Color in Diversity Education Classrooms: A Qualitative Inquiry	Cheryl Keen	Female	Assistant Professor	2	1	0	25	Qualitative	Y	Valdieu University	Y	4,800	Large
109	1	80	3	2009	20090503-40071003	Assessing Creditability and Authority as an Instructor of Color in Diversity Education Classrooms: A Qualitative Inquiry	Cheryl Keen	Female	Assistant Professor	2	1	0	25	Qualitative	Y	Valdieu University	Y	4,800	Large
110	1	80	3	2009	20090503-40071003	Assessing Creditability and Authority as an Instructor of Color in Diversity Education Classrooms: A Qualitative Inquiry	Cheryl Keen	Female	Assistant Professor	2	1	0	25	Qualitative	Y	Valdieu University	Y	4,800	Large
111	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
112	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
113	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
114	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
115	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
116	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
117	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
118	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
119	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
120	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
121	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
122	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
123	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
124	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
125	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
126	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
127	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
128	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
129	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
130	1	81	1	2010	20100101-47623981	Learning from the Experience of Others: The Evolution of Faculty Tenure and Promotion Rules in Comprehensive Institutions	Ted L. Youn	Male	Professor	2	1	0	26	Qualitative	N	Boston College	Y	16,000	Small
131	1	81	1	2010	20100														

