

THE PENNSYLVANIA STATE UNIVERSITY  
SCHREYER HONORS COLLEGE

DEPARTMENT OF MANAGEMENT AND ORGANIZATION

THE ROLE OF ETHNICITY ON THE PROGRESS OF STUDENTS IN THE WORKFORCE  
OPPORTUNITY SERVICES PROGRAM

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Spring 2011

A thesis  
submitted in partial fulfillment  
of the requirements  
for a baccalaureate degree  
in Management  
with honors in Management

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## ABSTRACT

This research was conducted to determine what impact ethnicity has on the progress of students enrolled in a continuing education Information Technology program offered by Workforce Opportunity Services currently taught at three universities: Columbia University, Rutgers University, and University of Akron. Focus was placed on determining what, if any, differences could be discerned among Black/African-American, Hispanic, and Caucasian students who can be classified as low-income youth or military veterans. Students enrolled in the Workforce Opportunity Services program are low-income students who may not have otherwise had an opportunity to gain an understanding of the IT field and learn how to become successful within that market.

I individually coded students' journals to evaluate their progress during the program in terms of how each journal reflected certain characteristics of labor market literacy using a Literacy Arc created by Dr. Arthur M. Langer of Columbia University. The Arc is made up five stages (Concept Recognition, Multiple Workplace Perspectives, Comprehension of Business Process, Workplace Competence, and Professional Independence) which each contain six sectors of literacy (Cognitive, Technology, Business Culture, Socio-Economic, Community and Ethnic Solidarity, and Self-Esteem) (Langer, 2003). The Arc is a model of five developmental stages that increase in cognitive complexity in order to evaluate the students' cognitive, technological, business culture, social, and self-awareness literacies.

I found that, within the study population, a majority of the students demonstrated similar progression through the literacy model. Based on the information provided, teachers should be able to utilize this data to configure their teaching strategies to enhance the learning experiences of the subject groups.

**Contents**

I. Introduction .....	1
II. Literature Review and Hypothesis .....	5
A. Stages of Workplace Culture and Labor Market Literacy .....	8
B. Sectors of Workplace Literacy .....	9
C. Hypothesis .....	11
III. Methodology .....	13
A. Data .....	13
B. Analysis .....	13
C. Sample .....	15
IV. Findings .....	20
A. Ethnicity .....	20
B. Gender .....	27
C. Comparative Sector Analysis .....	30
D. Summary of Findings .....	31
V. Conclusion .....	35
A. Limitations.....	35
B. Implications .....	37
References.....	39
Appendix.....	42

## ACKNOWLEDGEMENTS

First, and foremost, I would like to thank my father, Richard Badillo, for everything he has given me. Because of him, I am graduating from the Pennsylvania State University with honors. His assistance with my schooling went above and beyond and for that I will always be thankful. Thank you for helping me complete my thesis and giving me the push I needed to believe in myself.

My mother was my guiding light and her faith in me has kept me going when I was having trouble remembering why my goals were so important. This is a culmination of all the support and love she has given me throughout my college career.

I would also like to thank my boyfriend Jonathan for sitting up with me on long nights so that I could stay focused on writing and editing. And thank you to my friends who always believed in me.

Thank you to Dr. Arthur M. Langer and Dr. Erin Augis of Columbia University. Without your assistance and support, this thesis would not have been possible.

Lastly, I would like to thank my advisers, Dr. Charles C. Snow and Dr. Barbara Gray for their continued support and assistance with my thesis research and writing.

## **I. Introduction**

Workforce Opportunity Services (WOS) was founded in 2005 by Columbia University professor Dr. Arthur M. Langer in an attempt to provide low-income youth and veterans with the opportunity to receive certification in Information Technology while working part-time for a company that allows them to practice those skills first-hand. The current trend of outsourcing IT jobs has had a significant negative impact on the number of jobs available for disadvantaged Americans. Morrison Paul & Siegel (2001) found that low-skilled laborers are impacted by outsourcing more significantly than higher-skilled laborers because of increasing technological demands in many industries. Their study was performed on four categories of laborers: those without a high school diploma, with a high school diploma, with little college education, and with a college degree. The study found that the impact of changing technology was greatest on workers with a high school diploma. Firms are searching for individuals who have the necessary education to implement new technologies and provide them with the greatest return on their investments. Menial jobs are outsourced more and more frequently and so those individuals without specialized training often find themselves unable to secure a job with sufficient wages to meet living standards (Morrison Paul & Siegel, 2001).

WOS gives disadvantaged students the opportunity to receive specialized training to counter the negative effects of outsourcing. It also offers affiliated companies the convenience of having skilled employees at competitive wage levels who can take on IT tasks, such as programming and engineering, internet services, IT services, and client relations services, that would have otherwise been outsourced (Workforce Opportunity Services, 2010).

Prospective students are recruited from surrounding, low-income areas and are then enrolled in a pre-certification course in order to determine which students are best qualified to move on to the certification program. At the end of the first term, the students are then eligible to begin part-time employment with companies who are partnered with WOS (such as Medco, Prudential Financial, Johnson and Johnson, as well as others). This component is considered a work-study portion of the certification program. The students are considered employees of WOS while working in the various companies. Once the students have completed twelve months with the program, they become full-time consultants for WOS and continue to work with the partner company. By the end of the sixteen-month long program, the students have earned certification in Information Technology and are given the opportunity to remain with WOS, continue working full-time for the partner companies, or choose to enroll in four-year degree programs with scholarships (Workforce Opportunity Services, 2010).

WOS is currently associated with three universities – Columbia University in New York City, Rutgers University in Newark, NJ, and the University of Akron in Akron, OH. Each cohort, or class, in each university is made up of approximately twenty-five students per semester. The program at Columbia University is called SLICE (Service Learning in a Community Environment), and the students are taught a wide range of skills centering on IT but also including communication and interpersonal skills. The program offered to students in urban areas in New Jersey is called SOAR (Study, Opportunity, Aspiration, Rutgers-Newark) and it also teaches students the necessary IT, communication, and interpersonal skills necessary to become successful in the workplace. The program affiliated with the University of Akron is unnamed and is the most recent addition to the locations WOS offers programs (Workforce Opportunity Services, 2010).

Prior to founding WOS, Langer (2002) engaged in studying the employment opportunities available to adult residents of Harlem, New York. He concluded that there was a great deal more that could be done to prepare the local young adults to better compete in the job market. He began WOS in collaboration with Columbia University and theorized that by using a reflection-with-action approach, students would have the best chance of overcoming any obstacles that may be in their way (Langer, 2003). The reflection-with-action approach consists of having students reflect weekly on classroom and workplace teachings so that they may better conceptualize and internalize IT theories. Langer (2003) created a developmental model in order to study the workplace literacy of inner-city adults. His Literacy Arc is made up of five stages which each contain six sectors of literacy.

Students without previous experience in the information technology consulting field will typically display characteristics of basic recognition of the workplace and how to effectively navigate through the workplace. The characteristics that make up the sectors within each stage contain similarities; however, the principles that make up sectors within Professional Independence are built upon each of the previous sectors. As students demonstrate stronger workplace literacy, they are demonstrating the ability to build and expand upon previous learning and knowledge of the workplace.

My research focused on students enrolled in Columbia University. The demographics of this region are predominately Black/African-American, Hispanic, and Caucasian, although there are other ethnicities that are present. The students' journals represent raw data that has not been analyzed previously, and so teachers will have access to a condensed version that will be available in order to tailor future classes. By gaining an understanding of how the students reflect

on their in-class learning as well as learning gained through part-time work as an IT consultant, teachers can adapt their teaching styles to better reflect the students' needs.

