

## **ABSTRACT**

GARDNER, GUY WINSTEAD. The Relationship of Higher Education Programs on Recidivism Delivered through a North Carolina Community College in a Correctional Setting. (under the direction of George B. Vaughan.)

The purpose of the research has been to examine the relationship between the delivery of two post-secondary educational programs on recidivism in a correctional environment. The research involved the examination of the population of participants in two diploma programs, including graduates, and whether return to prison transpired. In regard to the former, time until reincarceration was considered concerning the statistical analyses of the data associated with the hypotheses proposed involved with the presumptive effect of the educational treatment. The research questions regarded an analysis of statistical differences between recidivism percentages and participation in these programs. The results indicated that compared with the overall recidivism rate of 65%, 33% of non-completers and 15% of graduates returned to prison. It was concluded that both non-completers and graduates of the programs were less likely than the general inmate population to recidivate.

**THE RELATIONSHIP OF HIGHER EDUCATION  
PROGRAMS ON RECIDIVISM DELIVERED  
THROUGH A NORTH CAROLINA COMMUNITY  
COLLEGE IN A CORRECTIONAL SETTING**

by  
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## **DEDICATION**

This project is dedicated to my wife, Blossom White Gardner, as her persistence in motivating me to complete this process was inspirational.

I am particularly indebted to my committee chair of the last three years,. George B. Vaughan. Taking over the helm upon the retirement of my original chair, George A. Baker, Dr. Vaughan's strong encouragement was a major factor in the success of this study. I truly appreciate the effort of my committee, including Diane Chapman, Anna Wilson, and Robert Serow.

Invaluable assistance from graphic artists George and Kim Buchanan was also most appreciated. Also Mindy C. Scott's effort with organizing the reference list was quite significant.

## **BIOGRAPHY**

Guy Winstead Gardner was born in Charlotte, North Carolina on March 24, 1949. Raised in Salisbury, North Carolina, Dr. Gardner graduated from high school in 1967 and received his undergraduate degree from the University of North Carolina in 1971. Working in adult education at Piedmont Community College in Roxboro, North Carolina since 1978, he entered graduate school at North Carolina State University in 1990, earning a masters degree in Education in 1996. He currently serves as Director/Instructor in the curriculum Corrections Education department at Piedmont Community College. Dr. Gardner is married and lives on a farm in the Olive Hill Community in Person County, North Carolina.

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# Chapter 1

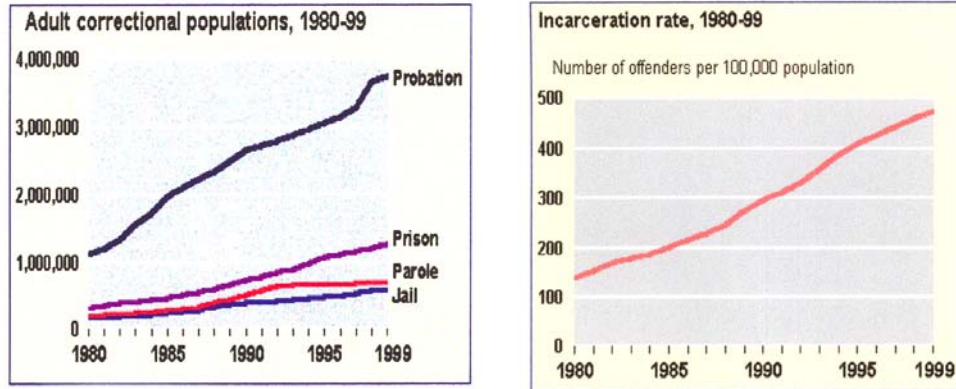
## Introduction

The state of North Carolina, along with the rest of the nation, is experiencing a tremendous growth in its prison population. In his 1995 state of the state address, Governor James Hunt recommended a program to add 4,000 prison beds through new construction. Nationally the number of inmates from 1990 to 2002 grew by 200%. The United States Sentencing Commission estimates the prison population will double in the next decade. If the state of North Carolina is forced to double the size of its inmate housing capability, the costs would be astronomical. Costs for new prisons to account for this demand would exceed \$300 million, not including the approximate \$28,000 per inmate yearly for the costs of maintaining, staffing, and operating these additional beds and spaces (North Carolina Department of Prisons, 2004).

At the outset of the last decade it was predicted that 4 million offenders would be imprisoned, on probation, or on parole in the U.S. by the year 2000 (Di Iulio, 1991). The continuing war on drugs and the “three strikes and out” bill pushed by President William Clinton and enthusiastically adopted by many states have proven this to be an underestimation. According to the Bureau of Justice, Corrections Statistics (2001), 6.3 million people were on probation, in prison, or on parole at year-end 1999, or 3.1% of all U.S. adult residents. State and Federal prison authorities had under their jurisdiction 1.4 million inmates at year-end 1999 with 1.3 million physically in their custody; local jails held or supervised 687,973 individuals awaiting trial or serving a sentence at mid-year 1999. About 82,000 were individuals serving their sentence in the community.

Fig.1

## Custody Statistics



Thus, it comes as no surprise that, in spite of more prisons being built, overcrowding will likely remain the norm. As a consequence, the ability of prison systems to manage conditions in a more humane and cost-effective manner is being seriously jeopardized (Austin, 1995). Two strategies have been suggested which may help alleviate the stresses in this matter. First, medium and maximum security institutions should be reserved only for those offenders identified as being among the highest risk to re-offend. Lower-risk inmates should be transferred to minimum security prison placements, or more preferably, to community-based correctional facilities. Secondly, at sentencing, lower-risk offenders can be diverted to probation, thereby avoiding the use of prison altogether (Gendreau, Goggin, & Little, 1997).

## **Statement of the Problem**

It is acknowledged that crime is a terrible problem, that one of the functions of prisons should be to minimize crime, and that released prisoners should be able to live productively in the community after release. However, when these common-sense ideas have been applied, real issues have intervened to deter public safety systems from implementing the original intention stated above (Gehring, 2000). Research has shown that educational programs in correctional settings could positively impact future return to prison on the part of the participants. In this regard we must ask: What are the chances that someone will not commit another crime if no educational treatment is realized? Realistically, it is very difficult for an individual to obtain and keep a job in our global, technological society if appropriate educational opportunities are not taken advantage of on the part of capable inmates. When a criminal record and little work experience are added, with the negative social experience of prison, one can begin to see the enormous amount of barriers, such as technological advances concerning the job market and prejudicial attitudes towards past criminal behavior, which ex-offenders must overcome. Each time a barrier is removed, it is less difficult for this individual to become a productive citizen (Gendreau & Cavan, 1990).

With more than 600,000 prisoners scheduled for release nationwide this year, new attention is being focused on how educational opportunities and job training keep ex-convicts from returning to prison. Not everyone sees a link between prisoner training and the rate at which released inmates commit future crimes and recidivism (“N.C. Working”, 2004).

North Carolina will release more than 23,000 inmates in 2004, with most being replaced by new offenders. The director of South Carolina's Department of Corrections observes that the biggest myth in corrections is that anybody can be rehabilitated. Myth or not, nearly every state is seeking effective programs to better equip inmates to find and keep jobs once their time is served. In 2002, 1,900 inmates a month were working on obtaining a GED or an associate's degree; another 1,900 were studying full-time to earn a certificate or diploma degree ("N.C. Working", 2004)

Correctional education was founded on the belief that rehabilitation cannot occur without changing the behavior of the offender. Today, the Department of Education maintains that this type of educational endeavor should strive to upgrade skills to enhance opportunities for employment and to fulfill individual potential (Kent, 2001). Because of their vocational curricula and community service orientation, community colleges are in an ideal position to educate prison inmates (United States Department of Education, 1996).

Despite the concern of some regarding tax dollars spent on educating inmates, investing resources can be considered in terms of possible increased public safety, enhanced employment, and a reduction in recidivism. What is proposed to be addressed in this study is the influence of Piedmont Community College's vocational curriculum programs within the Welding Technology and Heating and Air Technology at the Caswell Correctional Center in Yanceyville, North Carolina, on recidivism.

The problem of recidivism is intended to be examined within the context of program completers and non-completers, then compared with the overall recidivism rate

in North Carolina state prison facilities. So, the problem to be examined involves the impact of educational programs on the future success of released inmates: Does post-secondary educational intervention indeed have a positive influence regarding recidivism on the post-release social behavior of student-inmates?