Number	Journal	Vol	Issue	Year	File Name	Title	Author	Gender	PA Academic rank	No Author	Highest Rank of Co-author	No Fem	Doc	Su	No Pag	Prim	Methodologic	Multicite	Work Place	US Base	Size	Classification		
273	3	22	2	2019	22-2E:Expressions of critic	Expressions of critical thinking in role-playing simulations: comparisons across roles	Peggy A. Ermer	Female	3 Assistant Professor	6	6	22	Qualitative	N					Purdue University	US	4000	Large	0 Other	
274	3	22	2	2019	22-2F: The role of involvement	The role of involvement in learning management system success	Jane E. Riccas	Female	2 Associate Professor	2	0	19	Mixed	Y				University of Western Australia	US	2000	Medium	3000	Medium	
275	3	22	2	2019	22-3A: Using online discussion	Using online discussion boards with large and small groups to enhance learning of assistive technology	John V. McCarthy	Male	2 Other	2	0	15	Qualitative	N				University of Leicester	US	8000	Small	22000	Medium	
276	3	22	2	2019	22-3B: Intellectual, intellectual	Intellectual, intellectual property rights and open educational resources in British universities—and beyond	Dawn Hawridge	Female	3 Consultant	0	0	15	Qualitative	N				University of Pennsylvania	US	22000	Medium	3000	Small	
277	3	22	2	2019	22-3C: Online higher education	Online higher education	Paul Chu	Male	1 Other	0	1	15	Qualitative	N				University of Pennsylvania	US	22000	Medium	3000	Small	
278	3	22	2	2019	22-3D: Online higher education	Online higher education	Paul Chu	Male	1 Other	0	1	15	Qualitative	N				University of Pennsylvania	US	22000	Medium	3000	Small	
279	3	22	2	2019	22-3E: Trojan horse for higher education?	Public-private partnerships: a Trojan horse for higher education?	Lawrence Baines	Male	2 Professor	2	0	9	Qualitative	Y				University of Oklahoma	US	31000	Medium	36,000	Medium	
280	4	28	1	2006	28-1A: Academic Staff	Academic Staff: Vortices: a Trojan horse for higher education?	Don Houston	Male	1 Lecturer	2	0	9	Mixed	N				Human Sciences Research Council	N	0	0	0	0	Other
281	4	28	1	2006	28-1B: Tensions in F	Tensions in Focussing Higher Education-Industry Partnerships in High Technology Fields in South Africa	Debra Kruis	Female	1 Researcher	1	0	13	Qualitative	N				University of South Australia	N	3800	Medium	37000	Medium	
282	4	28	1	2006	28-1C: Institutional Commitments	Institutional Commitments: Individual Components: Identifying-related responses to compromises in an Australian university	Deborah Churchman	Female	2 Professor	0	0	13	Qualitative	N				University of Melbourne	N	3800	Medium	37000	Medium	
283	4	28	1	2006	28-1D: Policy, Preparation, and Prevention	Policy, Preparation, and Prevention: Proactive minimization of student plagiarism	Melissa Devlin	Female	1 Associate Professor	0	0	14	Qualitative	N				University of Adelaide	N	22000	Medium	37000	Medium	
284	4	28	1	2006	28-1E: Degrees of Double	Degrees of Double: Legitimate, real and fake qualifications in a global market	George M. Brown	Male	1 Doctoral Student	0	1	9	Qualitative	N				University of Melbourne	N	22000	Medium	37000	Medium	
285	4	28	1	2006	28-1F: General Staff Experience	General Staff Experience in the Corporate University	Colin Stearns	Male	1 Administrator	0	0	15	Qualitative	N				University of South Australia	N	3800	Medium	37000	Medium	
286	4	28	1	2006	28-2: An Institutional Response	An Institutional Response to Changing Student Expectations and their Impact on Retention Rates	Bernad Longden	Female	1 Professor	0	0	15	Qualitative	N				Liverpool Hope University	N	8,000	Small	20000	Medium	
287	4	28	1	2006	28-2A: A Rising Space	A Rising Space for Theological Research in the New Environment of Australian Higher Education	Alicia Field	Female	1 Administrator	1	0	13	Qualitative	N				Melbourne College	N	2500	Medium	20000	Medium	
288	4	28	1	2006	28-2B: Who do they think they are?	Who do they think they are? The changing identities of professional administrators and managers in UK higher education	Colin Vlachou	Male	2 Professor	0	0	13	Qualitative	N				King's College London	N	15,000	Small	20000	Medium	
289	4	28	1	2006	28-2C: HECS and HECS-HELP	HECS and HECS-HELP: Equity issues	Francine Rooftord	Female	1 Lecturer	2	0	23	Qualitative	N				La Trobe University	N	32,000	Medium	20000	Medium	
290	4	28	1	2006	28-2D: Changing the system	Changing the system of student support in Norway: Were policy goals met?	Verbe Daghin	Female	1 Professor	0	0	11	Mixed	N				NIFU STEP	N	20000	Medium	0	0	Other