After reviewing the research literature and stating my hypothesis, I will describe my sample and the methods I used in analyzing the data gathered from the students' journals. My findings will be compared across each ethnicity (Black/African-American, Hispanic, Caucasian) as well as by gender.

## II. Literature Review and Hypothesis

Developmental models have been used to evaluate the progress students make in transitioning from basic perspectives or understanding through subsequent stages that demonstrate more complexity in the students' knowledge or position. The first such model was used by Perry (1968) during his study of the development of values and evolution of thought patterns of students enrolled in Harvard College and Radcliffe College. His developmental model was used as a basis for many others and has spawned a significant amount of research regarding the methods of evaluating and tracking students' evolution through educational programs.

Harmelink (1998) found that the use of bi-weekly reflective learning journals had two main positive results. First, they helped high-school chemistry students to better grasp in-class concepts and also relate them to real-world issues. Second, by reading the journals, the teacher gained valuable insight into how his/her students learned and whether they correctly understood the material. By reflecting on facts and formulas learned in class, Harmelink (1998) claimed students were able to better process the information and therefore experience a deeper understanding of the topic.

Research was conducted to analyze the effectiveness of learning journals for students enrolled in post-secondary courses. Most often, the learning journals of students enrolled in science and mathematics programs were studied. Mett (1989) found that learning journals were useful in assisting students with improved retention due to the fact that they were paraphrasing what was taught in previous lectures and homework assignments and could relate classroom information with their own experiences. Mett's findings supported the conclusion that this additional reflection influenced the students to take a more abstract approach at conceptualizing the technologies and gaining a deeper understanding of the theories behind the science.

Teachers face the challenge of ensuring that their students are absorbing as much information as possible in a way that will help the students gain the most appreciation for the teaching. Reflective learning journals give teachers a window into understanding how their students feel about their teaching methods and what issues they may have. Park (2003) found that learning journals for undergraduate students enrolled in his geography course provided invaluable insight into the students' perspective of the course that he would not have otherwise had access to. In return, the students receive personal and constant feedback from their teachers which provides additional support for the enhancement of teacher-student relationships throughout the program. Students feel more comfortable engaging in the coursework and are given greater opportunities to take ownership over their learning (Park, 2003).

WorkReady Philadelphia ® is a program similar to WOS that has achieved some success and, while it does not mirror WOS, it is indicative of what can be accomplished through the workplace training of young adults. WorkReady Philadelphia is a workplace training program designed to enhance the opportunities high school students will have post-graduation. The program teaches students "21st Century Skills" which include interpersonal, communication, and professionalism skills through various programs that connect students with potential employers. These networks are maintained through job-shadowing and internship programs while the students participate in weekly one-day classroom sessions. The intent of the program is that students will complete the program and continue full-time employment with the company they worked with through the program (WorkReady Philadelphia, 2010).

Previous research by Langer (2003) demonstrates the value added by reflective learning journals on students in science-related fields. He (2003) reports the impact weekly learning journals have on students in certification training programs. Through the use of weekly learning journals and

voluntary interviews with ten of the students, he found that the student's perception of the journal assignment, whether positive or negative, can impact the analysis done by researchers. The students' attitude towards the assignment directly influences their ability to reflect on classroom and workplace experiences and a lack of reflection leaves the researcher without any viable means of identifying areas of concern. When students' attitudes toward reflective writing are positive, researchers are able to identify which areas are causes for concern and create a plan of action to assist students with improving their literacy (Langer, 2002).

Langer's study to determine how WOS can improve the workplace literacy of underprivileged youth led to the creation of the Inner-City Literacy Arc based on previous conceptual models to track the cognitive and technological literacies of students (2003). Labor market literacy is defined as the ability of an individual to demonstrate understanding of various labor markets as well as demonstrate his or her ability to effectively maneuver through the market. This model is used as an assessment tool to measure the development of workplace literacy through five stages of workplace culture and labor market literacy. It is also used as an assessment tool to demonstrate whether the student can adapt to a new and fluid environment (Langer, 2003). Without such capabilities, the changing climate of business culture to center around technological change will leave untrained individuals behind because they do not have the necessary credentials to move into new jobs.

**Figure 1: Inner-City Workplace Literacy Arc**

<i>Stages of Workplace-Culture and Labor-Market Literacy</i>					
<i>Sectors of Workplace Literacy</i>	<i>Concept Recognition</i>	<i>Multiple Workplace Perspectives</i>	<i>Comprehension of Business Process</i>	<i>Workplace Competence</i>	<i>Professional Independence</i>
<b>Cognitive Literacy</b>					
<b>Technology Literacy</b>					
<b>Business Culture Literacy</b>					
<b>Socio-Economic Literacy</b>					
<b>Community and Ethnic Solidarity</b>					
<b>Self-Esteem</b>					

Source: Langer (2003)

### **A. Stages of Workplace Culture and Labor Market Literacy**

The stages of workplace culture and labor-market literacy reflect the process of adapting to workplace norms. According to Langer (2003), these stages reflect the individual's development in terms of the ability to assimilate the underlying principles of each stage and eventually incorporate them into independent thoughts and actions.

- *Concept Recognition* consists of basic understanding of the five stages of workplace literacy and the ability to conceptualize and communicate that understanding to others. The individual's comprehension of literacy in this sector serves as a building block to understanding more complex workplace norms and cultures.
- *Multiple Workplace Perspectives* represents the individual's ability to ascertain and glean knowledge from colleagues throughout the workplace and integrate this knowledge into their own understanding of their place in the workplace hierarchy.

- *Comprehension of Business Process* reflects the development of interpersonal, cognitive, and technical skills learned at work to increase their performance in terms of cooperative and competitive levels with colleagues. It is intended to capture a change in the individual's ability to apply the knowledge gained in the workplace to enhance their socio-economic value system.
- *Workplace Competence* demonstrates the individual's growth in the workplace as the level and quality of performance is now on-par or surpassing colleagues on the same, or higher, rank in the hierarchy.
- *Professional Independence* when achieved is shown in the individual's ability to use workplace knowledge and abilities creatively and independently of instruction. The individual is capable of becoming a strong competitor in the labor market and of obtaining increasingly larger jobs.

## **B. Sectors of Workplace Literacy**

Within each of the stages, workplace literacy is assessed using six sectors that measure the individual's cognitive skills, interpersonal relationships, values, and self-perception.

- **Cognitive Literacy** suggests the level of the individual's ability to complete job tasks and duties, which include presentation of data, the ability to comprehend information learned on the job as well as information researched separately. Individuals are able to understand and follow directions.
- **Technology Literacy** indicates the individual's capacity to use technology to complete job tasks and duties.

- **Business Culture Literacy** reveals the individual's growing understanding of business protocols and policies in regard to interpersonal interaction, dress, attitude, and perception of the norms of business hierarchy. Growth in business culture literacy is reflected in the individual's ability to adapt and change according to various norms in the culture without prompting.
- **Socio-economic Values Literacy** is a reflection of the capacity to effectively communicate the business norms that assist in the creation and assimilation of a strong work ethic. These values include dedication to career goals, learning, and a desire to take independent initiative to complete tasks and goals. Individuals are able to assimilate others' values and integrate those values into their own.
- **Community and Ethnic Solidarity Literacy** signals the dedication to enhancing the education and career opportunities offered to others within minority and underrepresented communities. The individual is able to assimilate workplace norms and values without sacrificing cultural and personal values and beliefs.
- **Self-Esteem Literacy** represents the individual's belief in one's ability to succeed on both a professional and a personal level. The individual is dedicated to completing one's goals through self-improvement, constructive criticism, and acknowledgement of professional conflicts, such as discrimination in the workplace or personal conflicts with another co-worker. Increasing self-esteem reflects how comfortable the individual feels with defining oneself as a businessperson independent of other's perspectives.

