Understanding General Equivalency Diploma Students as an Information User Group
in a Community College Setting

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LIS 662

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November 13, 2009

Abstract

This paper attempts to analyze and gain a better understanding of students participating in General Equivalency Diploma (GED) programs as a set of people, the settings where information seeking and exchange take place, the social networks of GED students, the problems which lead to the pursuit of the GED, barriers to information, and problem solutions. The findings of this research study, conducted with GED students enrolled in a community college based GED program in North Carolina, can be used to inform program administrators, educators, and information service providers of the characteristics and information needs of GED students and the many barriers with which they are often confronted. These findings can then be used to guide information service providers as they develop services and products for their patrons.

GED Students as an Information User Group

Introduction

The General Education(al) Diploma, commonly referred to as the GED, is widely regarded as a "second chance" for high school dropouts. In an attempt to prepare students for the GED, special programs are found throughout the United States. Frequently, these programs are located in high school adult education extension programs or in community colleges (Sessmons & Taylor, 1997, p. 423). In North Carolina, the GED program is offered by all 58 community colleges in the North Carolina system and is available at no cost to students. Each North Carolina community college is an official GED testing site (http://www.ncccs.cc.nc.us/Basic_Skills/ged.htm). Central Piedmont Community College (CPCC), located in Charlotte, North Carolina, is home to GED preparation programs and testing centers at each of its six branch campuses throughout the region as well as in one community location.

In order to better serve GED students, it is important to gain an understanding of the unique characteristics and needs of these students as an information user group. This paper attempts to analyze and gain a better understanding of GED students at Central Piedmont Community College using Taylor's (1991) model of information use environments by looking at the set of people, settings (where information seeking and exchange takes place), problems, and resolutions to problems. This analysis further considers the social networks of GED students as well as barriers to information. By undertaking a comprehensive review of the literature and conducting one-on-one interviews with a pool of GED students at the CPCC Harris Campus, one can begin to develop a deeper understanding of GED students as an information user group. The findings of this research may then be used to inform information service providers on how to better meet the needs of GED students.

Based on the findings of this study, a set of information products have been developed specifically tailored for GED students at CPCC. These products include marketing information about the library and what is has to offer (including books, online resources, and links to jobs and career information) and a basic "how to guide" for accessing resources within the library. The goal of these information products is to enable students to more easily access GED support materials available at CPCC, thereby assisting them on their pathways to success.

Review of Literature

According to the 2000 U.S. Census data, more than 39 million adults did not complete a high school education, were not enrolled in an education program, and did not have a high school diploma (General Educational Development Testing Service, 2009, p. 5-6). Though this number is tremendous, only 776,728 adults worldwide took some portion of the GED test battery in 2008. Of these individuals, 493,490 (63 percent) actually completed the exam and successfully met their jurisdiction's GED passing standards (General Educational Development Testing Service, 2009, p. 1). By reflecting upon the disparity of numbers between those who *would most likely* benefit from taking the GED and those who actually pursue GED studies and earn the credential, one can see there is a great amount of work which must be done to recruit, retain, and assist students in preparing for and passing the GED exams.

To provide a contextual basis to guide this research study, a review of the literature currently available regarding GED students was undertaken. This literature review is organized into the following categories: (1) Who are GED students?, (2) Settings where information seeking and exchange take place, (3) Social networks of GED students, (4) Problems which lead to information needs, (5) Barriers to information, and (6) Problem solutions. These categories will be revisited when findings of the interview research for this current study are presented and discussed.

Who are GED students? GED students are a diverse group. Goodall (2009) reminds us, "GED students come in all shapes, sizes, colors, economic backgrounds, aspirations, abilities and capabilities, ranging from being academically gifted to possessing skills below the level necessary for college-level courses" (p. 18). What these individuals all share in common is that they dropped out of school or failed to meet a state's graduation requirements.

The GED Testing Program Statistical Report provides a demographic breakdown of GED test takers. The report shows that in 2008:

- The average test taker was 25 years old. Sixty-four percent of the candidates fell within the range 16 to 24 years of age (General Educational Development Testing Service, 2009, p. ix).