291	4	28	1	2006	28-2E: Tensions between	Tensions between evaluations and communication practices	Gert Lovset	Male	2 Researcher	2	0	7	Qualitative	N				Australian National University	N	8000	Small	19,000	Small	
292	4	28	1	2006	28-2F: A knowledge-based	A knowledge-based economic landscape: implications for tertiary education and research training in Australia	Heather Davis	Female	2 Associate Professor	0	0	14	Mixed	N				Deakin University	N	4000	Large	30000	Large	
293	4	28	1	2006	28-2G: Governance models	Governance models of university systems—towards quasi-markets? Trends and perspectives: A European comparison	Thomas Agazzi	Male	2 Researcher	2	0	18	Qualitative	N				Politecnico di Milano	N	30000	Large	24000	Medium	
294	4	28	1	2006	28-2H: The national funding	The national funding of doctoral training: Variances from the English experience	Stuart Powell	Male	2 Consultant	0	0	15	Qualitative	Y				University of Hertfordshire	N	24000	Medium	44,000	Large	
295	4	28	1	2006	28-2I: Generating additional	Generating additional revenue streams in UK universities: An analysis of variation between disciplines and institutions	Colin Pileam	Male	1 Researcher	1	0	16	Qualitative	N				Strathclyde University	N	44,000	Large	44,000	Large	
296	4	28	1	2007	28-1: Tertiary	Tertiary education: Theoretical and political rationales	James S. Page	Male	1 Administrator	0	0	15	Qualitative	N				State University of New York	N	4,350	Small	44,000	Large	
297	4	28	1	2007	28-2: Repeating	Repeating 'university' and degree granting traditions: Changing of the guard	James S. Page	Male	2 Consultant	0	0	15	Qualitative	N				State University of New York	N	4,350	Small	44,000	Large	
298	4	28	1	2007	28-3: Excellent	Excellent measures preclude measures of excellence	Gavan Moodie	Male	1 Researcher	1	0	17	Qualitative	N				Griffith University	N	43,000	Large	44,000	Large	
299	4	28	1	2007	28-4: Establishing	Establishing university-community partnerships: Processes and benefits	Nicholas Bligg	Male	1 Associate Professor	0	1	8	Qualitative	N				Southern Cross University	N	19000	Small	0	0	Other
300	4	28	1	2007	28-5: Which	Which university? A study of the influence of cost and information across on Scottish undergraduate choice	James S. Page	Male	2 Professor	2	0	14	Qualitative	N				Australian Council for Educational Research	N	43,000	Large	44,000	Large	
301	4	28	1	2007	28-6: The Science	The Science Shortfall: An analysis of the shortage of suitably qualified science teachers in Australian schools and the policy implications	Ken Lee Harris	Female	2 Lecturer	2	0	16	Qualitative	N				Robert Gordon University	N	4,407	Small	44,000	Large	
302	4	28	1	2007	28-7: Postgraduate	Postgraduate Educational Aspirations and Policy Implications: A case study of university students in western China	Peter S. Li	Male	2 Associate Professor	1	0	13	Qualitative	N				University of Melbourne	N	37000	Medium	21000	Medium	
303	4	28	1	2007	28-8: Global	Global University Rankings: Implications in general and for Australia	Simon Marginson	Male	1 Professor	0	0	12	Qualitative	N				University of Melbourne	N	37000	Medium	21000	Medium	
304	4	28	1	2007	28-9: Expanding	Expanding Economic Democracies in American Higher Education: A two-step approach to bring more teachers from poverty- and minority-serving institutions	Kenneth Oldfield	Male	1 Administrator	0	0	14	Qualitative	N				University of Illinois	N	42000	Large	21000	Medium	
305	4	28	1	2007	28-10: A National	A National University Governance Handbook? Transposing the UK Choice of the Independent Adjudicator for Higher Education (IAHE) to the US	Stephan Valler	Female	2 Professor	1	0	13	Qualitative	N				University of Technology Sydney	N	5000	Medium	5000	Medium	
306	4	28	1	2007	28-11: Management	Management of Workplaces Change in the Australian Higher Education Sector: A study of employee involvement provisions in work settings	Bruce Mastellone	Male	2 Administrator	0	0	14	Qualitative	N				Victoria University	N	29000	Medium	29000	Medium	
307	4	28	1	2007	28-12: Defining and	Defining and Rewarding Academic Citizenship: The implications for university promotions policy	Paul Taylor	Male	1 Researcher	2	0	16	Qualitative	N				Thames Valley University	N	48000	Large	48000	Large	
308	4	28	1	2007	28-13: International	International University Ranking Systems and the Idea of University Excellence	Paul Taylor	Male	2 Administrator	0	0	8	Qualitative	N				Maquarie University	N	38000	Medium	38000	Medium	
309	4	28	1	2007	28-14: Graduate	Graduate Assistants: Students or staff, policy or practice? The Current Legal Employment Status of Graduate Assistants	Behrang H. Flora	Female	1 Lecturer	0	0	11	Qualitative	N				Virginia Tech University	N	31000	Medium	31000	Medium	