### C. Hypothesis

I am tracking the performance trajectory of a group of thirty-seven students in WOS by analyzing their weekly journal entries and coding them according to Langer's (2003) Literacy Arc. I am interested in discovering whether ethnicity plays a role in how quickly students grasp business concepts and culture. I will focus on Hispanic, Black/African-American, and Caucasian students within the WOS program and, using their journals as the primary tool for gathering data, research the reasons why they have or have not progressed at similar paces. To be more specific, I am studying the progress these students have made in understanding workplace culture as well as in improving labor market literacy.

Evidence based on enrollment in degree-awarding institutions shows that Hispanic representation is lower than that for either Caucasians or Blacks/African-Americans. According to statistics provided by the National Center of Education Statistics for 2007-08, the percentage of Hispanics (15.2%) enrolled in sub-baccalaureate credential awarding institution is significantly different from the percentage of Caucasians (57.4%). However, the percentage of sub-baccalaureate credential awarding of Hispanics and Blacks/African-Americans is approximately the same (15.2% to 18.3%). I used these differences to formulate the following research hypothesis: *Hispanic students enrolled in WOS will demonstrate progress through the Literacy Arc stages at a slower than Caucasian students and at the same rate as Blacks/African-Americans.*

My original intent was to study this progress in terms of all five stages in the developmental model; however during my assessment of the students' progress, I found that the majority of the students demonstrated characteristics contained only within the first two stages, Concept Recognition and Multiple Workplace Perspectives. Consequently, I chose to focus solely on these two stages in order to provide the most accurate analysis of the data. Because of the

disparity that exists between the education levels of Hispanics, Caucasians, and Black/African-Americans, I believe that Hispanic students will demonstrate less understanding of the sectors within Concept Recognition and Multiple Workplace Perspectives.

### **III. Methodology**

The journals of thirty-seven students enrolled in both Columbia University and Rutgers University were coded according to Langer's (2003) developmental model. They were grouped according to ethnicity and gender.

#### **A. Data**

Data from this study came from weekly student journals each of which contained, on average, seven to ten journal entries. Of the thirty-seven students studied, twenty-five were enrolled in the WOS program at Columbia University and twelve were enrolled in the Rutgers University program. Each week the students were provided a prompt from their teacher focusing on various issues covered during class sessions. Some examples of the prompts given are:

- Remember a time when you were excited and enthusiastic about something you were doing. What exactly were you doing? Also, describe how you felt.
- Please write what you think of the comments below from an article in The New York Times about online college courses.
- Describe what you know about discrimination in the workplace. Have you experienced discrimination?

By responding to these and other prompts students revealed elements of their progress and understanding of the core values necessary to integrate into the corporate environment.

#### **B. Analysis**

Each journal entry was coded individually in order to determine which characteristics of the workplace literacy developmental model were present. However, some journals previously coded by Dr. Langer's research assistants at Columbia University were also included in order to expand

the data pool. Once I coded the data for Concept Recognition and Multiple Workplace Perspectives, I grouped the data in terms of ethnicity and gender. This information was gleaned from information contained in the learning journals. Ethical considerations were taken into account to protect personally identifiable information about the students whose journals were used in this study by assigning pseudonyms to them.

As stated previously, the data from a large number of the journals only fell into the first two stages, Concept Recognition and Multiple Workplace Perspectives. Therefore, I only report results on these because I was not able to obtain sufficient data to support a conclusion on higher level stages.

In order to analyze the journals and determine how much progress was demonstrated by the students, each journal was read twice. The first reading was done of the student's entire journal in order to gain a basic understanding of the student's experiences and opinions of the program and the weekly topics and to assign a preliminary code. The focus of the second reading was on coding each journal entry according to the Literacy Arc. Occasionally, the second reading led to a shift in which stage or sector I originally coded the entry. Each week, the students were given prompts in order to focus their writing which may have impacted the sectors in which their journals were coded.

When coding the journals I did not copy the entire entry into one sector/stage pairing. Very often, one journal entry garnered more than one placement in the student's model. For example, on June 7, 2010 Tamika (pseudonym), an African-American female, demonstrated characteristics of Concept Recognition/ Cognitive Literacy and Concept Recognition/ Self-Esteem. Other journal entries were coded into Concept Recognition/ Technology Literacy,

Concept Recognition/ Business Culture Literacy, as well as Multiple Workplace Perspectives/ Cognitive Literacy. Below are excerpts from Tamika's journals that were coded into each corresponding sector. Any typographical errors that are present reflect the student's original journal.

### **C. Sample**

The journal entries of thirty-seven students were analyzed and coded according to Langer's (2003) Literacy Arc. Forty-six percent of the students were Hispanic, 27 percent were Black/African-American, and 27 percent were Caucasian. Fifty-nine percent of the data population was male and forty-one percent female. A close examination of the student sample showed an interesting developmental dynamic.

**Figure 2: Journal Excerpts from Tamika (African-American Female)  
Through the Stages and Sectors of the Literacy Arc**

	<i>Concept Recognition</i>	<i>Multiple Workplace Perspectives</i>
<b>Cognitive Literacy</b>	When I'm given the opportunity to choose a topic in a group I like to take charge. I would say that sometimes I tend to do what I want to do because if I have my mind set on a specific topic, I don't want to change. I've already set my sights on the topic and have already given it some thought on what to put on my team projects.	I also have to hold weekly meetings to be aware of the issues with everyone. In order to succeed I need to keep in touch with my coworkers that there will be nothing that I don't know about. If there are any issues holding us back we can fix it before it becomes a bigger problem.
<b>Technology Literacy</b>	The other goal I chose is because I know I'll be doing a lot of web development and truthfully I find that area pretty fun. I will be given that project later on, and to do a mock website would be excellent practice for me to get used to and hopefully I can impress my boss and my co-workers with what I learned by myself.	
<b>Business Culture Literacy</b>	I need to be more open-minded when it comes to teams because I know other people have opinions too and I tend to put them off. In teams usually I get excited because for some odd reason I love to do group projects. Socializing is what I love to do but I need to learn to be a better team member.	
<b>Socio-Economic Literacy</b>		
<b>Community and Ethnic Solidarity</b>		
<b>Self-Esteem</b>	I was assigned the position of project manager for a certain project and I have no idea what I'm doing! It's quite embarrassing but at the same time, I have nothing to lose so I'm trying to think positive about this opportunity.	

Erin, a Caucasian student, demonstrated strong characteristics in all six sectors within Concept Recognition as well as Cognitive, Business Culture, and Community and Ethnic Solidarity sectors within Multiple Workplace Perspectives. Below are excerpts of her journal entries coded into corresponding sectors.