- Thirty percent of all candidates indicated they had been out of school for one year or less. However, 27 percent of the GED candidates waited more than 10 years before taking the GED tests. The overall average number of years out of high school before testing was approximately eight years (General Educational Development Testing Service, 2009, p. 12).

- Of the test takers in 2008, 51.7 percent were white, 24.1 percent were African American, and 19.2 percent were of Hispanic origin (General Educational Development Testing Service, 2009, p. 12).

- In 2008, 58 percent of the GED test takers were male and 42 percent were female (General Educational Development Testing Service, 2009, p. 12).

Though the demographic makeup of the GED student population is diverse, these adult learners all share the desire to earn the GED credential and better their lives.

Settings where information seeking and exchange take place. As noted above, GED programs are found throughout the United States, primarily located in high school adult education programs or in community colleges. Within the GED classroom settings, the setting and exchange of information have been found to be different than that found in the traditional high school classroom. Due to the test driven nature of the GED curriculum, Brouillette (1999) noted, "For many students the benefit derived from the GED program was primarily associated with the relationships between instructors and students…" (p. 313). She went on to explain that removing the pass/fail decision from the teachers' hands allowed instructors to position themselves more as coaches, individuals capable of helping students accomplish their goals. These findings suggest that GED students may benefit most from information exchanges in

which educators are not in a position to "grade" or "judge" an individual as in a traditional classroom, but rather are working in a coaching or facilitating role.

Social networks of GED students. While the majority of information exchange for GED students (as it pertains to their preparation for the GED exams) occurs in the classroom, the literature suggests that the social networks of these students tend to exist outside of the GED programs. For example, Kist (2003) found, "…(GED) students continually reported not knowing where to go for answers and having to rely on friends and acquaintances for the most basic procedural questions" (p. 13). Further, information service providers must also understand the many roles of non-traditional age learners and social networks which are built as a result of these roles. In a study of 196 non-traditional age undergraduates (age 25 and above), Lundberg, McIntire, and Creasman (2008) found, "Non-traditional-age learners often are simultaneously engaged in multiple roles, including student, partner, parent, full-time employee, volunteer, and caregiver…" They go on to say, "These multiple roles are potential sources of social support and, in turn, potential buffers against stressors associated with pursuing an academic degree" (p. 59). While the Lundberg study focused on undergraduates, one may extrapolate the data and note similarities among the social networks of GED students aged 25 and older.

Problems (which lead to information needs). While the decision to drop out of high school may not have been an easy one for many individuals, often the situations leading to pursuit of a GED are very challenging as well. For example, Goodall (2009) points out, "Often they (GED students) have excessive financial burdens, a result of finding work only at more menial jobs." For many students, the GED credential is a necessary requirement to qualify for a better paying job and more meaningful employment. In addition to employment-related reasons, the 2008 GED Testing Program Statistical Report identifies the following reasons for taking the GED tests: social, educational, personal, and military, with candidates having the option to cite more than on reason for taking the GED tests. According to the statistics in this report:

- Sixty percent of all candidates reported taking the tests for educational reasons, with interesting in attending two-year colleges, technical or trade programs, or four-year colleges (General Educational Development Testing Service, 2009, p. 12).

- More than half of all candidates (52 percents) test for personal reasons, including being a positive role model and personal satisfaction (General Educational Development Testing Service, 2009, p. 12).

- Fifty percent of all test takers identified employment as their reason for testing, primarily to get a better job (General Educational Development Testing Service, 2009, p. 12).

- Seven percent indicated they tested to enter the military or support their military career (General Educational Development Testing Service, 2009, p. 12).

Barriers to information. For many adults wishing to pursue the GED credential, the barriers are many. In general, these barriers can be grouped into the following categories: situational, institutional, dispositional, and academic skills.

Situational barriers are those which arise out of learners' day-to-day lives. Like other adult learners, GED students must negotiate transportation, family, and financial situations.

First, depending on the location of the program, finding *transportation* to GED programs can be problematic for many students. Albertini (2009), for example, found that women living in communities with limited access to public transportation are less likely to participate in literacy programs, regardless of the number of programs that exist (p. 26). Further, in a study of 119 GED program participants, King (2002) found that nonurban students traveled nearly twice as far to the nearest GED center as their urban counterparts (p. 153). If a GED program is located in a place that is not easily accessible to public transportation, or is seen as "too far" to travel to on a regular basis, the likelihood of participation is expected to decrease.