310	4	28	1	2007	28-15: The	The Managerial Tutor: A professor of knowledge in a global arena	Rodney Proctor	Male	2 Professor	2	0	11	Qualitative	N				University of Glamorgan	N	20000	Medium	20000	Medium	
311	4	28	1	2007	28-16: Alliance	Alliance Through Change: An environment for teaching and learning: A case study in a pre-1992 UK university	Dulaine Sebal	Female	2 Professor	2	0	13	Qualitative	N				University of Newcastle	N	5000	Small	5000	Small	
312	4	28	1	2007	28-17: Lecture	Lecture absenteeism among students in higher education: a valuable route to understanding student motivation	Sarah Moore	Female	1 Doctoral Student	3	2	11	Mixed	N				University of Limerick	N	17000	Small	17000	Small	
313	4	28	1	2007	28-18: What happens	What happens when supply lags behind demand? Disadvantaged students and the ever increasing competition for university places	Daniel Lazaridou	Male	2 Researcher	0	0	13	Qualitative	N				Monash University	N	58000	Large	58000	Large	
314	4	28	1	2007	28-19: Stress among	Stress among Greek and Cypriot university administrators: an exploratory study	Angela Lazaridou	Female	1 Assistant Professor	2	0	10	Qualitative	N				Monash University	N	58000	Large	58000	Large	
315	4	28	1	2007	28-20: Temping	Temping university marketing executives: a strategic protection against litigation or an admission of failure?	Angela Lazaridou	Female	2 Associate Professor	2	0	10	Qualitative	N				Monash University	N	58000	Large	58000	Large	
316	4	28	1	2007	28-21: Leadership	Leadership and strategic choices: female professors in Australia and Taiwan	Oliver Oksanen	Male	2 Associate Professor	2	0	12	Mixed	N				Ankara University	N	45000	Large	45000	Large	
317	4	28	1	2007	28-22: The	The contested product of a university education	Francine Rooftord	Female	1 Lecturer	1	0	16	Qualitative	N				La Trobe University	N	32,000	Medium	32,000	Medium	
318	4	28	1	2007	28-23: Policy options	Policy options for managing international student migration: the sending country's perspective	Cate Gibble	Female	2 Professor	0	0	17	Qualitative	N				RMIT University	N	50000	Large	50000	Large	
319	4	28	1	2007	28-24: Business plan	Business plan competitors in tertiary institutions: encouraging entrepreneurship education	Roslyn Russell	Female	2 Professor	0	0	16	Qualitative	N				RMIT University	N	50000	Large	50000	Large	
320	4	28	1	2007	28-25: Internationa	Internationaizing the curriculum: the implementation experience in a Faculty of Business and Economics	Blenda Collins	Female	2 Associate Professor	2	0	14	Qualitative	N				Western Sydney University	N	26000	Medium	26000	Medium	
321	4	28	1	2007	28-26: Relationships	Relationships and reciprocity in student and academic services	Kate Small	Female	1 Administrator	0	0	11	Qualitative	N				University of East Anglia	N	26000	Medium	26000	Medium	
322	4	28	1	2009	30-1: Connecting	Connecting with industry: bridging the divide	Judith Berman	Female	1 Associate Professor	1	0	12	Qualitative	N				University of Western Australia	N	20000	Medium	20000	Medium	
323	4	28	1	2009	30-2: Proactive	Proactive encouragement of interdisciplinary research teams in a business school environment: strategy and results	Susan M. Adams	Female	3 Professor	0	0	13	Qualitative	N				Bentley College	N	8000	Small	8000	Small	
324	4	28	1	2009	30-3: Changes	Changes in higher education and valuing the job: the views of accounting academics in Australia	Kim Watty	Female	2 Associate Professor	2	0	14	Qualitative	Y				University of Melbourne	N	37000	Medium	37000	Medium	
325	4	28	1	2009	30-4: Challenging	Challenging the research function of the university: pressures and dilemmas	Robert Holman	Male	1 Associate Professor	1	0	10	Qualitative	N				University of Auckland	N	18000	Small	18000	Small	
326	4	28	1	2009	30-5: Glass	Glass ceilings and glass escalators: a new technique for mitigating risk on US college campuses	Stephanie Hughes	Female	2 Associate Professor	2	0	11	Qualitative	N				University of Kentucky	N	18000	Small	18000	Small	
327	4	28	1	2009	30-6: Academic	Academic productivity as perceived by Malaysian academics	Amriddin Hassan	Male	1 Lecturer	2	0	15	Qualitative	Y				University Putra	N	28000	Medium	28000	Medium	
328	4	28	1	2009	30-7: Rewarding	Rewarding excellence and promoting improvement in higher education teaching in Australia	Terry V. Ashie	Male	1 Administrator	2	0	11	Qualitative	N				University of Melbourne	N	37000	Medium	37000	Medium	