**Figure 3: Journal Excerpts from Erin (Caucasian Female)  
Through the Stages and Sectors of the Literacy Arc**

	<i>Concept Recognition</i>	<i>Multiple Workplace Perspectives</i>
<b>Cognitive Literacy</b>	When I study I read the notes or the textbook, the day after the previous class I review them before the next class and test myself. I learn new information in class and when I go home reread the notes or the text about that topic. First I study to understand, and then memorize what is important because understanding is the foundation of learning, not memorizing.	For the best process information I first identify the information needs. I think about what else I know about this topic, what I need to find about the topic and look for keywords. I always seek a purpose for the information that I am going to process and personal connection with the content; it helps me to memorize the information.
<b>Technology Literacy</b>	I can use computer applications to manage large amounts of information. I can create and edit simple databases, input data, retrieve specific records and create reports to communicate information. I can use computer applications to enter, manipulate, and format text and numerical data, insert, delete and manipulate cells, rows, and columns, and create and save worksheets, charts, and graphs.	
<b>Business Culture Literacy</b>	I can communicate with my co-workers, managers, teachers, friends and family by speaking with them, and in the same time listening and understanding. Eye contact is very important when connecting with people. I have to focus on needs and interests rather than wants and positions. I try being honest about my wants and needs, and then discovering the other person's wants and needs.	Conflict is inevitable in any team environment. Project teams bring together a variety of personality and skills. Each person perceives assignments and actions in different ways and has special vision for the project. These conflicts vary from simple disagreements on task details to basic personality conflicts. Applying the appropriate approach to conflict will help manage conflict when it occurs. Encouraging consensus is a good way. Try to balance personal relationships and project success when they may become compromised in the conflict.
<b>Socio-Economic Literacy</b>	Two future goals in this stage of my life are: completing successfully this program and receiving the certificate of completion, finding a job to work as web designer or equally important to me. In order to accomplish them, I have to make a big commitment: I have to attend and participate in my classes and engage myself	
<b>Self-Esteem</b>	From my professional success I learned to be different and upgrade myself for a lot of things that are going on into my personal life. I learned new ways of thinking and being in the world that allow me to achieve success and fulfillment in a more effortless way. I learned how to free up my time, energy, and pursue new opportunities, how sometime to create my personal problem-free zone, to get rid of the things that keep me stuck and create an environment that supports and brings out the best of me.	

The timeline of the journals also varied in terms of submission dates. I had access to journals from Fall 2007 through Spring 2010, and while coding the journals, I considered the date of the submission in order to understand the rate of the student's progression. Occasionally, students progressed to further stages in earlier learning journals while more recent journals exhibited traits that fit stages in an earlier phase. This was a common occurrence throughout the journals. I found several students who demonstrated multiple characteristics of more complex stages, such as Comprehension of Business Processes within the first month and later would demonstrate characteristics of Concept Recognition. An example of this occurred with Alex, a Latino male. An example of this occurred with Alex, a Latino male. Figure 4 shows his progress through the developmental model.

**Figure 4: Alex (Hispanic Male) Through the Stages and Sectors of the Literacy Arc**

	<i>Concept Recognition</i>	<i>Multiple Workplace Perspectives</i>	<i>Comprehension of Business Process</i>	<i>Workplace Competence</i>	<i>Professional Independence</i>
<b>Cognitive Literacy</b>	4/15/10	7/28/09			
<b>Technology Literacy</b>	4/15/10				
<b>Business Culture Literacy</b>	07/28/09				
<b>Socio-Economic Literacy</b>	03/11/09	3/11/10			
<b>Community and Ethnic Solidarity</b>					
<b>Self-Esteem</b>	07/21/09		7/21/09		

Alex demonstrated progression in Self-Esteem to the third stage Comprehension of Business Processes on July 21, 2009. However, he also demonstrated Cognitive Literacy in the first stage Concept Recognition on April 15, 2010. This may be attributed to the students relying on knowledge gained prior to entering the program in order to learn new concepts regarding workplace norms and skills. Or the student may not have reflected on those categories in the earlier entry but nonetheless had developed the skills.

## **IV. Findings**

Once the journals were coded, I grouped the students by ethnicity and by gender in order to analyze and compare their progression. I found that, on average, the students from each ethnic group demonstrated similar progression throughout the literacy developmental model.

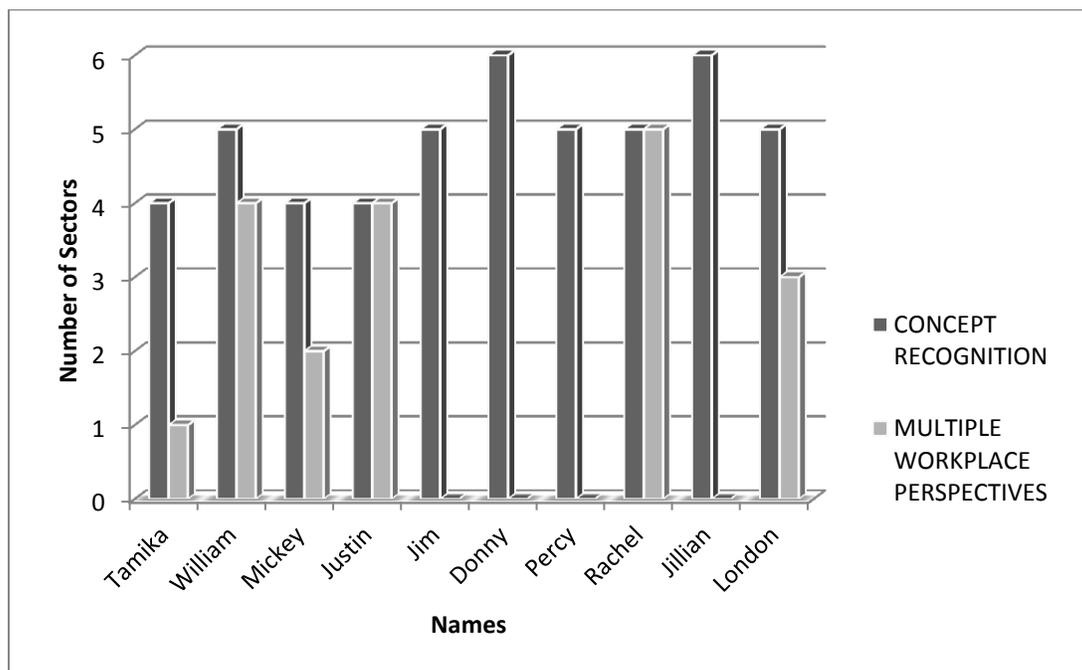
### **A. Ethnicity**

#### Blacks/African-Americans

Of the ten Black/African-American students studied, all progressed through at least four sectors within Concept Recognition. Three students progressed through five sectors and only two progressed through all six sectors. In terms of moving past Concept Recognition into the Multiple Workplace Perspective stage, four of the nine students did not demonstrate any characteristics of this stage. Rather, they demonstrated strong understanding of the Concept Recognition literacy: three progressed through five sectors, and two progressed through all six sectors of Concept Recognition.

From this data, I ascertained that the learning focus was placed on gaining a deeper understanding of the basic literacy notions of the WOS program. On average, students exhibited characteristics of 4.89 sectors within Concept Recognition and 1.78 sectors within Multiple Workplace Perspectives.

**Figure 5: Progression of Black/African-American Students through Stages in Concept Recognition and Multiple Workplace Perspectives**



Tamika, a student whose journals ranged from February 2010 to May 2010, demonstrated strong literacies in Cognition, Technology, Business Culture, and Self-Esteem. She showed a basic understanding of how to relate workplace issues and technological learning with other environments, such as home life. She understands that behavior in the workplace can be different from other environments and is able to give a basic identification of how she should comport herself at work. She understands that in order to attain success, she must dedicate herself to improvement and self-evaluation.