### **Purpose**

As with other historic attempts to include non-traditional groups within higher education, such as the Huskins Bill high school students, prison programs in this regard are marked with controversy (Gehring, 2000). The earliest higher education programs for inmates were able to develop largely outside of public scrutiny because of their small number and size; however, the proliferation of programs combined with increased negative public attitudes toward criminal offenders, a pessimistic awareness of these programs and the current downward trend in the economy, have resulted in claims that prisoners are receiving a privilege they do not deserve, at the expense of taxpayers (Williford, 1994).

Educational practice has always been a social matter shaped by debate in the larger society about the wisdom and necessity of educating members of a given social category, the type of education appropriate for those members, and its potential impact on society (Williford, 1994). Ideally, educational programs respond to normative characteristics of the target learner group and the desired learning outcome (Kasworm, 1983). A residual outcome of the learning experience has been debated over the years: Does educational treatment while incarcerated have an effect on reduced recidivism? Gordon and Arbuthnot (1987) note that prison education could lead in two ways to a

reduction in criminal behavior: 1) better post-release employment possibilities due to increased skill level, and 2) fewer disciplinary problems upon release, possibly because of increased self-esteem and demonstrated achievement while enrolled in the programs.

This study is important in many ways since the focus is on the impact of education on recidivism and employment. A study such as this can be seen as important to an array of stakeholders: educators, education, policymakers, corrections officials, lawmakers, and citizens at large. Knowing more about the relationship of educational opportunities and recidivism can result in better decisions, better investments, and increased support for strategic action in this regard throughout North Carolina and beyond.

The planning process for the study concerning post-secondary educational delivery within the prison environment revealed the inherent difficulties to be encountered in carrying out such investigations. Identifying problems such as gaining access to data concerning program participants as well as non-participants through the appropriate agencies can serve to enlighten future researchers concerning possible methods of improving and streamlining process of data acquisition to ensure accuracy and consistency in this realm. If appropriately designed and delivered, post-secondary education has the capability to address significantly the purpose of this study, which is to examine Piedmont Community College's diploma programs in a correctional setting.

### **Conceptual Framework**

The problem of concern here is the issue of educational intervention and its postulated positive impact on the inmate-student and society in general. The purpose of

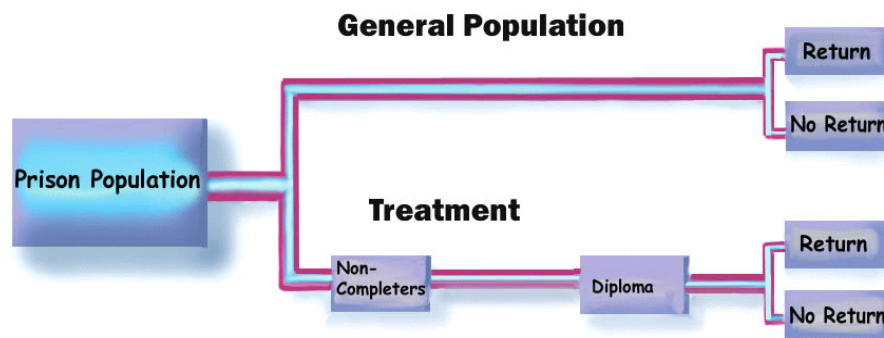
this study is to consider and analyze the concept of post-secondary educational intervention and recidivism for the first time within the Corrections Education Division of Piedmont Community College. The researcher's lens will be focused upon two programs at the Caswell Correctional Center described herein. The Caswell facility is a medium security unit and its two programs of interest, as noted, are the Welding and HVAC Technology curriculum programs, both one-year in duration, as delivered by Piedmont Community College.

What is intended to be observed concerns the effect of educational opportunities or subsequent behavior on the inmates' time out of prison. This procedure will be described in detail within Chapter 3.

It is recognized that all studies that propose any kind of generalization are expected to consist of information that permits readers to consider the research and make an intelligent judgment whether to accept the interpretation of the evidence presented (Gehring, 2000).

Fig.2

### General Population and Treatment





Krathwohl (1998) proposes a Chain of Reasoning model incorporating a sequentially and logically constructed set of arguments that supply adequate information to the reader concerning the research being conducted. In this model, the research questions and the hypotheses are incorporated into the study design, resulting in the choices of who (subjects), where (situation), why (treatment), what (observation or measures), how (basis for perceiving changes or attributes), and when (procedure). These choices then are used to determine methods of data collection to show specific relationships being studied. Finally, the model calls for these data to be analyzed, and a conclusion is drawn representing the most salient interpretation of the data.

Ross and Fabiano (1985) began their book, *Time To Think* with these words: “There is very little evidence that crime prevention programs prevent crime, that rehabilitation efforts rehabilitate, that deterrence deters, that corrections corrects” (p.1). They then quoted several researchers who reported findings parallel to Martinson’s in 1974 regarding “almost nothing works” (p.2). The point of Ross and Fabiano’s work was that subsequent research has successfully identified attributes of programs proven to reduce criminality and recidivism. The results of these programs are available in *Time To Think* for review.

This study intends to build on previous research utilizing the following components of the Chain of Reasoning model: (1) links to previous studies, (2) explanation and theory, (3) research questions, (4) research design, (5) methodology and procedures, and (6) analyses of the data.

## **Student Selection Process**

The subjects to be considered in this study will be the population of those enrolled and subsequently released from 1991 until 2001. These data were collected through Piedmont Community College's Institutional Effectiveness Department and sent to the Human Subjects Division, Department of Education, Division of Prisons, in Raleigh, for analysis of return to prison.

For these programs students are chosen by the Educational Program Department at the facility from a list of candidates requesting placement in the programs. It follows that these students would inherently be considered motivated to succeed, as opposed to being what is referred to as "unit assigned" at other facilities. The Educational Program counselors screen to ensure that placement refers those with proper prior educational credentials, with a high school diploma or GED preferred.

This study intends to build on previous research utilizing the Chain of Reasoning model presented in the prior section Conceptual Framework. The components that make up this model are: (1) links to previous studies, (2) explanation and theory, (3) research questions and hypotheses, (4) research design, (5) methodology and procedures, and (6) analyses of the data.

### **Links to Previous Studies**

There have been problems of even defining the term "recidivism" and the pitfalls inherent in even attempting to do so (Gehring, 2000). In the "recidivism" entry in the 1996 Encyclopedia of American Prisons, Petersilia addressed these relevant concerns:

Despite the recognized importance of recidivism for criminal justice

policy and practice, it is difficult to measure because there is no uniformly accepted definition of the term... What has resulted is a research literature that contains vastly different conventions—different outcomes, different time periods, and different methodologies. Thus recidivism data reported in one study are seldom comparable to the data in another. (McShane & Williams, 1996, p.382).

This notwithstanding, education has been an integral component of correctional programming since Zebulon R. Brockway in 1912 proposed his theory of rehabilitation at the first Conference of the American Prison Association (Reagan & Stoughton, 1976). The early focus of educational programming was on religious instruction and assisting offenders to achieve spiritual enlightenment (Gerber & Fritch, 1983). It is interesting to note that the term “penitent,” time to think, linguistically evolves into “penitentiary” (Williford, 1994).

In the last ten years, the increasing focus on advancing offender education and life skills as a means of rehabilitation is a major factor associated with criminal behavior (Andrews & Bonta, 1994). This has stimulated researchers to conduct evaluations to examine whether correctional education programs are indeed associated with reduced recidivism. One of the earliest reviews of the research examining this question was published by Martinson (1974); see also Lipton, Martinson, & Wilks, (1975). After reviewing the research on the association between education and recidivism, Martinson concluded that there is not definitive evidence demonstrating that adult academic programming is related to reduced rates fo recidivism. Subsequent to the publication of

this review, a number of concerns were raised concerning the credibility of Martinson's conclusions. Two major points were raised in critique of the "nothing works" conclusion: 1) The interpretation of some research results were incorrect, and 2) the poor quality of the available evaluation research provided an insufficient basis upon which to draw an conclusions (Palmer, 1975).