Number	Journal	Vol	Issue	Year	Page Range	Title	Primary Author	Gender	IR Academic rank	No. Author	Highest Rank of Co-lead	No. Emp.	Doc. Dis.	No. Pgs From Methodologic	Multi-Inst. Work	Inst. Name	UT Base Size	Classification
477	2009	163	1	2009	163-166	Addressing a Network Environment: the Impact of New Public Management on Work Conditions	Paul Seargeant	Male	Associate Professor	1	Professor	1	0	20	Quadrant	University of Avajo	1000	Small
478	2009	163	2	2009	167-170	Comparing Research and Teaching in University Promotion Cases	Levi Ebin	Male	Professor	1	Professor	0	0	15	Mixed	University of York	4000	Large
479	2009	163	3	2009	171-174	English Teachers' Perceptions of Digital Applications in UK Higher Education	Jonathan West	Male	Professor	1	Professor	0	0	24	Mixed	Lancaster University	10000	Small
480	2009	163	4	2009	175-178	The Impact of Large Takers on University Admission Rates	Robert West	Male	Administrative	1	Professor	0	0	24	Quadrant	Georgetown Business School	4000	Small
481	2009	163	5	2009	179-182	Impact of Motivational Changes on Higher Education after 9/11	David Smith	Female	Associate Professor	2	Associate Professor	0	0	22	Mixed	University of Leeds	34000	Medium
482	2009	163	6	2009	183-186	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
483	2009	163	7	2009	187-190	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
484	2009	163	8	2009	191-194	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
485	2009	163	9	2009	195-198	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
486	2009	163	10	2009	199-202	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
487	2009	163	11	2009	203-206	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
488	2009	163	12	2009	207-210	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
489	2009	163	13	2009	211-214	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
490	2009	163	14	2009	215-218	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
491	2009	163	15	2009	219-222	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
492	2009	163	16	2009	223-226	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
493	2009	163	17	2009	227-230	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
494	2009	163	18	2009	231-234	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
495	2009	163	19	2009	235-238	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
496	2009	163	20	2009	239-242	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
497	2009	163	21	2009	243-246	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
498	2009	163	22	2009	247-250	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
499	2009	163	23	2009	251-254	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
500	2009	163	24	2009	255-258	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
501	2009	163	25	2009	259-262	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
502	2009	163	26	2009	263-266	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
503	2009	163	27	2009	267-270	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
504	2009	163	28	2009	271-274	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
505	2009	163	29	2009	275-278	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
506	2009	163	30	2009	279-282	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
507	2009	163	31	2009	283-286	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
508	2009	163	32	2009	287-290	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
509	2009	163	33	2009	291-294	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
510	2009	163	34	2009	295-298	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium
511	2009	163	35	2009	299-302	Outcomes or outcomes? Contrasting and comparing the results of Teaching in Professional Academic Departments	David Smith	Female	Professor	2	Associate Professor	0	0	21	Quadrant	University of Oxford	2000	Medium