Donny's journals were coded by a separate researcher at Columbia University and so the exact dates of his progress are unknown. However, Donny demonstrated strong understanding of all the sectors within Concept Recognition. He is able to conceptualize the behaviors that are necessary in the workplace, such as presentation skills and effective reading and writing skills. He has a basic understanding of technology and exhibited a willingness to learn more through

the program. He was proud of his achievements and expressed his family's pride in him as well and dedicated himself to continuous improvement. However, Donny did not demonstrate a significant increase in understanding more complex literacies. His cognitive literacy increased into the next stage, Multiple Workplace Perspectives, where he demonstrated a strong ability to disagree with invalid opinions of his co-workers. When he was faced with a question regarding racial discrimination, Donny provided conceptual understanding of why discrimination is wrong, however, he did not provide an understanding of how to act on his feelings.

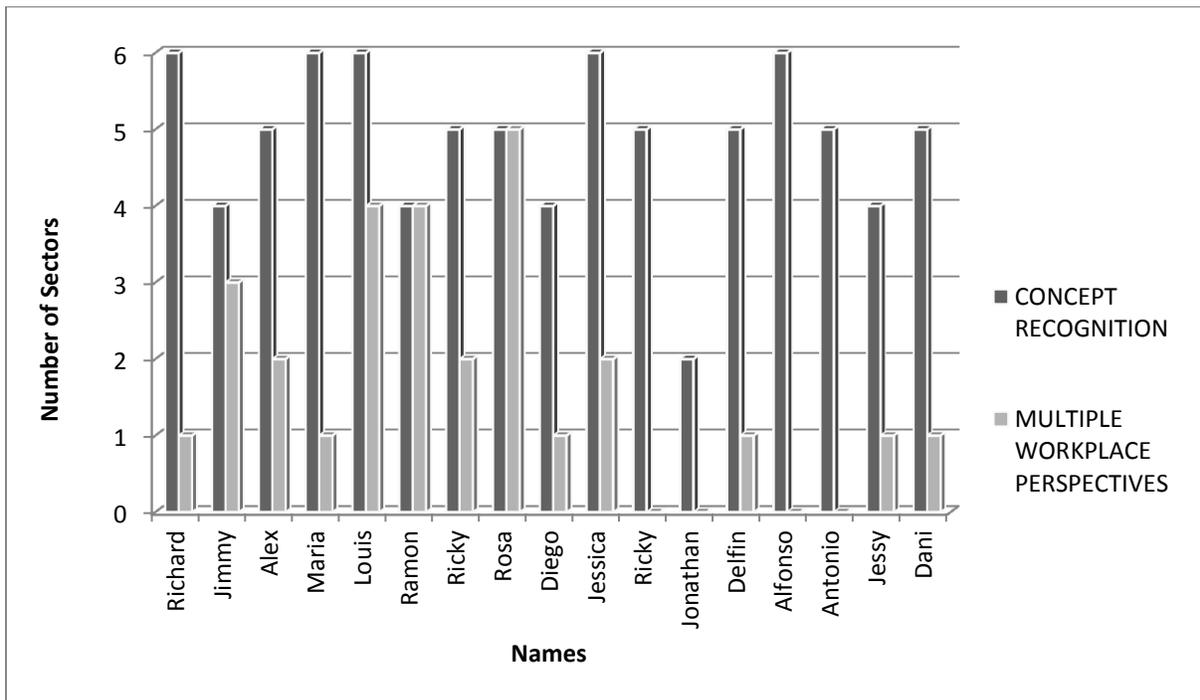
Rachel was the only student whose journals demonstrated an understanding of an equal number of sectors within both Concept Recognition and Multiple Workplace Perspectives. In both stages, she demonstrated improvement in her ability to understand concepts and behaviors from her own experiences as well as from the experiences of co-workers. The area she needs to focus attention on is Technology Literacy in both stages as she did not demonstrate any progress in this sector. Although she may have this knowledge, there was no reflection on this literacy in her learning journals.

### Hispanics

Of the 17 students, five progressed through all the sectors within Concept Recognition. Of the remaining students, seven progressed through at least four sectors, and the remaining five through four sectors or less. Only two students, Ramon and Rosa, progressed through the same number of sectors in both stages whereas other students demonstrated the majority of literacy characteristics within the Concept Recognition sector. This may be attributed to the intention of the program which is to provide students with a strong foundation of workplace literacy in order for the student to eventually attain Professional Independence. On average, the Hispanic students

studied progressed through 4.9 stages within Concept Recognition and 1.6 stages with Multiple Workplace Perspectives.

**Figure 6: Progression of Hispanic Students through Stages in Concept Recognition and Multiple Workplace Perspectives**



Richard displayed strong characteristics of the Concept Recognition sector – he progressed through all six stages. He had a basic understanding of how to use the necessary skills and behaviors in order to become successful. He wrote about his strategy to make better use of his time while at work.

In his journal submitted March 8, 2010, Richard gave his opinion on professionalism and what it means.

“There is a fine line between becoming a professional and being a professional. When becoming a professional you should be doing whatever it takes to become better in your profession. It’s imperative that all the important information gets retained and can be used at anytime as a reference. I also believe it is very important that you realize you’re not yet a professional and it will still take dedication and hard work.

Nobody is perfect but sometimes there is no room for mistakes and being a professional you might be expected to rise to and above those expectations.”

This journal entry shows that Richard understands the basic components of workplace literacy. From here, his teachers should move on to providing him with opportunities to learn how to take that understanding and apply it to daily activities.

Louis’s journals were very strong in terms of displaying characteristics of Concept Recognition. There were multiple journals for each stage that showed he has a strong understanding of conceptual knowledge of Workplace Literacy. From this point, he needs to take this knowledge and apply it to his work at the firm where he is employed. For example, he wrote about understanding how to communicate with colleagues effectively and how to behave during a tense situation with a supervisor. He did not, however, write about very many actual experiences that may have occurred when he applied this knowledge which is one of the components I was searching for to demonstrate mastery of Multiple Workplace Perspectives. The majority of the journals coded fell into the Concept Recognition/Cognitive Literacy which shows that Louis

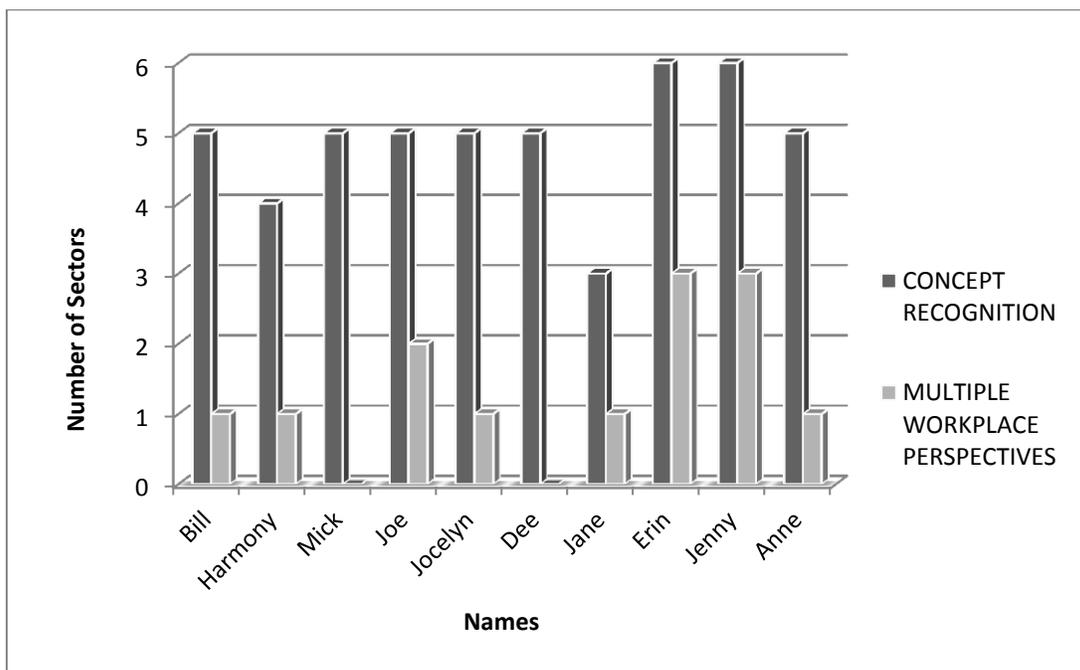
understands basic communication skills (whether written or verbal) and how to interact with others without truly understanding how to apply these skills in the workplace.