### **Research Questions and Hypotheses**

The following research questions and accompanying hypotheses are proposed in order to learn about the relationship between the described diploma programs delivered through Piedmont Community College at the Caswell Correctional Facility and recidivism:

1. What are the demographic characteristics of the general male inmate population and participant population? This will be answered with descriptive statistics.
2. Is there a significant statistical difference between the recidivism percentage of non-completers of a diploma program and the recidivism rate overall in North Carolina state correctional facilities?

H 1 There is no significant statistical difference between the recidivism percentage of non-completers of a diploma program and the recidivism rate overall.

3. Is there a significant statistical difference between the recidivism percentage of completers of a diploma program and the recidivism rate overall in North Carolina state correctional facilities?

- H 2 There is no significant statistical difference between the recidivism percentage of completers of a diploma program and the recidivism rate overall.
4. Is there a significant statistical difference between the recidivism percentage of completers of a diploma program and the recidivism rate of the non-completers enrolled in these programs at the Caswell Correctional Center?
- H 3 There is no significant statistical difference between the recidivism percentage of completers of a diploma program and the recidivism rate of non-completers enrolled in these programs at the Caswell Correctional Center.

### **Definition of Terms**

The following is a list of terms that will have special definitions in this study:

- Completer – term used in this study to identify a student exhibiting successful academic attachment of a diploma in the programs described.
- Diploma – a one-year program completion award as recognized by the College and the State Board of Community Colleges.
- Goals – decreased recidivism rates on the part of those students participating in the education treatment.
- Jail – confinement in a local facility while pending trial, awaiting sentencing, serving a sentence that is usually less than one year, or awaiting transfer to other facilities after conviction.

- Non-completer (academic) – inmate/students taking part in the educational endeavor but not completing the requirement for either a certificate or diploma.
- Parole – community supervision after a period of incarceration.
- Prison – confinement in a state or federal correctional facility to serve a sentence of more than one year, although in some jurisdictions the length of sentence resulting in confinement is longer.
- Probation – court-ordered community supervision of convicted offenders by a probation agency. In many instances, the supervision requires adherence to specific rules of conduct while in the community.
- Quality education – This term is meant here to distinguish between programs implemented to fulfill federal and/or state guidelines requiring the education of both adult and juvenile offenders but which are rarely tested or evaluated for effectiveness between educational programs that have a documented success rate at both providing education that meets community standards and reducing recidivism.
- Recidivism – Part of the problem with recidivism research has been that each researcher defines it differently. If we define recidivism as conviction of another crime, do we look at the type of crime; is it committing a misdemeanor, a felony? Is recidivism committing a crime within six months, a year, three years, five years? Often, research defines recidivism as being incarcerated again. What was the reason for

incarceration? Was the individual arrested but later released because of error or insufficient evidence? Was the arrest due to parole violation or some other legality? (Beck, 2003) For the purpose of this study, recidivism shall simply refer to reincarceration of the individual.

- Requirements – educational attainment to fulfill obligations for completion of a certificate or diploma program.
- Theory – for the purposes of this study, the term will refer to a premise to account for data.

## **Chapter 2**

### **Review of the Literature**

This literature search focused on studies examining the effect of post-secondary education on recidivism. Since the purpose of this study is to examine Piedmont Community College's Heating and Air and Welding Technology diploma programs within the Corrections Education department and their postulated influence regarding recidivism, this narrow examination is deemed appropriate by the researcher.

Research relevant to this study will be considered under several broad headings. First, a brief history of the development of correctional education in general is presented as background information. Next, previous research concerning educational programs in prison facilities is discussed as it pertains to the present study. In addition, descriptions of specific successful programs in several facilities elsewhere in the United States will be presented as deemed relevant.

#### **Overview: Philosophical and Historical Roots**

Prison education programs have existed in America since the late 1700s with the programs focused initially on religious instruction. It was believed that rehabilitative efforts could be enhanced if the incarcerated offender sought spiritual enlightenment (Williford, 1994; Linden & Perry, 1983; Gerber & Fritsch, 1983).

Not until the 1930s did educational programs begin to play a primary role in the rehabilitative process and to receive broad acceptance for their potential positive effect on offenders (Jones, 1991). These programs focused primarily on academic and vocational education; by the 1960s, post-secondary programs began to be widely offered



in correctional settings. Today, prison education programs are indeed prevalent, but observers have questioned the impact of these programs on inmates, both during incarceration and after release (Gehring, 2000).

### **A New Century and New Approaches**

At the turn of the 20<sup>th</sup> century, as urban industrialization gave rise to the need for universal secondary education, prisons began to recognize the utility of vocational education. As usual, education programs were introduced into the prisons only after they were accepted and well-established in the community (Seashore, 1976). The earliest outside correspondence courses came from Columbia University, soon followed in the early 1920s by other, primarily land-grant, colleges. Other programs began to be developed by the individual prisons.

Thomas Mott Osborne, serving as chairman of the National Society of Penal Information, led a team of researchers that evaluated state and federal prisons nationwide on a number of criteria including education (Williford, 1994). In the earliest study the society reported that indeed the primary function of prison is of a punitive nature and, as such, it is not surprising that little or no attention was being paid to inmate education. The report indicated that there were, however, elementary classes in which illiterates received instruction in rudimentary English and math, but rarely anything of more substance. It concluded with the declaration that there was a total lack of intellectual stimulus in the American prison.

## Higher Education At Last

The first mention of “college-level” studies in prison originated with a correspondence course program, alluded to earlier, by Columbia University, offered to inmates at Sing Sing Prison in 1923. Levring Tyson, the director of the program, was a staunch advocate of the idea for those sufficiently prepared for such work, as he proved a visionary in this regard, noting that the courses offered mental relaxation and an incentive to work out a worthwhile future on the part of the participants after leaving prison (Roberts,1971). He was among the first to perceive that higher education in this environment was worthwhile alone for its effect on the inmate’s future and the experience’s molding influence would inherently consist of much value. Interestingly to me as an educator in this arena, Tyson noted a factor about which prison educators still complain seventy years later--that the chief objection concerns interruptions due to transfer and discharge.

At the Rockview (Pennsylvania) Prison in 1924, we first find evidence of what probably was the initial contact between inmates and college faculty (Kunen, 1995). At this facility the educational work, supervised by professors at Penn State, formerly State College, covered both remedial and postsecondary endeavors. Because there is no indication that these latter courses were accredited and because the State of Pennsylvania’s archives do not record these experiences, the evidence is that this early articulation between college and prison was, at best, ad hoc in nature.

At the Ohio Penitentiary in 1924, 200 prisoners were documented as enrolled in correspondence courses concerning such studies as poultry raising, advertising, and

commercial art (Williford, 1994). And it is here, in that year, that we may have for the first time a linkage between postsecondary education and recidivism, for it was reported that a survey of convicts completing these courses revealed a lower recidivism rate than non-participants after release from prison.

### **Coast to Coast**

There were, of course, significant differences between southern and northern states, as well as eastern and western states. California continued to lead the way with the most extensive prison education programs in the country. In 1928, San Quentin Prison reported that in addition to those inmates enrolled in basic literacy, grade school, and high school studies, there were 438 prisoners enrolled in University of California Extension Division Courses (Garrett & MacCormick, 1929). It was further revealed that these students had averaged higher academic performance than “traditional” students taking the same courses. In Illinois, Iowa, Kansas, Massachusetts, Minnesota, New Jersey, New York, Pennsylvania, and Wisconsin, inmates were enrolled in extension courses, primarily from their land-grant colleges and state education agencies. At Clinton Prison in New York, inmate instructors participated in weekly Normal School training sessions offered by the civilian head teacher in order to be certified by the State Board of Regents as elementary school teachers.

Although inmate students could likely have profited from increased postsecondary education at this time, this notion in the late 1920s and early 1930s was not well-received. Echoing the sentiments of Warden Lynds of Auburn Prison 100 years earlier that, according to de Tocqueville, alluded to prisoners’ difficulty in perceiving

ideas (Bradley, 1945), the New York Commission to Study Education in Prisons and the “Annual Report of the Commissioner of Corrections of the Commonwealth of Massachusetts, 1936,” questioned the educability of most prisoners. The Massachusetts report listed the IQs of inmates at Concord Reformatory as: Above average - 3.4%; Average - 7.2%; Low average - 8.4%; Inferior - 31.3%; Borderline defective - 28.2% (Williford, 1994). With almost 50 percent of the prison’s population’s intelligence reported between “Borderline defective” and “Imbecile,” it is little wonder that postsecondary education was not high on the list of priorities for prison officials.