The barrier of *family constraints* continuously shows up in the literature regarding GED students. In his study of 199 GED students, King (2002) found that the primary barrier to participation in GED programs was related to family constraints. The subjects of King's study indicated that they had, "(a) lack of encouragement from family and friends, (b) would have to reduce time spent with family if they were to pursue the GED, (c) had difficulty arranging childcare, and (d) had other family problems that affected participation" (p. 154-155).

Another situational barrier with which many GED students are confronted relates to *financial* burdens. As noted above, Goodall (2009) found that many GED students have excessive financial burdens as a result of working menial jobs (p. 18). While these individuals may wish to pursue their GED, they may find it difficult to take time from work to move forth on this endeavor. In addition, while GED programs are often available at no cost to participants, there are often other financial obligations to which one must attend as a result of taking classes, such as paying for transportation and childcare.

Institutional barriers are another set of challenges with which GED students are often confronted. Institutional barriers can be viewed from three different perspectives: institutional discrimination, institutional red tape, and requirements of the welfare system as an institution and its effect on perceived access to GED program options.

With regards to *institutional discrimination*, Albertini (2009) suggests, "Factors such as institutional discrimination, sexism, and racism in school systems and the labor market reduce the percentage of women who are able to attain economic self-sufficiency" (p. 27). She suggests that as a result of institutional discrimination, many women in her study avoided contact with educational institutions, thereby resulting in either not pursuing or completing their adult education programs.

Institutional barriers must also be viewed from the issue of *institutional red tape*. Quigley (1998) found that learners often face institutional red tape, program fees, and scheduling inconveniences at their learning institutions (para. 6). When these issues are added together, the chances of dropping out of adult education programs increase.

Finally, one must look at institutional barriers faced by many GED students from outside the learning institutions. Welfare recipients, a population which may benefit greatly from increased opportunities for adult education, are often faced with a catch-22. For example, in an ethnographic study of homeless women and popular education, Rivera (2003) found,

> In 1995, although 50% of welfare recipients in Massachusetts had less than a high school education, under the state's two-year welfare reform "work-first" policy, welfare recipients were mandated to find employment as soon as possible.

Welfare recipients who had been participating in adult … education programs
were forced to forgo their education for the sake of low-paying jobs (p. 45).

Policies such as those found in the Massachusetts welfare system continue to create a cycle of poverty. If individuals are unable to pursue education that will help them better themselves, they will be stuck in low paying jobs and more likely continue to rely upon the welfare system.

Dispositional barriers. Often overlooked but equally important, *dispositional barriers* must be considered when looking at barriers GED students (and potential students) face. While each learner presents to a situation with unique attitudes and personal values, Quigley (1998) found that there are commonalities among adult learners. He found, "Our learners often carry into our programs mixed emotions, many of which are born out of past schooling experiences" (para. 8). Wikelund, Reder, & Hart-Landsberg (1992) go on to explain that undereducated adult participants "tend to perceive education programs … as extensions or continuations of the school programs in which they have previously experienced failure, loss of self-esteem, and lack of responsiveness to their personal needs and goals" (p. 4).

Academic skills barriers. Finally, many GED students, particularly those who have been out of school for an extended period of time, face challenging obstacles which relate to their academic skills. In a discussion of adult learners and information literacy, Badke (2008) noted, "Many of them can scarcely remember how they did academic tasks the last time they went to school, and just getting back into the swing of things again is a battle" (p. 48). In addition, while few students today lack at least minimal computer skills, there have been big changes in the world of technology in the past decade. Badke (2008) writes, "For those who last studied in the 1980s or early '90s, technology was scarcely on their researching radar. Now you can't accomplish much with informational research unless you use a computer" (p. 48). While Badke's observations were primarily centered on adult students conducting research in a college setting, there are lessons to be learned for GED students and their computer literacy as well. While GED students may not be required to use computers to prepare for the GED, a simple knowledge of computers and navigating online library catalogs can certainly be of benefit.