### Caucasians

All of the students, except one, progressed through at least four sectors in Concept Recognition. Only one female student, Jane, progressed through three sectors. However, of the ten Caucasian students studied, six progressed through five sectors and two students demonstrated a basic understanding of all six sectors within Concept Recognition. On average, the students displayed characteristics of five sectors.

When looking at their progression through the next stage, Multiple Workplace Perspectives (the average was 1.3 sectors), I found that two students did not demonstrate literacy in any of the stages within this sector. However, these two students progressed through five stages in Concept Recognition. Five of the ten progressed through one sector, and one student demonstrated characteristics of two sectors. This may be attributed to demonstrating competence in at least 50% of the sectors in Concept Recognition. Two students, both of whom progressed through at least five sectors in Concept Recognition, demonstrated characteristics of three sectors in Multiple Workplace Perspectives.

**Figure 7: Progression of Caucasian Students through Stages in Concept Recognition and Multiple Workplace Perspectives**



Jenny was the only student who displayed an understanding of all the stages in Concept Recognition and three stages in Multiple Workplace Perspectives. Her journals showed that she understood how to accept criticism from co-workers and managers and use it to improve her skills and behaviors during presentations and in the workplace. However, she did not write much about her understanding of technology and so that was one stage in which she was not as strong as the others. She believed in herself and wrote multiple times about her dedication to fulfilling her goals of completing the WOS program and earning a baccalaureate degree.

Jenny displayed characteristics of three sectors within Multiple Workplace Perspectives including the advancement of her Cognitive literacy, Business Culture Literacy, and Community and Ethnic Solidarity in terms of how she has learned to interact with co-workers and understands how to relate her own opinions and skills with others' opinions and skills.

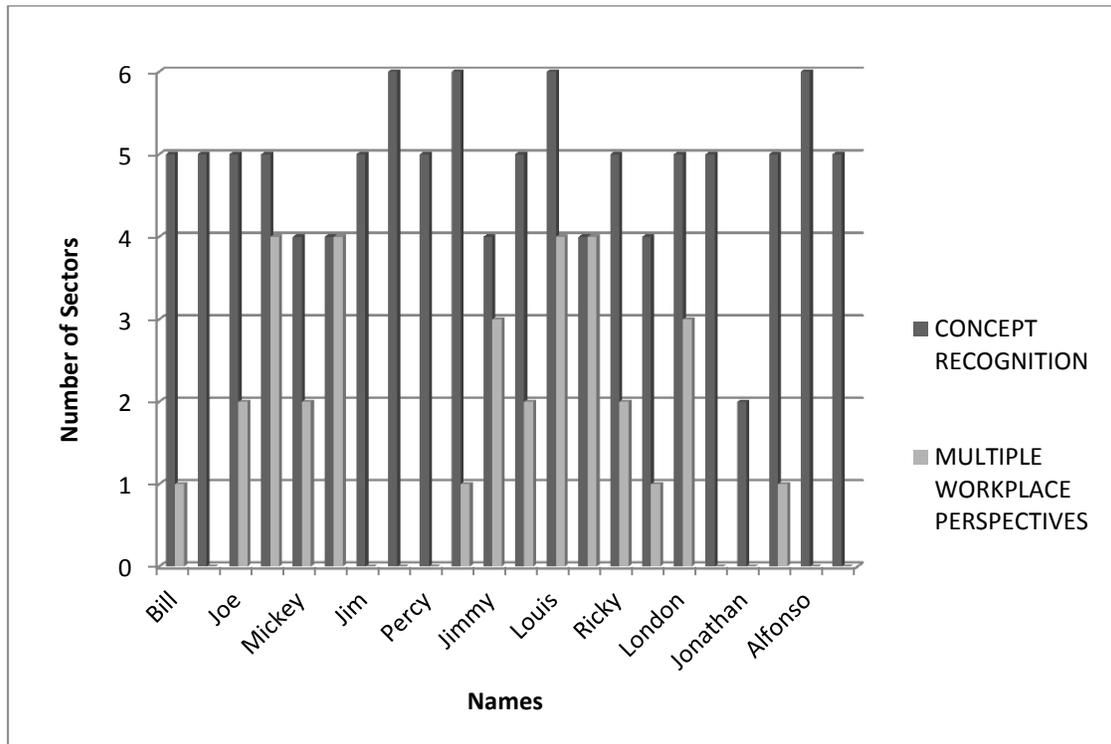
## **B. Gender**

Of the 37 students studied, 59% were male and 41% were female. I found that, on average, women reflected on characteristics of a larger number of sectors within both Concept Recognition and Multiple Workplace Perspectives than men did.

### Males

My study included 17 men whose journals were coded and analyzed to determine what, if any, progression was made through Concept Recognition and Multiple Workplace Perspectives. Sixteen of the students progressed through at least four stages within Concept Recognition, which compared to their progression in Multiple Workplace Perspectives, shows that the students were more familiar with the conceptual understanding of workplace literacy than with the application of those concepts when interacting with co-workers. On average, men progressed through 4.82 stages in Concept Recognition and 1.55 stages in Multiple Workplace Perspectives.