During the Second World War scant attention was paid to prison education. However, by the conclusion of the war, and with the subsequent benefits of the G.I. Bill, higher education in America underwent an unprecedented transformation (Reagan & Stoughton, 1976). Upon reviewing this situation, it is apparent that educational opportunities for prisoners became acceptable only as higher education became the norm for the masses. The college degree, reserved for the elite from colonial times to the 1940s (Goodchild & Wechsler, 1989), would, in postwar years, rapidly become as common as the high school diploma of only a few years previous. In large part this was the result of the impact of state colleges and universities regarding their continuing education divisions and the developing community colleges across the land. So, within this context, prison higher education took root.

### **Educational Support Programs At Last**

With lack of funding a persistent problem, the postwar period into the 1950s witnessed slow and sporadic development in prison education. And by 1967, only a

dozen postsecondary college programs were operating on a regular basis in the nation's state and federal prisons (Williford, 1994), further underscoring the significance of the problem statement introduced in Chapter 1. But that same year marks the single-most important event in this regard, for in 1965 Congress passed Title IV of the Higher Education Act, a major part of which was included the Basic Education Opportunity Grants (Seashore, 1976), later to be named the Pell Grant in honor of Senator Claiborne Pell of New Hampshire, the bill's sponsor.

Grants under these auspices became available to inmate-students, who could usually qualify for the maximum funding possible due to their limited income. The Pell Grant program, legislated to be used to supplement other funding sources for low-income students, was frequently abused, becoming an easy target of quasi-legitimate post-secondary prison education providers nationwide. Although the vast majority of colleges receiving this federal support used the funds legitimately and prudently, a few nefarious programs brought federal support of prison college programs into question within congressional circles (Taylor, 1993). The passage of Title IV allowed for the expansion of what had been a smattering of higher education programs in correctional facilities.

### **The Emergence of the Community College as Primary Provider**

Through the implementation of the Pell Grants, prison programs entered a stage of rapid expansion (Roberts, 1971). In fact, in the last thirty years, the two-year community college has entered the correctional education arena in force. The importance of the issue of whether community colleges or four-year institutions ought to provide the wealth of prison higher education cannot be overstated; it speaks to an entire set of

interrelated issues concerning the meaning and value of educational participation in the prison scenario.

This dilemma regarding educational delivery has been addressed by the Department of Education. Most university-based programs account for a relatively low percentage of total post-secondary enrollments, but community colleges have emerged as the principal source for correctional education (Gehring, 2000). Although community colleges are often well-positioned to deliver educational programs in the prisons and many provide programs of quality, we have witnessed an alarming trend in which involvement in prison higher education appears to be principally motivated by the need for new or increased revenues (Gendron & Cavan, 1990). This problematic situation and the abuses associated with it has led to the enactment of federal guidelines strictly limiting the percentage of student body comprised of inmates (Taylor, 1993). Despite evidence supporting the connection between higher education and lowered levels of recidivism, Congress included a provision in the Violent Crime Control and Law Enforcement Act of 1994 which denied all prisoners access to federal Pell Grants (Gilliard & Beck, 1997).

Higher education is not a system of institutions that have equal meaning and value; it is what is called by Bourdieu (1984) an “objective classifier,” one of the most important bases for classification being the status of the institution in which learning has taken place. Although four-year institutions offer an educational credential with greater value, their programs are becoming fewer in number than two-year programs in the prisons; when community colleges and four-year institutions offer complementary

programs of study in the same prisons, there is a tendency for the community college to absorb a large proportion of enrollments (Gendron & Cavan, 1990).

It is important to consider whether the trend toward community college predominance in prison education reflects an attempt to reduce institutional tension within this realm by incorporating an educational model less antagonistic to the prison's mission concerning individual deprivation (Reagan & Stoughton, 1976). Most community colleges not only have an open-door policy but have a strong appeal to those who perceive all higher education opportunities as equal. In addition, less rigorous academic standards allow the community colleges greater leeway in responding to the expressed student interests. In many states, prison officials have, indeed, demonstrated a preference for community college involvement; correctional administrators, sensitive to public criticism that offenders might benefit from their crimes, have historically refrained from offering programs that have significant value beyond the prison (Reagan & Stoughton, 1976). It can be perceived, then, that support for the community colleges in this regard may well be the continuation of the historic pattern of offering an education that does not conflict with what it means, inherently, to be a prisoner.

### **Toward Decreased Recidivism**

However, from the prisoner's point of view, increased employability after release is among the most frequently expressed motivations for educational participation. So, it is not surprising that the inmate-student seeks out vocational courses and programs. This aspect also can be seen accounting for the appeal of the community colleges, as they possess the ability to deliver a broad array of technical and vocational offerings that

suggest concrete possibilities for employment subsequent to release.

It may be true that, as Morin (1981) has noted, the actual curriculum, whether vocational or liberal arts, may be less important than might be supposed, the actual curriculum is less important only in relation to a particular goal to which educators have chose to tie it, such as rehabilitation or reformation of the inmate.

Regardless of the provider, various benefits were expected from educational programs, such as providing increased knowledge and skills that would improve participants' prospects for a productive life in the community. For example, by increasing educational levels and enhancing "life skills," the programs were expected to increase the offenders' abilities to secure and maintain legitimate employment. Many correctional program developers do not indicate precisely how they expect the intervention to influence future offender behavior (MacKenzie, 1997). Whether reduced recidivism is expected because of increased employment or some other intervening factor, the end result of increased educational level has always been expected to be a reduction in future criminal behavior (Cecil, et al, 2000).

Regarding "life skills" programs, the rationale is that often post-secondary courses may not adequately address a number of other important offender skill deficits (Finn, 1998). Also, it is recognized that learning in the 21<sup>st</sup> century will be transdisciplinary (Gibbons, 1994). Through problem solving, learning and knowledge can be generated and sustained in this transdisciplinary environment. There will be an increase in the number of sites where knowledge can be created. No longer will the traditional locations such as colleges and universities be the focus, which will now



include diverse sites such as private institutions, research centers, government agencies, industrial laboratories, think-tanks, and consultant groups (Gibbons, 1994). The nature of social accountability will also change; new sectors of the economy will arise, diversity will take on a new form, and concern with crime will present new challenges, which serve to legitimize education in prison (Gehring, 2000).

While certain inmates may have the capability to participate successfully in college programs, they also may have difficulty with other things, such as conducting job searches, anger management, and setting and meeting goals. Life skills programming is often combined with other types of correctional education programs. For example, the Delaware Life Skills Program combines academics and violence reduction programs with applied life skills training (Fuhn, 1998).

### **Education as Crime Prevention**

“We must accept the reality that to confine offenders behind walls without trying to change them is an expensive folly with short-term benefits—winning battles while losing the war...” Is a quote by former U.S. Supreme Court Chief Justice Warren Burger (Taylor, 1993).

With re-arrest rates in the United States averaging over 60% (Bureau of Justice Statistics, 2000), it is clear that incarceration alone is not working. In fact, the drive to incarcerate, punish, and limit the activities of prisoners has often resulted in the elimination of strategies and programs that seek to prevent or reduce crime. For instance, research shows that quality education is one of the most effective forms of crime prevention (Center on Crime, Communities, and Culture, 1997). Educational skills can

help deter young people from committing criminal acts and can greatly decrease the likelihood that individuals return to crime after release from prison. Despite this evidence, educational programs in correctional facilities, where they have proven to be extraordinarily effective, have in many cases been completely eliminated. The majority of these individuals will be released into the community to become re-involved in criminal activity. Education, particularly at the college level, can afford individuals with the opportunities to achieve and maintain productive and crime-free lives, creating safer communities for all (Alston, 1981; Duguid, Hawkey, & Knights, 1998).

### **Education and Recidivism**

As noted in Chapter 1, the term theory has been used in many ways in varying contexts over the years under the umbrella of acquiring knowledge: Lindlof (1995) comments that theory, by its nature, is an ever-evolving construct dependent on the comparisons of cases; Kerlinger (1977), author of a highly respected text on research methodology, notes that “the basic purpose of scientific research is theory” (p.5); Rudestan and Newton (1992) describe theory as a premise to account for data. The theory that educational programs tend to reduce recidivism can be traced back to Merton’s (1938) notion that inmates may benefit positively in this regard because they have better educational credentials upon release. This possibility seems plausible but must be supported by experience and observation.