Upon reviewing the information discussed above, it is apparent that the barriers GED students face are many. As educators and other information service providers begin to break down the situational, institutional, dispositional, and academic skills barriers, one can expect the number of students enrolling in GED programs and passing the exams to increase.

Problem solutions. GED program administrators, educators, facilitators and information service providers will know they have been successful when each person desiring to earn a GED actually (1) enrolls in a GED program, (2) remains in the GED program until their testing is complete, and most importantly (3) successfully passes the GED battery of tests and earns the GED credential. As noted above, according to 2000 U.S. Census data, more than 39 million adults did not complete a high school education, were not enrolled in an education program, and did not have a high school diploma (General Educational Development Testing Service, 2009, p. 5-6). If the measure of success is reaching the 39 million plus individuals without a high school diploma or equivalency and working with them to pass the GED exams, then there is a great amount of work ahead for GED programs.

Methodology

In order to develop a better understanding of GED students as an information user group, a pool of 15 students currently attending the CPCC Harris Campus GED program were interviewed. Approximately 100 to 125 students are enrolled in the CPCC Harris Campus GED program at any given time (J. Wicker, personal communication, October 29, 2009). Therefore, the respondent pool for this study represents between 12 to 15 percent of the current GED student population at the CPCC Harris Campus. The students participating in this research study were selected for participation by their GED instructor.

Each individual participated in a short (10 to 15 minute) one-on-one interview with the researcher and was asked a structured set of questions. Through a statement of informed consent, interviewees were assured of their anonymity, reminded that their participation was voluntary, that they could withdraw from participation at any time, and were provided with contact information of both the researcher and the Office of Planning and Research at CPCC. The interview methodology was chosen for this study in order to encourage participants to elaborate upon their answers with the hopes of gaining a richer set of data than may have been gathered in a paper-pencil survey. As an added incentive to participate, respondents were given $5.00 gift cards to a local fast food restaurant at the conclusion of the interview.

Interview responses for each respondent were collected on individual recording sheets. These responses were then consolidated onto an overall recording sheet. Answers were categorized for each question based upon commonalities among responses. The findings are presented below.

Findings

In keeping with Taylor's (1991) model of information use environments, the findings of this research study are organized under the same headings as were presented above in the literature review: (1) Who are GED students?, (2) Settings where information seeking and exchange take place, (3) Social networks of GED students, (4) Problems with lead to information needs, (5) Barriers to information, and (6) Problem solutions. These findings are presented below.

Who are GED students? The demographic information gathered from the participants is shown below.

- Age – Ages of respondents ranged from 17 to 62 years. The median age was 27 years and the average age among respondents was 33 years. Broken down by range, ages are distributed as follows:
    - Age 16 – 24: 47 percent of respondents (n=7)
    - Age 25 – 40: 20 percent of respondents (n=3)
    - Age 41 and up: 33 percent of respondents (n=5)

- Number of years since leaving high school – Respondents reported a wide range of years since leaving high school, ranging from 6 months to 45 years. The median number of years since leaving high school was 10 years and the average number of years since leaving high school was 16 years.

- Race/Ethnicity - Interviewees were asked to self-report their race/ethnicity. Among those interviewed, 7 percent were white (n=1), 67 percent were black (n=10), 13 percent were Hispanic (n=2), and 13 percent were Asian (n=2).

- Gender – Among the GED students interviewed, 60 percent (n=9) of the respondents were female and 40 percent (n=6) were male.

Settings where information seeking and exchange takes place. Central Piedmont Community College, part of the North Carolina network of community colleges, offers the GED program at each of its six campuses across the Charlotte region as well as in one community location in the area. At the CPCC Harris Campus, GED students prepare for the GED exams by engaging in a lab environment to complete their GED studies. Students are required to drop in during open lab hours, study independently within the lab using handouts, books, and computer based programs, and are required to keep a log of their hours. Both a GED instructor and lab facilitator are present within the lab to assess students, develop individual learning plans, assist students throughout the entire study/preparation phase, and administer the GED exams when they feel the students are ready.

In an attempt to better understand how information exchanges take place for students as they work through the GED program, a series of three questions were asked. These questions and the responses are shown below.