**Figure 8: Progression of Male Students through Stages in Concept Recognition and Multiple Workplace Perspectives**

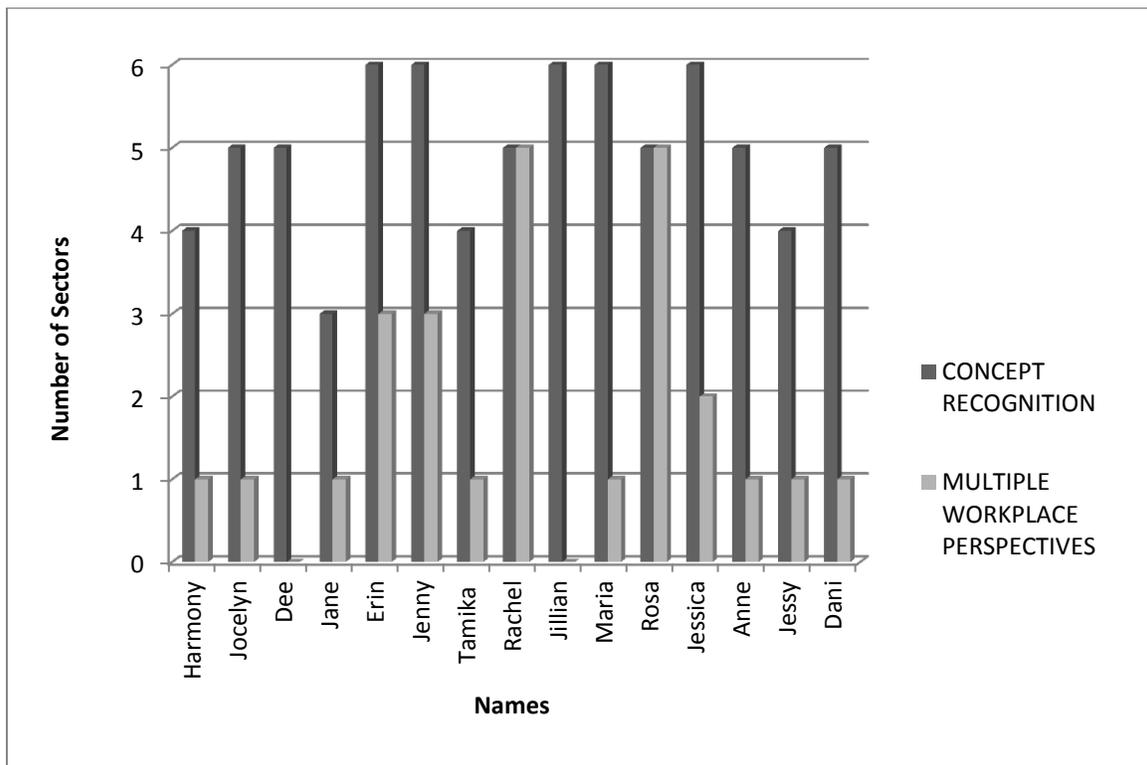


### Females

One of the journal prompts asked students to reflect on whether they experienced any discrimination in the workplace. Given statistics about women in the workforce, we might expect the female students to show a greater sensitivity to gender discrimination than the male students. Between 1997 and 2009, the percentage of women in the labor force remained relatively steady at 61% (U.S. Department of Commerce: Economics and Statistics Administration, 2011). However, according to Zarrett & Malanchuk (2005), the number of women in the IT field accounts for less than 30% of the workforce due to social and psychological factors that affect young women's decisions to enter into the IT industry.

Gender discrimination in the workplace has a long history in the United States (Zarrett & Malanchuk, 2005). The information technology field is a typically male-dominated industry and the women enrolled in WOS programs need to enter into this environment already anticipating different attitudes towards women.

**Figure 9: Progression of Female Students through Stages in Concept Recognition and Multiple Workplace Perspectives**



### **C. Comparative Sector Analysis**

When analyzing the data, I found that a greater number of students demonstrated characteristics in certain sectors. By comparing the frequency of incidents in each sector across the three ethnicities, I was able to pinpoint sectors that one ethnicity may have been stronger in than the others.

#### Concept Recognition

A comparative review of the level of journal activities revealed that Cognition Literacy was one of the strongest sectors of the two stages across all the ethnicities as 97% students displayed an introductory understanding of basic Workplace Literacy. See Appendix A for a table of the students' performance. Only one Hispanic student did not demonstrate literacy in this sector. In general, the trends of which sectors that contained the most or fewest students in each ethnicity were similar.

Journal entries of all the Hispanic and Black/African-American students (27 students) included entries about Concept Recognition/Self-Esteem. The entries in this sector reflected on how the student personally felt about lessons learned in class. They were judged according to how openly students wrote about their interactions or performances in class, work, or home. Only 70% of Caucasian students wrote entries that were coded into this sector. "While Caucasians may have greater expectations of success in the program (given their higher socio-economic standing as a race), the minority students may have greater concerns about their self-esteem. Consequently, those enrolled in the program may feel a great deal of pride in their accomplishments in the program and elect to write about this in their journals (Rothenberg, 2003).

As compared to other sectors within Concept Recognition, the one with the least number of Black/African-American students was Community and Ethnic Solidarity Literacy. Sixty percent of the students reflected on how they will use the knowledge and skills gained in WOS to further their community and how those newly gained skills will impact their families and friends. Similarly, this sector contained the fewest number of Hispanic students (68%).

### Multiple Workplace Perspectives

Interestingly, none of the Caucasian students demonstrated literacy in Technology. Likewise, only 10% of Black/African-American students and 18% of Hispanic students had entries that were coded into Technology. This sector reflects the student's ability to use technology as a means of gathering different sources of information and perspectives on a topic to further their own understanding.

As with Concept Recognition, the strongest sector within Multiple Workplace Perspectives across all three ethnicities is Cognition. It focuses on the student's ability to analyze colleagues' beliefs, ideas, and opinions in the workplace to improve their own understanding. They also understand the need to reference multiple sources of information in order to ensure that the data gathered are not biased.

## **D. Summary of Findings**

As a tool for weekly reflection, if done correctly, these journals provide an opportunity for students to gain a deeper understanding of what was taught in the previous week's class and to emphasize which points may need to be clarified. There is some evidence of this occurrence in my research as several students made references to a growing understanding of the need for the journals. As the program continued and the students became more accustomed to the learning

journals, their entries became more detailed in terms of answering the prompts while also expanding on what was enjoyable or not about previous lessons either in class or work.

I found that, on average, Hispanics and Blacks/African-Americans demonstrated the same level of progress – that is, five sectors of Workplace Literacy, through Concept Recognition whereas Caucasians only progressed through 4.8 sectors. However, Hispanics progressed through one sector of Multiple Workplace Perspectives whereas Blacks/African-Americans progressed through 1.5 and Caucasians through 1.3, on average.

Research shows that Caucasians have a demonstratively higher level of education, on average, throughout the nation due to a variety of factors, including socio-economic, access to technology, and class, etc. (U.S. Department of Education: Institute of Education Sciences, 2008). In studying the effects of ethnicity, I found that minority students have similar knowledge of basic Workplace Literacy. A majority of the Hispanic and Black/African-American students reflected on taking current knowledge and learning to apply it to day-to-day operations once in the business world.

On average, females progressed through the Literacy Arc at a similar rate as the males. Although studies have shown that women are not as prevalent in the Information Technology industry, my data suggests that they are able to perform at comparable levels and demonstrate a similar capacity and desire to learn how to navigate through the industry. The average number of sectors within Concept Recognition for females was 4.93 and for males 4.82. Through Multiple Workplace Perspectives, females progressed through an average of 1.73 and males through 1.55 sectors.

A comparison of how many journals were coded into each sector revealed that the strongest sector across the first two stages is Cognition. Students demonstrated the capacity to understand how to improve basic business skills needed as support for knowledge gained throughout the program. As the students progress through WOS, they will become proficient in skills such as public speaking, business writing and correspondence, as well as computation and interpersonal communication.

It is possible that each student entered into the program with different levels of Workplace Literacy. This understanding may have resulted from previous jobs or educational activities. If this previous understanding exists, teachers should provide ample opportunity to build on or cultivate this knowledge as the case may be, both in the classroom and the workplace. They should focus more on building interpersonal skills so that the students become proficient at integrating other's constructive criticisms and workplace values and ethics with their own. The ability to learn from others will assist them with understanding when to take initiative and when they should behave in a manner that is professionally independent of other's valuations and opinions.

The data gathered regarding the progress of 37 students enrolled between Fall 2007 and Spring 2010 shows that there was not a significant gap between Hispanics and Caucasians or Blacks/African-Americans and Caucasians in terms of the average number of sectors in which the students demonstrated literacy. However, there is a slight disparity in how students progress through the first two stages of the Literacy Arc. The sectors that included the most and fewest number of journal entries provided a clearer view into the difference in performance. Concept Recognition/Self-Esteem had the most number of journal entries written by Hispanic students and the fewest number of journal entries written by Caucasian students.