APPENDIX C

Curriculum Vitae

CURRICULUM VITAE

SHERRI E. RITTER

Sherri E. Ritter
96 Coon Ave, Dunbar, WV 25064
(304) 610-3998
srsritter40@gmail.com

EDUCATION

Marshall University Ed.D. in Leadership Studies ABD	Projected Completion 2012
Dissertation: "Methodological Orientation of Research Articles Appearing in Higher Education Journals"	
Marshall University M.S. in Adult Technical Education Interdisciplinary Studies	1997
Marshall University Regents B.A. Cum Laude	1996
Marshall Community & Technical College Associate of Applied Science with Honors	1995
Major: Computer Technology	

CERTIFICATION

WebCT Vista 3.0 Certified Administrator	
Mastery of Competencies for WebCT Vista 3.0 Administration, by WebCT	2005
WebCT Certified Trainer	
Weaving, Teaching, and Technology, by WebCT	2001

EDUCATIONAL EXPERIENCE

Kanawha Valley Community and Technical College
Instructional Technologist **2010 - Present**
Assist faculty with the development and use of Online Classes. Teach a variety of workshops on Web 2.0 tools, MS Office, and technology for the classroom.

Bridgemont Community and Technical College
Instructional Technologist **2010 – 2011**
Assist faculty with the development and use of Online Classes. This is a shared position with Kanawha Valley Community and Technical College.

Marshall University
Instructional Technologist **1998 - 2010**
Assisted faculty and staff with course development and use of CMS. Trouble shot Blackboard issues. Assisted with ETD,s and Portfolios. Developed Flash projects, CD's, and presentationed. Assist with Streaming media. Developed Best Practices and Student Tips Video. Assist faculty and students with software needs, BB, MSOffice, Wimba, Banner, Photoshop, etc. Support hosted BB institution of Southern CTC.

<i>Marshall University</i> Adjunct Faculty Taught online classes using WebCT and Blackboard CMS	2001 - 2009
<i>Marshall Community & Technical College</i> Computer Instructor Taught Windows, WordPerfect, and Microsoft Office Personal Computer, Intermediate Computers, Pine, Netscape, Windows 95 and Children's and Teens' College.	1994 - 2000
<i>UNITED STATES MARINE CORP</i> 3rd Marine Division Computer Programmer	1979 - 1981

PUBLICATIONS

"Instructional Practices and Course Development Geocaching: A New Technology Tool for Teachers" The Reading Professor, Winter 2008

"e-Based Professional Development (e-PD) for Effective Teaching and Leadership"
NCPEA CONNEXIONS, 2007

PRESENTATIONS

WV Reading Conference, assist graduate faculty with presentation for web 2.0 tools, at the Greenbrier, West Virginia, 2011

Faculty Orientation to iLearn, for faculty at KVCTC in Institute, West Virginia, 2011

Best Practices in Online Education, for faculty at Bridgemont CTC in Montgomery, West Virginia, 2010

Best Practices in Webpage Design, for faculty at Bridgemont CTC in Montgomery, West Virginia, 2010

The Use of Rubrics in the Online Classroom, for faculty at Bridgemont CTC in Montgomery, West Virginia, 2010

WebCT Training, for faculty at KVCTC in Institute, West Virginia Fall 2010

Best Practices in Online Education, for faculty at Bridgemont CTC in Montgomery, West Virginia, Spring 2010

MS Office 2010, for faculty and staff at KVCTC in Institute West Virginia, Spring 2010

Digital Story Telling, for master level writing students at Marshall University Graduate College, 2009

Wimba in the Classroom, for master level students at Marshall University Graduate College, 2009

Instructional Treasure Hunting with Geocaching, for the SRCEA conference in Charleston, West Virginia, 2008

Technology in the Classroom: Geocaching, for the WV Higher Education Technology Conference program, Morgantown, WV, 2008

Creating a Culture for Successful Migration, BbWorld '08, 2008 MSOffice 2007 Training, MUGC Staff Training, 2008

21st Century Nursing Education, Converting Traditional Courses to Online Using Sound Pedagogy Theory, WV Tech Conference, Charleston, WV, 2006

Roane County Academy for Teachers 2006
Transfer Learning Pedagogies from Traditional to Online Classes, WV Tech Conference, 2006

Distance Education Doctoral Students in a Rural State of Mind, The Hawaii International Conference on Education, Honolulu, Hawaii, 2006