Question: How did you first learn about the GED program?		
Source of Information	**Percentage of Respondents**	**Number of Respondents**
Family / Friend	40%	6
Paid Advertising (TV, Radio, Mailing)	40%	6
Other	20%	3

Question: When you have questions about the GED program, where do you go (or who do you ask) to find the answers? *(Note: Respondents were able to cite more than one source for information.)*		
Source of Information	**Percentage of Respondents**	**Number of Respondents**
GED Instructor	67%	10
Campus Information Desk	40%	6
Family / Friends	27%	4
Computer / Internet	13%	2
CPCC Library	7%	1

Question: When you need help or information to prepare for the GED tests, where do you go (or who do you ask) to find the answers? *(Note: Respondents were able to cite more than one source for information.)*		
Source of Information	**Percentage of Respondents**	**Number of Respondents**
GED Instructor	73%	11
Computer / Internet	33%	5
Books	33%	5
Campus Tutors	13%	2
Self Teach (Figure it out independently)	13%	2
Friends / Family	7%	1

Social networks of GED students. While not specifically addressed in the interview, based upon responses provided in the previous section, it becomes apparent that while the majority of information exchanges for GED students (as it pertains to their preparation for the GED battery of exams) occur in the lab/classroom, the social networks of these students tend to exist primarily outside of the GED programs. When looking back at the data, one can see that family and friends are important sources of information, while fellow classmates were not mentioned by a single interview respondent.

Problems (which lead to information needs). Reasons cited by interview respondents for enrolling in the GED program mirror, to a large degree, data reported in the literature. The following reasons were cited by research study participants.

Question: Why did you decide to enroll in a GED program? *(Note: Respondents were able to cite more than one reason for enrolling.)*		
Reason for Enrolling in Program	**Percentage of Respondents**	**Number of Respondents**
Educational (Interested in attending two-year college, technical program, or four-year university)	73%	11
Employment (Better job opportunities)	60%	9
Personal Reasons (Personal satisfaction, positive role model for others in family)	13%	2
Preferred GED over High School (GED quicker, fewer distractions than high school)	20%	3

Barriers to information. As discussed above in the literature review, the barriers with which many GED students are confronted are many. In an attempt to discover barriers faced by GED students, the following question was asked of interviewees, "What are some challenges you have faced in completing your GED?" The responses were categorized and results are presented below.

Question: What are some challenges you have faced in completing your GED? *(Note: Respondents were able to cite more than one challenge.)*		
Challenge	**Percentage of Respondents**	**Number of Respondents**
Academic Skills Barriers		
• Subject Specific Challenges (specifically math, reading, and writing)	60%	9
• Lack of Computer Expertise	13%	2
Situational Barriers		
• Work Schedule	33%	5
• Child Care Responsibilities	33%	5
• Financial (due to time away from work or job search)	33%	5
• Transportation	20%	3

Problem solutions. When each person desiring to earn a GED actually enrolls in a GED program, remains in the program throughout the entire preparation and testing take phase, and successfully passes the GED battery of exams, then GED program administrators, educators, facilitators and information service providers can begin to call themselves successful. However, while intentions are good, students enrolling in GED programs do not always complete their programs and earn the GED credential. Of those interviewed for this study, 27 percent (n=4) of the students indicated they had enrolled in GED programs multiple times throughout their adult lives, reinforcing the fact that retention of students continues to be an issue for GED programs.

CPCC Libraries, available to all registered GED students, are poised to be part of the problem solution. Located on all CPCC campuses throughout the Charlotte region, the libraries are stocked with a wide array of GED support materials including GED preparation books, basic skills books, e-books, and online GED practice materials. However, despite the wide array of resources available, the libraries often go unused by this student population. The data presented below illustrate the low usage rate of the libraries by GED students at the CPCC Harris Campus.

Question: Have you ever considered the CPCC library as a place to go for information which might help you?		
Response	**Percentage of Respondents**	**Number of Respondents**
Yes	20%	3
No – Never thought of it	60%	9
Considered, but never used	20%	3

Discussion of Findings

Overall, the findings of this interview research study mirror what has been reported in the literature, with a few minor exceptions. This discussion of the findings is organized into the same categories as are found in the literature review and findings sections: (1) Who are GED students?, (2) Settings where information seeking and exchange take place, (3) Social networks

of GED students, (4) Problems (which lead to information needs), (5) Barriers to information, and (6) Problem solutions.