For example, in a recent report on crime prevention programs conducted at the request of the U.S. Justice Department, 18 researchers at the University of Maryland found that teaching reading skills to juveniles worked significantly better to reduce crime

than boot camp programs (Sherman, 1997). Indeed, correctional education appears to be the number one factor in reducing recidivism rates nationwide (Mosso, 1997).

According to the Federal Bureau of Prisons, there is an inverse relationship between recidivism rates and education. The more education received, the less likely an individual is to be re-arrested or re-imprisoned (Harer, 1994). A report issued by the Congressional Sub-committee To Investigate Juvenile Delinquency estimates that the national recidivism rate for juvenile offenders is between 60% and 84% (Brunner, 1993). A five-year follow-up study conducted by the Arizona Department of Adult Probation concluded that probationers who received literacy training had a significantly lower re-arrest rate (35%) than the control group (46%); those who received GED education had a re-arrest rate of 24% compared to the control group's rate of 46% (Siegel, 1997).

Inmates with at least two years of college education have a 10% re-arrest rate compared to a national re-arrest rate of approximately 60% (Marks, 1997). Research studies conducted in Indiana, Maryland, Massachusetts, and New York have all reported significantly low recidivism rates for inmate participants in correctional higher education programs ranging from 1% to 15.5% (Bettendorf, 1996; Tracey & Johnson, 1994).

As with all research on prisons and jails, data on correctional education tends to focus on specific localities or states (Tracy & Johnson, 1994). Texas is one jurisdiction which has done extensive research on the success of correctional higher education. The overall recidivism rate for degree holders leaving the Texas Department of Criminal Justice between September, 1990, and August, 1991, was 15%, four times lower than the general recidivism rate of 60%. A two-year follow-up report found that the higher level

of degree awarded was inversely related to the level of recidivism. Individuals with associate degrees had a recidivism rate of 13.7%, those with bachelor degrees had a rate of 5.6%, and those with master degrees had a rate of zero (Tracey & Johnson, 1994).

The vast majority of corrections officials believe that educational programs not only benefit inmates, but also the facility's administration and staff. Inmate students are better behaved, less likely to engage in violence, and more likely to have a positive effect on the general prison population (Taylor, 1993). Educated inmates can be a stabilizing influence in an often chaotic environment, enhancing the safety of all within the facility. Indeed, 93% of prison wardens surveyed in a 1993 study conducted by the Senate Judiciary Committee of the U.S. Senate strongly supported educational and vocational programming in adult correctional facilities (Elikan, 1996).

The expense of providing higher education to inmates is minimal when considering the impact upon rates of recidivism and future savings of preventing re-arrest and re-imprisonment. North Carolina estimates that it costs \$2,800 per year per individual to provide higher education in a correctional facility. In contrast, the average cost for incarceration of an adult inmate is \$28,000 per year (North Carolina Department of Prisons, 2004).

Why are correctional education programs so relatively inexpensive? For the most part, higher education in this environment is provided by community colleges and universities that offer moderately-priced tuition, if any at all. Educators in this arena concur that society should recognize that the cost of college is really very insignificant when compared with the cost of the damage done by crime (Marks, 1997). Even in a

hypothetical situation with a comparatively expensive correctional higher-education program mentioned earlier by Brunner and Taylor, and one of the highest recorded rates of recidivism upon completion of such a program (15%), the savings of providing these programs are still substantial: the cost of incarcerating 100 individuals over four years is approximately \$10 million. For an additional one-tenth of that cost, or \$1 million, those same individuals could be given a full, four-year college education while incarcerated. Assuming a recidivism rate of 15% as opposed to the aforementioned overall rate of 60%, 85 of those initial 100 individuals will not recidivate, thereby saving taxpayers millions of dollars each year (Brunner, 1993; Marks, 1997). And in addition to the millions saved by preventing an individual's return to prison and dependence on the criminal justice system, providing higher education to prisoners can save money in related ways: the prevention of crime helps to eliminate costs to the victims and the courts, lost wages of the inmate while in prison, and residual costs to the inmate's family.

A final note regarding the argument that education effectively lowers the recidivism rate more effectively than other intervention programs revolves around the question – Why should prisoners receive higher education? The available statistical evidence overwhelmingly demonstrates the positive impact of this process on the prison population. Some of the resulting benefits include: an estimated 97% of adult felony inmates are eventually discharged from confinement and released into the community (Boyce, 1994); individuals receiving higher education treatment have a significantly better rate of employment (60-75%) than those who do not participate (40%) (Taylor, 1993); financial and societal savings of providing these programs are enormous (Taylor,

1993)--upon release, an inmate's reduced recidivism cost-benefit will begin to be realized immediately and with consideration of the additional benefit of this person obtaining work, paying taxes, and contributing to the general economy is factored, the benefits are considerably greater. The RAND corporation, a public policy think tank based in California, recently released a study showing that crime prevention is more cost-effective than building prisons. Their conclusion: of all crime prevention methods, education is the most cost-effective (Greenwood, et al, 1996). Higher education has a stabilizing influence on the correctional environment and can help a facility to run more smoothly and less violently than correctional institutions without educational programs.

The educational level of a parent is a clear predictor of both the educational achievements of a child and the level of parental involvement in a child's education (Brown, 1989; U.S. Department of Education, 1996). As the majority of prisoners are parents (Snell & Morton, 1994), the education of adults in prison can have a positive and long-lasting impact upon their children. Well-run, high-quality higher education programs in these facilities can inspire correctional officers to pursue additional educational endeavors. The positive impact of education in prisons, if presented to the public in realistic terms, should inspire better public education for all citizens, whether incarcerated or free.

Prisoners, already marginalized by society, are further marginalized in yet another way by being college students. There is an irony, perhaps even a poetic educational justice here (Williford, 1994). Although the political and economic contexts are ever present and always important, in prison education it is possible to focus on educational

issues and questions that are lost in the more traditional settings. Assessment suggests that courses and programs will be measured against certain standards, perhaps imposed by sociopolitical imperatives. Evaluation, however, can be thought of as a self-reflective process undertaken by all participants in these endeavors. Unlike assessment, evaluation is a dynamic process that allows aims to become recognizable and develop throughout. If post-secondary prison education is to have any hope of freeing itself from the political and social contexts that shape its possibilities, the notion of evaluation must play a critical role in the realization of that freedom.

To put this discourse in the context of successful post-secondary programs, evaluation begins with a set of inquiries into the educational activities themselves (Campbell, 1994). As every teacher knows in a kinetic way, and students sense without necessarily being able to articulate it, evaluation begins at the beginning. The normative measures of a prison program's success, such as graduation rate and subsequent recidivism, have a secondary correlation to the varied purposes, objectives, and outcomes of the educational experience.

### **Education and Employment**

Terms such as aims, goals, objectives, requirements, and outcomes have been an important part of the history and philosophy at all levels of education. Another such concept involves learning outcomes. The intent of using this terminology is to refer to the "value added," or competence, developed by a learner through an educational experience. The expected learning outcomes are what the educational institution is contracting for in exchange for resources from the learner, family, and community. In

the context of this response, the expected outcome would hopefully result in the student's success in finding a job upon release from prison. The learning outcomes form the common base for designing, implementing, assessing the effects of the learning experience (Krebsbach, Copa, & Ammentorp, 1996). And as such, they are integral to the design, funding, operation, and accountability of educational institutions such as community colleges delivering programs to diverse populations.

A Maryland study demonstrated the effectiveness of educational intervention with inmate populations as related to post-release employment (Jenkins, Steurer, & Pendry, 1995). Of the sample selected, 77% of those persons who had completed formal post-secondary educational offerings were employed, as reported by a supervising parole officer. These individuals were also found to be employed at a level above the established minimum wage. The conclusion of this study is clear: educational intervention for inmates results in more positive post-release manifestations, including higher rates of employment and the type and wages concerned with employment.

Although correctional rehabilitation programs received a flurry of negative publicity in the 1970s when the aforementioned work of Martinson (1974) concluded that the effects were nil, current research offers empirical evidence that these programs are indeed effective in reducing crime. Studies with offenders conducted between 1973 and 1978 in California found that 86% were successful, with reduction in recidivism ranging from 30 to 60%. Similar findings have been reported in other reviews of correctional programs (e.g., Greenwood & Zinning, 1985; Thornton, 1987).