Teaching Graduate Education Courses Online, The Hawaii International Conference on Education, Honolulu, Hawaii, 2005

Reforming the Higher Education Curriculum In Ed.D. Programs, Atlanta, Ga., 2005
Tips for a Successful Online Student, Vista Manual, 2005

The Utilization of Online Courses, for WVNet conference in Charleston, WV, 2004

Marshall's Online Program, Boston Conference of Online Delivery, Boston, MA 2002

Instructional Design: Coming Full Circle, WVNet 2002 Morgantown WV 2002

The Essences of an Online Classroom, Second Annual WebCT Asia Pacific, Adelaide, Australia April 2001

Administrator: Best Practices: 5 Steps to Success WVNet 2001 Morgantown WV 2001

Motivation for a Degree, The Step Program, Larry Artrip, Huntington, WV, 2000

Maintaining a Personal Touch in an Electronic Classroom, Almost Heaven I, South Charleston, WV, April 1999

Making your Point with PowerPoint, Marshall University Secretary Day, Huntington, WV, 1999

Maintaining a Personal Touch in an Electronic Classroom, Wheeling Jesuit University, Wheeling, WV, 1999

SPECIAL PROJECTS

Learning Centered Technology, 2012
Maintain a blog addressing learning centered technology. Covered CMS's and Web 2.0 tools and any technology that deals with learning.
<http://learningcenteredtechnology.wordpress.com>

Blackboard 9.1 Implementation, 2011

Responsible for the implementation of the new course manage system for KVCTC. As Blackboard 9 administrator maintain the system and troubleshoot issues. In addition responsible for faculty training in course development and design. Train students in the use of the new CMS.

Quality Matters Coordinator for KVCTC, 2012

Work with WV State Quality Matters representative to assure online program meets all quality matters standards.

WV Virtual Community and Technical College, 2010

Participate in the development of a virtual community and technical college for the state of WV.

CTCS Technical Master Plan, 2010

Participate in the technology planning for new KVCTC facilities. Work with KVCTC staff, Chancellor and consulting team to establish a goal of creating a common vision for the various technologies to be used throughout the new facilities.

Real Estate Broker, 2010

Work with Workforce Development, the WV Real Estate Broker, and ARELLO to develop and online program for real estate brokers.

Medicaid Program, 2010

Work with BAHM to develop a national online Medicaid program.

Technical Consultant, 2006

Technical consultant for JD Jones on his book, The Essential Mentor-Mentee Program

Effective Internet Searching, 2006

Hands on training of effective internet searching for Roane County Schools in WV

Learning American Sign Language, 2005

Video production of American Sign Language at Charleston WV

DHHR Training, July 7, 2005

A Vista hands on training for the Department of Human Resources of WV on Vista

Best Practices 2003

A video production involving the faculty of MUGC Faculty discussing Best practices in Distance Education

Student Tips 2003

A video production involving the faculty of MUGC Faculty discussing Student Tips for Online Education

Vista Implementation 2003

Involved in the planning and implementation of the new online course delivery system called Vista.

Flash 2002

Developed three separate Flash tutorials for a WebCT course.

Virtual U

Technical support for LS class using a software program called Virtual University. Virtual U simulates the role of President of a University.

WebCT CD 2000

Created a CD for students to learn the basics of WebCT. South Charleston WV

MUGC Traffic Cam 2001

Planned and assisted in the development of MUGC's Traffic Cam. The traffic cam broadcast a streaming video 24 hours a day of traffic flow on I-64. This original project has become the model for a statewide project.

Kiosk 1998

Managed and maintained the Marshall University kiosk system.

Microsoft Integration 1998

Helped integrate Microsoft Office into the MUGC Community, through instructional materials and several live class meetings.

COURSES DEVELOPED OR TAUGHT

Faculty Orientation to iLearn, Kanawha Valley CTC, Developed and taught for faculty. 2011

Student Orientation to iLearn, Kanawha Valley CTC, Developed and taught for students. 2011

BST 299, Kanawha Valley CTC, Developed and taught Web 2.0 tools, 2010

CIEC 534, Graduate School of Education and Professional Development, 2004 — 2009

Cotaught LS-714, Graduate School of Education and Professional Development, 2005

Smoking Sensation, School of Nursing, developed fall 2000 via WebCT.