Who are GED students? As noted above, the average age of GED students at CPCC is 33 years and the median age is 27 years. Broken down by age range, 47 percent of students fall between the ages of 16-24 while 53 percent are ages 25 and above. In addition, the median number of years since leaving high school for GED students at CPCC is 10 years, with the average number of years since leaving high school was 16 years.

These numbers are noteworthy, alerting CPCC educators and information service providers that they are presented with a slightly older population than has been discussed in the literature. As noted above, Badke (2008) mentioned, "Many of them (adult learners age 25 and older) can scarcely remember how they did academic tasks the last time they went to school, and just getting back into the swing of things again is a battle" (p. 48). This suggests, then, that GED students, along with other adult learners, may need a bit of hand holding to get into the groove of learning, studying, and test taking. These learners may require additional support as they learn to navigate campus libraries, the online catalog, and useful online resources.

While there are fairly significant variances between the race/ethnicity and gender breakdown of CPCC GED students and that which has been reported in the literature, the implications of these differences as they relate to providing services to this student population were not addressed in this study.

Settings where information seeking and exchange take place. At CPCC as well as in other GED programs throughout the country, students seek the majority of information (as it relates to the GED program and GED subject specific information) from their GED instructors. Since GED instructors at CPCC present themselves in a facilitating / coaching role rather than working in a position to grade (as found in a traditional classroom), perhaps this allows students to develop a trust relationship with these educators, thereby viewing them as sources of support. This insight has potential implications for librarians and other information service providers as well. If GED students begin to view librarians as a secondary line of "coaches," people rooting for their success and ready to facilitate the exchange of information, then GED students may begin to develop a trust relationship with librarians as well. This may better enable librarians to get the right types of information into the hands of GED students.

Of further note, among CPCC GED students, 33 percent reported that they use the computer to find help or information to prepare for the GED tests. Additionally, 33 percent indicated they use books to help them find necessary information for their studies. This information is also relevant to CPCC Libraries, suggesting that the resources they are able to provide (including books and online study/prep materials) may indeed be desirable for many GED students.

Social networks. In reviewing the data about how students learned about the GED program and how they find answers to their questions, family and friends were found to be a common source for information. The data collected for this study mirrors what is reflected in current literature. Librarians must begin to understand that they should not expect students to automatically enter a library when seeking information. First, these individuals will seek information from friends, families, and others in their social networks. When these sources of information come up short, perhaps GED students will consider turning to their librarians for

assistance. Librarians should consider taking a proactive stance with GED students, presenting themselves as team members in these students' educational journeys and informing them early on about what the library has to offer.

Problems (which lead to information needs). When students were questioned why they wished to enroll in the GED program, of significant note were the two most frequent responses -- educational reasons (interest in attending a two-year college, technical program, or four-year university) (cited by 73 percent of respondents) and employment reasons (better job opportunities) (cited by 60 percent of respondents).   Individuals were allowed to cite more than one reason for pursuing their GED. These numbers are slightly higher than those noted in the literature. One may speculate that the higher interest in pursuing educational opportunities may stem from the fact that the CPCC GED program is housed in a community college. The GED program may be viewed as a logical step needed before entering into a college-credit program at CPCC. One may further speculate that the elevated number of GED candidates hoping to have access to better job opportunities may be due to the current economic recession in the United States. Armed with this information, colleges and libraries must take this opportunity to offer information about pursuing high education, financial aid, and links to useful job and career information to these students.

Barriers to information. With regards to challenges CPCC GED students reported in completing their GED, responses can be categorized into *situational barriers* and *academic skills barriers. Situational barriers* reported by students related primarily to work schedules, finances (due to time away from work or job search to participate in GED studies), and child care responsibilities. GED programs and information providers (including librarians) must keep in mind the difficult situations with which their students present and continue to offer flexible hours and no- or low-cost services. Many institutions across the country are also developing child care centers within their programs in order to ensure care for children while their parents or care givers are studying.