The following is an analysis of statistical information on program completers of



academic/vocational endeavors offered by the Virginia Department of Correctional Education (DCE) to the inmate population within the Virginia Department of Corrections (DOC). The study was designed to assess the impact of DCE programs on recidivism. The sample (n=3,000) of men and women released during the period 1979 - 1994 was examined regarding involvement in educational programs while incarcerated vis a vis reincarceration and employment status. Findings suggest that completion of post-secondary educational programs may positively and directly relate to post-release community adjustment (Hull et al, 2000). So, it follows that if post-release adjustment is attributed to some degree to participation in prison educational programs, it is impossible to disaggregate the effects of multiple programs or post-release adjustment from available data.

The DCE had not developed a systematic process for tracking educational participants after release from prison; however, at that time, an inmate's educational transcript was catalogued and stored via computerization. For purposes of this study, 3,000 inmate records were randomly selected from files located in the DCE repository. After matching the identified records with the existing list of current inmates in the Virginia system, the following information was noted:

- of the 1,307 persons who had no educational programming while incarcerated, 641 (49.04 %) were reincarcerated.
- of the 786 who enrolled in educational programming but did not complete the program, 298 (37.9 %) were reincarcerated
- of the 907 completers, 183 (20.17 %) were reincarcerated.

The program design of this study involved 347 persons identified as being on parole supervision with a survey sent to those parole districts to determine employment status. The following information was confirmed:

- of the 183 individuals having no educational programming while incarcerated, 77 (54.6 %) were employed for a period exceeding 90 days.
- of the 96 individuals, who were enrolled in educational programming but did not complete the program, 59 (61.4 %) were employed for a period of at least 90 days.
- of the 68 individuals who completed educational programming, 53 (77.9 %) were employed for a period of at least 90 days.

The information gathered also suggests that the employability rate of those completing education programming is substantially higher than those not participating in any educational intervention.

As demonstrated above, the difference in return rates for those who did not enroll in educational programming during incarceration and those who enrolled but did not complete was consistent with recidivism statistics provided by DOC. However, those who did enroll and complete post-secondary programs returned to custody at a much lower rate.

All research has limitations and this particular study being described is no exception. The available data did not contain the depth of information necessary to examine the possible reasons why those not enrolled or enroll and do not complete return to custody at a higher rate than those who enroll and do complete. For example, it should

be noted that this study did not include information regarding participation in other prison programs. So it follows that if post-release adjustment is attributable to some degree to participation in prison programs, it is impossible to disaggregate the effects of multiple programs or post-release adjustment from available data.

Finally, factors such as motivation to enter and complete educational programming while incarcerated, changes in an individual's level of commitment to complete programming, and the level of support from family and friends in the community may affect a student's post-release community adjustment and the likelihood of being reincarcerated. This study does have value in that it is the first attempt within the Virginia Department of Correctional Education to quantify the effect of this intervention on recidivism and future employment (Hull et al, 2000). The findings of this case support the position that completing an educational program during incarceration is positively related to post-release adjustment and gainful employment. In addition, the results are an important indicator of the need for further in-depth research.

The majority of studies focusing on post-secondary education show an inverse relationship between participation and recidivism. Anderson, Anderson, and Schmacker (1988) found in Illinois that those completing post-secondary programs had a higher employment rate and lower recidivism at a twelve-month period than those releasees who had an educational background of less than a GED. The chief purpose of this study was to determine how many releasees obtained employment, especially in areas in which they received vocational training while incarcerated. Seven hundred and sixty subjects were studied for the described period and grouped into those having vocational training,

vocational and academic training, no vocational training, and only academic work.

The results showed vocational and vocational and academic groups had higher employment and fewer arrests than the other groups. Those receiving no vocational training had the highest re-arrest rate; the academic only had the lower unemployment rate, but the more education the students had resulted in higher employment and lower sustained criminal activity.

An analysis of this particular study reveals an effective vehicle to examine the issue of employment, especially with the connection to vocational training. The recommendations are sound (see Anderson, Anderson, & Schumaker, 1988) and would be of interest to other states' studies. However, the main objective of the study was to determine how many releasees were finding work in the areas for which they were trained, but the utilization of parole officers to track the subjects proved inherently difficult.

At this point, reference will again be made to Martinson's (1974) "nothing works" article, whereby claim was asserted that vocational/post-secondary education produces no positive consequences. However, most of the research conducted over the last decade shows a correlation between post-secondary education and a variety of outcomes generally considered positive for either society or correctional institutions: lower recidivism rates, lower parole revocation rates, and better post-release employment patterns. Studying determinants of parole success in Illinois, Anderson and associates (1991) showed that among several other factors, participation in post-secondary/vocational programs correlated positively with successful parole. These

researchers also found that “completers” of these programs had better employment rates and reduced recidivism than non-completers. In an earlier study, Anderson (1981) found that vocational training leads to longer post-release employment, fewer arrests, and fewer parole revocations.

Alston (1981) studied the impact of vocational programs in Texas, and found evidence for lower recidivism rates among participating inmates who also were found to have broken fewer rules while incarcerated. Alston described this phenomenon as the result of “more positive impulse control” (p.9). Saylor and Gaes (1992) reported similar findings regarding federal penitentiaries: inmates who received vocational training while in prison showed better institutional adjustment (fewer rule violations) than those not receiving such treatment and were more likely to secure gainful employment.

### **Recidivism Studies Summaries**

It is prescient within the context of this question to describe a salient report by the above-mentioned Saylor and Gaes, (1995) on the long-term recidivism study of U.S. federal prisoners: The Post-Release Employment Project (PREP). This study was designed to evaluate the impact of prison work experience and vocational training on offender behavior following release. The evaluation began in 1983 with data collected through 1987 on over 7,000 subjects. The report initially was released in 1991 when all offenders in the study had been out of prison for at least one year. This report considers a much longer release horizon covering ten years for many of the subjects.

Unlike most studies of prison vocational training or work experience, PREP was designed as a prospective longitudinal evaluation. Inmates were selected as a study

group prior to release on the precondition of participation in vocational education programs. Since it was not possible to randomly assign inmates to a study or control group, a quasi-experimental design was used in which comparison subjects were chosen from the reservoir of all other inmates released in the same calendar quarter as study group members. The nature of participation in these training programs imposes a significant problem for this and other evaluations which precludes the use of random assignment techniques. So, the study relied on alternative measures to control for the potential bias resulting from the way in which participants were selected. This is a common problem in evaluation studies and has been termed “selection bias.” Selection bias implies that there is a process that determines how subjects are selected to participate in a particular program. It also implies that there may be unique characteristics of the selected group that increase the probability of a successful outcome even in the absence of any program intervention.

To overcome this problem, the study adopted a statistical matching procedure developed by Cochran and Rubin (1973) and refined by Rosenbaum and Rubin (1983) employing a two-step approach. In the first step, the research involved modeling the selection process, contrasting program participants and non-participants concerning variables related to their participation. As a result of the modeling, a propensity score was generated, indicating the likelihood that an offender would be selected for participation in vocational training. In the second step, the propensity score is used in conjunction with other variables to select matched comparison subjects. Theoretically, the matched comparison subjects are equivalent to the study group participants in every

respect except for their participation in the treatment program.

After inmates were released to the community, researchers gathered initial post-release outcome data by calling supervising probation officers. In the U.S. Federal criminal justice system, probation officers supervise and monitor offenders receiving sentences of probation as well as those who receive prison sentences and are subsequently released to a term of supervision. The research yielded information concerning re-arrest and supervision revocation, whether offenders were able to gain employment, and the legal wages earned during the period of one year.

By the end of this time period, 6.6 % of the study group and 10.1% of the comparison group had been re-arrested or had their supervision revoked. This was recognized as statistically significant by the researchers; furthermore, by the end of the year of supervision, 72% of the study group and 63% of the comparison group had found and maintained employment. The researchers also reported that this was statistically significant. Finally, although not statistically significant, study group members who were working after one year were earning on average \$821 per month, while comparison subjects working were earning \$769 per month.