PhotoShop 6, Professional Development, developed and taught fall 2001

MSoftware 2000, Higher Education Board, developed and taught fall 2000

Microsoft Office Suite, West Virginia State Police, 1999-2000

PowerPoint 97, Informational Technology Instructional Symposium, developed and taught 1999

PowerPoint 97, Informational Technology Instructional Symposium, developed and taught 1997

MSoftware Suite, Byrd Center developed and taught fall 1997

Basic Computers, MCTC Continuing Education, Court House Training, developed and taught 1997

Introduction to the Internet, MCTC Continuing Education, International Brotherhood of Allied Trades and Painters, developed and taught 1997 - 1998

Introduction to Computers, MCTC Continuing Education, International Brotherhood of Allied Trades and Painters, developed and taught 1997 - 1998

Lotus, MCTC Continuing Education, International Brotherhood of Allied Trades and Painters, developed and taught 1997 - 1998

Windows 3.1, MCTC Continuing Education Walker Machinery,

Windows 3.1, MCTC Continuing Education St. Mary's Nursing

E-mail MCTC, MCTC Continuing Education Staff

Training MSOffice, MCTC Staff Training

AWARDS

Marshall Faculty of the Game Award	2008
MCTC Outstanding Student Award	2006
National Deans List	1992 - 1997
Lucille Fogus Scholarship	1995
President of Organization of Applied Science, Information, and Support	1992
1981 Good Conduct Metal, United States Marine Corp	1981

COMMITTEES

<i>Kanawha Valley Technology Committee</i> Participate in the Technology Committee for KVCTC	2010
<i>West Virginia Virtual Learning Network (WVVLN)</i> Participate in the WVVLN for online courses for KVCTC.	2010
<i>Southern Regional Electronic Committee (SREC)</i> Participate in the SREC for online courses for KVCTC.	2010
<i>WV Virtual Community and Technical College</i> Charter member of the committee for development of a virtual community and technical college for the state of West Virginia.	2010
<i>CTCS Technical Master Plan</i> Participate in the technology planning for new KVCTC facilities.	2010
<i>Higher Education Technology Conference Program Committee</i> Helped plan and implement the program and speaker for WVNet conference	2008
<i>Vista Implementation</i> Helped plan and implement Vista to the Marshall community.	2003
<i>Vista Teaching & Learning Committee, Chair</i> Lead the training team for the Vista implementation	2003
<i>Electronic Thesis & Dissertation</i> Lead trainer for electronic submissions.	2001 - 2009
<i>Exemplary Course Committee</i> Reviewed course for international Exemplary Course project.	2001
<i>Online Course Development Committee</i> Reviewed Electronic Course	2001 - 2009

<i>Instructional Technology Oversight Committee</i>	1999
Review and planed activities for Instructional Technology at Marshall	
<i>Almost Heaven I & II</i>	2001 - 1002
Planed and participate in MUGC Annual WebCT conference	
<i>CIT Committee</i>	1998
Planed and participate in CIT activities	
<i>Continuing Education Development Committee</i>	1998
Planed Continuing Education activities	
<i>Combating Underage Drinking</i>	1998 - 2008
Worked on the planning an evaluation team of a grant funded initiative to fight underage drinking. This project created several Public Service Announcements on the subject.	

MEMBERSHIPS

Society for Information Technology & Teacher Education (AACE)

Participate in the AACE discussion concerning Information Technology and Teacher education

International Forum of Educational Technology & Society

Participate in an international forum for educational technology.

Marine Corp League

The Marine Corp League is involved in community projects to aid and assist former Marines.

Woman Marine Association

The Woman Marine Association is involved in community projects at aid and assists current and former women marines and their families.