Academic barriers were frequently mentioned by respondents in this research study. Sixty percent of students interviewed noted subject specific challenges in passing the GED, most notably math. While several of these students indicated they use tutors for assistance, these same individuals mentioned that the tutors have limited hours and there is never a guarantee of getting the same tutor from week to week. Yet another barrier mentioned by 13 percent of those interviewed was a lack of computer expertise.

Again, this information has implications for CPCC Libraries. In addition to providing basic GED preparatory materials, libraries must consider adding an increased amount of basic subject specific materials, particularly in math, reading, and writing, to their collections. Further, in order to address the needs of those who lack computer expertise, library staff must be willing to offer individualized support and basic written instruction to these students on using the computer, navigating the library website, utilizing the online library catalog, and accessing online resources available to them through the library.

Though frequently discussed in the literature, neither *institutional* nor *dispositional* barriers were mentioned by any of those interviewed for this study. The lack of mention of *institutional barriers* may be due to the concerted effort by CPCC to reduce institutional red tape by streamlining the process for enrolling in the GED program. For example, at the CPCC Harris Campus, students are able to enter the GED lab, complete enrollment paperwork, take a GED

pre-assessment placement test, and begin studying for the exams all in the same day and in the same location. Further, through the facilitative role of GED lab instructors and individually tailored plans for each individual, students pursuing their GEDs may be making forward progress in overcoming any *dispositional barriers* they may have previously faced.

Problem solutions. Of note in the research study findings, 27 percent of the GED students interviewed have dropped in and out of GED programs throughout their adult lives. Offering support and services to students beyond the classroom may begin to make a difference in these individuals' willingness and/or preparedness to complete the GED program and successfully pass the GED exams.

As mentioned above, CPCC Libraries are poised to be part of the problem solution and have a great deal to offer GED students. However, noting that only 20 percent of interview respondents have ever considered using the CPCC libraries, it is apparent that library services largely go unused by these students. In order to truly be part of the solution, libraries must market themselves to GED students. Further, when these students do, in fact, enter the doorways of the library, library staff must make themselves available to provide basic oral and written instruction on how to successfully use the services of the library.

Conclusions and Recommendations

In conclusion, to develop successful information services for GED students, information service providers must first attempt to understand the characteristics and information needs of these individuals and the barriers with which they are often confronted. Rather than opt for the "build it and they will come" approach to developing information services for GED students, program administrators, educators, facilitators, and other information service providers must tailor their services and products according to the stated needs and preferred information seeking methods of their patrons.

In order to begin breaking down the many barriers confronted by GED students, efforts must be made to accommodate diverse scheduling needs of students beyond traditional office hours. Further, adult education providers need to develop programs that are sensitive to the needs of GED participants and their family lives. This should include offering flexible hours and child care services for students during both traditional and nontraditional hours of education. Any future GED programs should keep in mind easy accessibility to public transportation when selecting a location to house a program.

Educators and other information providers must approach educational opportunities with students by serving in a coaching or facilitative role rather than as authority figures. This supportive relationship may enhance these students' willingness to participate in programs and seek information, thereby improving their chances for success. Considering many GED students are adult learners over the age of 25, educators and librarians must be willing to give a little extra support to these individuals to help them get into the routine of learning again and be prepared to provide both written and personalized oral instruction to these students. Librarians must consider making an extra effort to market the library to these students and welcome them into the library environment. Libraries may also wish to consider establishing a GED liaison position, someone who takes an active role in ensuring GED students and their needs are addressed within the library system. This liaison may then become the friendly face GED students seek when entering the library and a trusted source for information.

Finally, one must remember that the GED is a stepping stone for many individuals in their journeys to advance their education or pursue better job opportunities. Entities within educational institutions will better serve these students by linking them to information which may help them take the next steps in achieving their personal goals beyond the GED. Only by breaking down the barriers faced by students and better understanding the unique needs and characteristics of adult learners, will GED programs and information service providers begin to better serve these students who all desire to better themselves by earning the GED credential.

Information Products Developed in Response to Research Findings

In response to the findings presented in this research study, two information products have been developed specifically for GED students at Central Piedmont Community College. The first product is an informational flier highlighting the library and what it has to offer GED students. The second product is a basic "how to" instructional guide for accessing the library and its services. The rationale behind the development of each of these products and further details about the products themselves are discussed below.