As stated previously, it is possible that the national socio-economic and class differences between Caucasians, Blacks/African-Americans, and Hispanics influenced this (Rothenberg, 2003). However, the data population for this study is relatively small and therefore my finding needs to be interpreted with caution.

## **V. Conclusion**

In my analysis of the data, I found that I was able to study how many students in each ethnicity and gender displayed characteristics of sectors in the first two stages of the literacy developmental model. The progression that the Hispanic students demonstrated was on par with both the Black/African-American and the Caucasian students within the data population.

### **A. Limitations**

When comparing the rate of the students' progression through the developmental model, I was unable to specify when each student began or ended the program. Without knowledge of when the students enrolled into WOS relative to each other, I am unable to state conclusively that any one student progressed at a faster, same, or slower rate through the Literacy Arc than another.

A few variables were not completely available to me during the analysis of the journals. In terms of race and ethnicity, I did not always know how each student was classified within his or her race/ethnicity. By this, I am referring to the propensity of society to subdivide a race into multiple ethnicities. According to Aparicio (1997), the actual definition of Latino is still very vague. Within that ethnicity, you can classify people as black or white. And within that classification, the delineation between the separate Hispanic cultures that span the Central and South American and Caribbean regions. Without knowing how each student defines himself or herself within these cultures, the term "Hispanic" student can mean a white or black student and/or one that does not self-identify as Hispanic (Aparicio, 1997).

How the students racially define themselves may be impacted by how society defines them. For example, Alex is a Hispanic male but I am unaware of what his heritage is, whether or not he considers himself a Black Hispanic or a White Hispanic, nor do I have knowledge of how his

opinion on society's view of his ethnicity. Gloria Anzaldua wrote *Borderlands: The New Mestiza* about how society's perception of her, as well as her self-perception, influenced her beliefs, behaviors, and her opinions of others (2007). And without the knowledge of how students racially define themselves, I am limited in understanding how their ethnicity plays a role in their progress through the WOS program as I am unable to identify any key external factors that have come into play for the individual's progress.

The students' ages while enrolled in the program are another unknown variable that may impact the rate of progression through the Literacy Arc. Any references to the age of the student contained within various journals were disregarded since these data were not available for all students. Another unknown variable is the student's actual success throughout the program. The learning journals I had access to did not refer to the student's grades or to whether or not the students completed the program successfully.

Class is another social construct that likely influenced the students' progress because the intent of the Workforce Opportunity Services is to provide low-income youth and veterans with a means of continuing their education and earning certification in Information Technology. Although the students fell into the category of "low-income," class represents where the individual is placed in society and this can have a direct impact on how he or she performs in educational settings, for example on their self-esteem (Anzaldua, 2007). Without individual understanding of the students' perception of class as well as just a basic understanding of the students' standing, I had to exempt this from my analysis.

However, I am aware that the premise of the program means that the majority of the journals analyzed are from low-income individuals but in certain cases, although the student alludes to a

background in the military, I cannot conclusively state that the student was a veteran and so I have excluded specifying the students' background – whether a recent high school graduate or a veteran.

Sexuality is another factor that has an impact on the student – is the student heterosexual, homosexual, or transsexual and how does the student feel about societal views of their sexuality? And if the research is going to focus on sexuality, part of the criteria used to analyze socio-economic literacy should be placed on how the students view others' sexuality in turn. How society views a person has a direct influence on his or her personal perception of himself or herself (Cofer, 2004).

## **B. Implications**

This applied study has implications for both classroom teaching and company practice. The data gathered from the journals showed that WOS students demonstrated stronger literacies in certain stages and more emphasis needs to be placed on expanding their understanding and ensuring that they are receiving information about how to comport themselves as professional business people.

Of the population studied, a majority of the students have a strong understanding of the sectors within Concept Recognition. However, more focus needs to be placed on helping these students use that abstract knowledge and apply it to day-to-day interactions with their colleagues so that they may eventually become professionally independent. Classroom teachers, therefore, could use this study to encourage students to engage in more work place specific role-play exercises and evaluations that gives them the chance to apply their conceptual business acumen in a real-world situation where they can receive constructive feedback.

It is possible that some of the students may not be able to demonstrate an understanding of the higher sectors, such as Comprehension of Business Process or Professional Independence, due to having other external factors that they may have to split their focus between. According to Maslow's (1943) hierarchy of needs theory, people must first satisfy their basic needs before focusing on higher-level needs. For instance, if some of the students, either because of socio-economic or class reasons, are focused on completing this program in order to receive certification and find a full-time job to feed their families, they may not place sufficient focus on becoming professionally independent. Rather they may be focusing on becoming a satisfactory worker so that they will receive regular paychecks. Thus, management should be aware of this issue and take steps to ameliorate these concerns on the part of the student-workers. Management should find that by mitigating job security concerns they will have more loyal employees. A little understanding and encouragement may go a long way.

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## Appendix

### Comparative Sector Analysis

<b><i>Concept Recognition</i></b>	<i>White</i>	<i>Black</i>	<i>Latino</i>	<i>Total</i>
Cognition	100%	100%	94.1%	97.3%
Technology	70%	70%	58.8%	64.9%
Business Culture	80%	90%	76.5%	81.1%
Socio-Economic	100%	90%	94.1%	94.6%
Community and Ethnic Solidarity	70%	60%	64.7%	64.9%
Self-Esteem	70%	100%	100.0%	91.9%
<b><i>Multiple Workplace Perspectives</i></b>				
Cognition	40%	70%	41.2%	48.6%
Technology	0%	10%	17.6%	10.8%
Business Culture	30%	40%	29.4%	32.4%
Socio-Economic	10%	10%	23.5%	16.2%
Community and Ethnic Solidarity	20%	30%	5.9%	16.2%
Self-Esteem	20%	40%	35.3%	32.4%

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#### EDUCATION

The Pennsylvania State University University Park, PA  
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Bachelor of Science in Management, Minor in Management Information Systems

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#### HONORS

- Bunton-Waller Fellowship
- Phi Kappa Phi Honors Society
- Chancellor's Award
- Beta Gamma Sigma Business Honor Society
- Barnes and Noble Scholarship
- Dean's List All Semesters

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#### RELATED EXPERIENCE

**Macy's Department Stores** Brooklyn, NY  
*Sales Management Intern - Fragrances Department* June 2010 – August 2010

- Created a product knowledge guide to assist associates with improving sales communications skills
- Coached associates on specific selling behaviors in order to improve effectiveness and increase sales
- Maintained daily records of sales statistics and trends to track the performance of specific items
- Responsible for opening and closing department as well as the department change bank

**Pennsylvania Higher Education Assistance Agency** State College, PA  
*State College Intern* September 2010 - Present

- Work 10 hours per week while studying full-time and participating in extracurricular activities
- Assist loan borrowers with understanding the processes involved with loan repayment

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#### LEADERSHIP/ACTIVITIES

**Smeal for Life Initiative** University Park, PA  
*Integrity Committee Chair* January 2010 – Present

- Worked to promote unity within the Smeal College of Business
- Planned a week-long series of activities to emphasize the importance of professional integrity

**Latino Caucus** University Park, PA  
*Committee Co-Chair* January 2010 – Present

- Planning a scholarship event to promote awareness of Latino presence in the Penn State community
- Assist with efforts to initiate and effect positive change in University policy for towards Latinos

**Smeal College Academic Integrity Review Board** University Park, PA  
*Undergraduate Body Representative* February 2011 - Present

- Represents Smeal's undergraduate body during process reviews for academic integrity violations
- Analyzes the validity of the procedures taken by all parties involved