Although the initial results of the PREP project were encouraging, the researchers were interested in whether the study-comparison group differences would hold up over a longer time period. Most of the participants in the follow-up study had been released for at least eight years, some for as long as 12 years. The analysis examined the amount of time an offender was in the community prior to re-commitment. If indeed industrial work experience and vocational training had a salutary effect, it would be expected that

study group members were to have spent a longer time in the community. It is interesting to note here that the analysis was conducted on males and females as separate strata, since it is well-documented that women are less likely to recidivate than men (Andrews & Bonta, 1994).

Confirming the researchers' expectations, it was determined that 19.3% of the women and 31.6 % of the men followed for this study were recommitted within the follow-up period. When survival time (out of prison) of men and women were compared, men had a much longer period of freedom (811 days) than women (647 days). Thus, although fewer women were likely to recidivate, those who did recommitted much earlier than their male counterparts. This may have some interesting implication for the design of men and women's programs.

In summary, within this described study, it appears that the impact of vocational and/or apprenticeship training can have both short and long-term effects concerning reduced recidivism on both men and women, but a more pronounced effect upon men.

Elbert (1999) describes a study: *Vocational Education and Recidivism at the Louisiana Correctional Institute for Women*. The purpose of this study was to determine if a relationship exists between the reduction of recidivism and the completion of a post-secondary vocational education program. The ex-post facto research was conducted using data on released inmates from the facility between 1990-1994. The participants included 130 completers of vocational education courses and a sample of 130 education non-participants. Variables linked with recidivism reduction included: completion of a vocational education program, number of prior felony convictions, and age at release.



Specifically, this study showed that the vocational education program completers tended to have lower recidivism rates as compared with non-participants, older inmates, and those having fewer prior felony convictions. An additional finding suggested that education program completers who did recidivate tended to stay out of prison one year longer than non-participants. Further, the study supports a three-year follow-up period for recidivism research.

Glenn (1995) reports on *An Assessment of the Effectiveness of Post-Secondary Vocational Education in the Texas Department of Corrections*. The purpose of this study was to examine the effectiveness of these programs concerning the employment status and recidivism rates of released graduates according to previous vocational training, ethnicity, and age. A further consideration was the effectiveness of prison training relative to the perception of released graduates.

Data were collected via a validated questionnaire sent to 338 released graduates with 67 completed instruments returned. The chi-square statistical analysis was used to test the 14 hypotheses presented, with the level of significance set at .05. Based upon the analysis of the data, only four of the hypotheses were rejected.

The research revealed the following: 1) post-secondary vocational programs in the TAC were effective because they provided greater potential for employment and a lower recidivism rate for graduates; 2) ethnicity and age were not limiting factors regarding employment or recidivism; 3) participants' perceptions regarding the effectiveness of the treatment indicated that the training was a direct benefit to their

career plans with objectives for enrolling met and quality of instruction excellent; 4) perceived as being less effective was the area of program content quality, availability and quality of equipment, learning materials, and facilities; 5) perceived as needing the most improvement were in the areas of guidance, counseling, and placement services.

Most studies do report an inverse relationship between college education and recidivism. Reporting on a study of a prison program of the University of Victoria (British Columbia), Duguid (1981, also see Acers et al, 1980) reported that only 14% of the inmates who participated in the program returned to prison within three years, with the rate for nonparticipants being 51%.

Inmates in Maryland earning at least 12 credits in a community college prison program were significantly less likely than nonparticipants to recidivate (Blackburn, 1981). Several studies conducted in New York State generated similar results. For instance, inmates who earned a college degree were less likely to recidivate, but as the authors point out, their success may have been due only partly to their participation in college.

An important point to be made here is that inmates may succeed in educational programs because they may be more motivated and/or competent than those not completing the programs (Thorpe, MacDonald, & Bala, 1984). This leads to the conclusion that while the literature shows a fair amount of support for the hypothesis that post-secondary correctional educational programs lead to fewer disciplinary violations during incarceration, reduction in recidivism, increase in employment opportunities, and further participation in educational programs upon release, it is obvious that more precise

controls for extraneous variables that may have an independent effect on the various outcomes must be exercised. Without adequate control techniques, it is difficult to generalize definitively about the impact of these programs. In addition, future research should focus on questions not addressed in the literature. This research primarily should analyze relationships between pre-college and college education and disciplinary problems during incarceration, between college education and post-release employment and education, and between vocational/post-secondary education and post-release participation in educational programs (Andrews & Bonta, 1994).

In 1997, the Office of Correctional Education of the U.S. Department of Education provided funding to the Correctional Education Association to conduct a three-state recidivism study on the effect of education on the rate of recidivism and on post-release employment in Maryland, Minnesota, and Ohio (Correctional Educational Association, 2000).

The SEA's preliminary results from the *ONE/SEA Three-State Recidivism Study* argue persuasively for the value of correctional education, including vocational education, in lowering the rate of recidivism. While to date, recidivism data is complete only for the state of Maryland, preliminary analysis suggests that results from Minnesota and Ohio will be very similar. The most significant result from Maryland shows that while over 37% of non-school participants were re-incarcerated after one year, only 31% of education participants were re-incarcerated, translating into a 19% drop in recidivism for inmates who simply participated in education programs. The results for participation in vocational education were especially promising. Maryland inmates participating in

vocational education were less likely to be rearrested (48% vs. 56%,  $p < .05$ ), re-convicted (31% vs. 39%,  $p < .05$ ), and re-incarcerated (30% vs. 37%,  $p < .10$ ), than those not participating in vocational education.

A major benefit arising out of this study should be the field's ability to direct educational programming so that the most effective programs reach most inmates, thereby increasing the positive impact of education on the rate of recidivism. As more data becomes available and the analysis becomes more detailed allowing for comparisons across the three states, the research will continue to grow in importance in the field.

When completed, the ONE/SEA study should answer the following questions about the relationship between correctional education and recidivism (SEA, 2000):

1. Overall, what effect does participation in correctional education programming have on the rate of recidivism?
2. What variables have the greatest impact on the rate of recidivism? (Such variables include age, criminal history, family background, substance abuse, educational and employment background.)
3. What types of correctional education programming (academic, vocational, and life skills) have the greatest effect on the rate of recidivism?
4. How do levels of participation in correctional education programming (as measured in total hours in class and diplomas and certificates received) affect the rate of recidivism?
5. What is the relationship between correctional education participation and post-release employment?

A recent study by Burke and Vivian (2001), *The Effect of Programming on Recidivism Rates at the Hamden County House of Corrections: A 5-Year Study*, presents data comparing recidivism rates of inmates who had post-secondary educational experience at this Massachusetts facility with an otherwise comparable group which had not, both with n=32.

This study compares two groups that are demographically similar in age, educational level upon incarceration, length of sentence, gender, and ethnicity. The results reveal that participants in the educational programs offered through Springfield Technical Community College at the facility are 21.9% less likely to recidivate within 5 years following release if completing at least on 3-credit course.

The Illinois Council on Vocational Education published a study entitled *Correctional Education: A Way To Stay Out* (Anderson, Anderson, & SCHMACKER, 1988). This study's chief purpose was to determine how many releases obtained employment in areas in which vocational training was received while incarcerated. Seven-hundred sixty individuals were studied for one year divided into four research groups: vocational training, vocational and academic training, no vocational training, and academic work.

This study's chief purpose was to determine how many releasees obtained employment in areas in which vocational training was received while incarcerated. 760 individuals were studied for one year divided into four research groups: vocational training, vocational and academic training, no vocational training, and only academic work.

Vocational and vocational and academic groups had higher employment and fewer arrests than the other groups. Those who received no vocational training had the highest criminal rate, while the academic only group had the lowest employment rate. The findings showed that the more education the students received resulted in higher employment and a lower crime rate.

**Study Strengths:** This is one of the best studies to examine the issues of employment in correction to vocational training. The recommendations derived are quite sound and would be of interest to other states.

**Study Weaknesses:** The main objective was to determine how many releasees were finding work in areas for which they were trained; however, parole officers did not or could not obtain this information and the study abstract did not address this problem.

**Comment:** This is a worthwhile study, but it indicates difficulties inherent in using parole officers to track inmates.