First, an informational flier was developed, tailored specifically for GED students. The purpose of this flier is to alert students to some of the information and services CPCC Libraries have to offer including, (1) books and videos (subject specific, GED prep, and leisure materials), (2) subscription based online GED preparation materials, and (3) computer and Internet access. Based upon the study findings that 33 percent of students interviewed cited computers and the Internet as a source of information and an additional 33 percent cited books, the library can be viewed as a valuable source of information for this student population. However, when these same students were asked if they have ever considered the library as a place to go for information which might help them prepare for the exams, only 20 percent of the respondents said yes. It is hoped that the GED lab instructors and facilitators at each GED lab at CPCC will distribute these fliers to new students as they enroll in the program, thereby getting the word out that CPCC branch libraries welcome these students and have materials and services available which may be of value.

The second information product, a basic "how to" instructional guide for accessing the library, was developed in response to several findings from this research study. This guide, "Accessing Your Library Step-by-Step" includes information on (1) creating a CPCC username and password (required to use campus computers, request library materials, and access library databases), (2) navigating the online library catalog, (3) accessing Learning Express Library (an online resource which includes GED preparation materials), and (4) accessing librarian tested web sites (including information on education, financial aid, and jobs/career information).

As noted above, 33 percent of those interviewed for this study indicated the computer and Internet is a source of information to help prepare for the GED exams. An additional 33 percent cited books as a source of information. While the library has available computers and Internet access, useful books, and online study materials, students must first learn to navigate the library and its online resources. This basic guide provides step-by-step instructions for using the library and is illustrated with screen shot images students will encounter during each step of their experience. This guidebook was developed as a resource for all GED students. However, considering 53 percent of the GED students interviewed at the CPCC Harris Campus were age 25 and older and 13 percent cited a lack of computer expertise, this guide presents information

beginning at a very basic level and purposefully makes an effort to eliminate technical jargon in order to be more usable for adult learners who may be less familiar with navigating libraries online than many younger learners. While many students enrolled in college credit courses at CPCC participate in library orientations and information literacy sessions, this is not a viable option for GED students at this time. Given the fact that these students prepare for their exams in drop-in labs based on their own scheduling needs, GED students may gain greater benefit from one-on-one interactions with library staff and the written guidebook discussed above.

In response to the research data indicating that 73 percent of those interviewed enrolled in the GED program in order to pursue advanced education (college or technical programs) and another 60 percent cited pursuing the GED for better employment opportunities, a section was included in the guidebook which directs users to librarian tested websites. The recommended websites include information on education, financial aid, and jobs and career opportunities. With the information presented in the recommended websites, GED students may increase their opportunities for future success.

Reflections

As with any project, there have been many lessons learned. The first lesson relates to sample selection. In this study, 15 students were selected by their GED lab instructor to participate in individual interviews with the researcher. While the data these students provided were very rich and informative, in order to more accurately profile GED students and their information needs and information seeking behavior, a larger randomly selected sample is recommended in future studies. Also, the students interviewed were all participants at one CPCC branch campus. Again, if a larger study were to be undertaken, it is recommended that students across all campuses be selected to participate.

The interview methodology was well chosen for this study. Though asked a specific set of questions during each interview, students were able to relax, tell their stories, and share their challenges in an unhurried setting. With this rich set of information, the researcher was then able to develop information products specifically addressing stated needs.

The research was undertaken with the complete support of the CPCC Harris Campus GED Lab Instructor. This support made it possible to gain a willing pool of students to participate in the research study. In addition, before undertaking the data collection phase, the researcher was required to seek permission from the CPCC Research on Human Subjects Council. When permission was granted from both this council and the Vice President of Learning at CPCC, emails were sent by a council representative to all GED staff and faculty asking for full cooperation with the research study. Therefore, in pursuing future studies, it is recommended that the researcher develop a supportive relationship with partnering entities, a great value to the research process.

Further, the close proximity of the Harris Campus GED lab to the library was also an asset to the research process. (Both the lab and the library are in the same building, same floor, and just steps away from each other.) Students were able to visit the library for interviews during their study breaks. It is important to make every effort necessary to ensure participation by subjects is as convenient as possible.

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