A research model focusing on vocational inmate education, *Evaluating the Effects of Vocational Education on Inmates: A Research Model and Preliminary Results* (Downs, Monaco, & Shelber, 1989) is deemed relevant by the researcher. This study is reviewed although it is actually a pilot study. Its conclusions, which are negative, are based on a population of which 60% had received 5-9 credit hours of exposure to educational instruction. The vocational training program had been in existence but a year and may have needed further development to be fairly examined. So the results are not what is important, but rather the study design is of importance. The comparison groups were carefully matched and then separated into high and low-risk categories. A database

check was then run on their parole status and conclusions regarding success or failure draw from that source.

**Study Strengths:** The control for several variables chosen for their relation to parole success and the careful matching of comparison groups. It counters the problem of self-selection by comparing students with offenders desiring educational treatment and never receiving it due to various reasons leading to non-selection.

**Study Weaknesses:** The small sample (n=66) and the lack of exposure to educational programming means that conclusions are not scientifically based.

**Comment:** This is a good discussion of 1980s research, a precursor to contemporary studies.

*The Five Year Outcome Study: Factors Associated with Recidivism* (Eisenberg, 1991), a study examining factors associated with recidivism, is complementary with this research regarding input characteristics pointing toward reincarceration. This was a long-term study (1982-1987) with a large random sample of Texas inmates (n=1,539) focusing on many variables including sociodemographics, criminal history, risk factors, offense, post-release, and educational data. The definition of recidivism was “returned to DOC” during the study period..

**Study Strengths:** This work recognizes that the degree of educational attainment may influence the recidivism rate.

**Study Weaknesses:** There is no comparison of vocational attainment, post-secondary attainment, or career/job history with recidivism. There was no attempt to isolate “self-selection” or create a control group, per se.

Comment: The study is useful because it establishes a strong link with GED/high school attainment and recidivism for all age groups.

A project, *Alabama Correctional Education Research*, (Gainous, 1992) examines the relationship between education and recidivism. Department of Post-secondary Education. This long-term study (ten years) of graduates released from prison after post-secondary educational treatment from six Alabama colleges compares them to the overall state average for recidivism. It is mentioned here that a decrease of 2% in recidivism would result in major increases in tax revenue. This is not explained, but would be an interesting concept to pursue in a future study. It is noted that the average recidivism percentage regarding educational program participants in all correctional institutions combined is approximately 5% for those completing courses during the study period (1982-1992). This figure is significantly below the DOC recidivism figure overall of 35%.

Study Strengths: The finding of a large difference in recidivism between graduates of educational programs and other non-participating inmates raises interesting questions for further research.

Study Weaknesses: In the same realm, most other studies do not show such a large difference. Since the population characteristics are not discussed, this may be the major problem. It may be that students have been “selected” for success.

The previous array of reviews addressed some of the major issues around the use of education as a measure of post-released success. The intent here is to present results of similar studies, to relate the proposed study to the ongoing dialogue in the literature, and



to provide a framework for comparing results of a study with other studies (Creswell, 1994).

It is observed that most of these studies had affiliation with community colleges as the provider concerning educational programs and most of these programs concerned post-secondary curricula.

### **Summary**

The overview presented a chronological history of prison education programs in the United States with an emphasis on the emerging awareness on the part of society that rehabilitation could be achieved through implementation of educational opportunities in a correctional setting. As the 20<sup>th</sup> Century dawned, new approaches regarding the utility of vocational education in prisons were described.

The next section described the importance of Leving Tyson's recognition that higher education in prisons was worthwhile alone for its effect on the future of the participating inmates. This concept is very important from the historical perspective regarding the problem statement and purpose of this study.

The following section described educational support programs vying for validity while facing scant resource allocations in postwar times. The Congressional passage of the Title IV section of the Higher Education Act, Pell Grants, is seen as very important to this project's problem statement.

The emergence of the community college as the primary provider for prison vocational education programs is next examined. This is important as it demonstrates the positive influence in this regard of the implementation of the Pell Grant in this educational

environment.

The next two sections focused on the concept that regardless of the provider, various benefits were expected from educational programs such as instilling increased knowledge and skills that would improve participants' prospects for a productive life in the community. This outcome is imperative involving this study and its problem statement, purpose, and conceptual framework.

The last section described observations of commonalities and differences concerning the studies noted in the chapter and the study at hand.

A common thread running through the literature is the conundrum of the relationship between crime, arrest, and incarceration being subject to many diverse influences. This relationship is often perceived as arbitrary or based on cultural inequalities (Gehring, 2000). Further, we do not know if recidivism measures the effectiveness of the industrial, religious, security, education, or any other program; it is a very non-specific measure (Baker, 1985; McShane, & Williams, 1996). Nevertheless, recidivism is most frequently used to identify the success of one specific institutional program, education.

It is the opinion of this writer that studies and programs such as have been read and reviewed should have a broader audience beyond the educator arena. Most citizens have not directed much thought to recidivism issues, so they are vulnerable to mis-characterizations. For instance, all GED program participants are recidivists from local schools, but recidivism is never used in this context. Chief Justice Burger called this circumstance *product recall* (Department of Education, 1996).

Perhaps he would have identified the unfairness of associating recidivism in the public mind solely with the effectiveness of institutional education. The public may not intend a double standard, but the association itself reveals bias. Lack of education is related to—but does not cause—crime. Yet data is often presented so audiences will assume education reduces recidivism. The fact, of course, is that education helps people pursue social aspirations; it does not make them into acceptable members of the community (Gehring, 2000).

## **Chapter 3**

### **Methodology**

The research methodology for this study is described in the following sections: a) research design and population sample, b) instrumentation and data collection, c) data analysis, and d) delimitations and limitations.

#### **Research Design and Population Sample**

For the purposes of this research, the problem statement can be succinctly summarized as follows: Does post-secondary educational intervention have a positive impact on recidivism of the student-inmate?

A conceptual framework for evaluating programs should combine outcome evaluation with process evaluation. An outcome evaluation attempts to determine the extent to which a project's specific objectives have been achieved. On the other hand, the process evaluation seeks to describe the program which was implemented, and, through this, attempts to gain an understanding of why the objectives were, or were not, achieved (Duguid, Hawkey, & Knights, 1998; Kasworm, 1983).

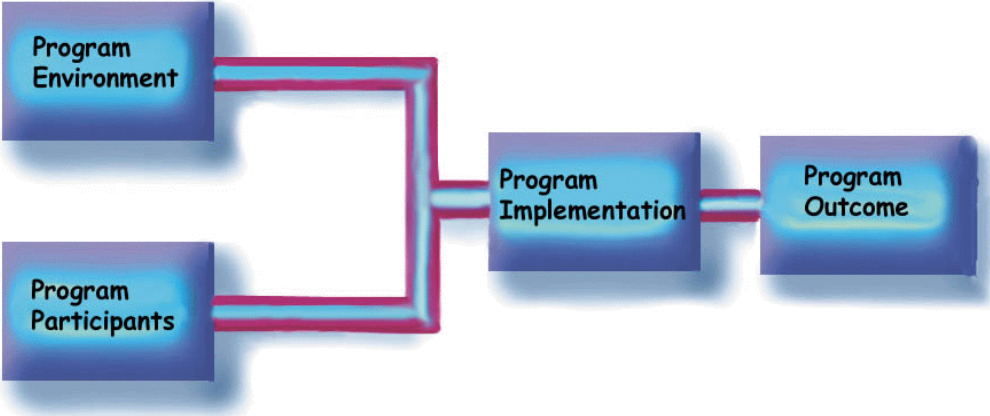
Evaluators have been criticized in the past for focusing on outcomes and excluding the process side, or focusing on process evaluation without examining outcomes. The framework here incorporates both the process and outcome side. In this manner, one can determine the effect (or outcome) of a program, and also understand how the program produced that effect and how the program might be modified to produce the desired effect more completely and efficiently (Rossi & Freeman, 1985).

In order to focus on both program process and outcomes, an evaluation should be

designed in which research questions, hypotheses, evaluation questions, data collection, and analyses address the following:

- 1. Program Environment
- 2. Program Participants
- 3. Program Implementation
- 4. Program Outcomes

Fig.3 Program Process And Outcome



Program environment refers to the actual physical facility in which the treatment is taking place along with its inherent cultural influences, e.g., the autocratic prison atmosphere in the case of this study. Program participants are the students and facilitators of the endeavor as well as indirect participation on the part of the administration and correctional officers of the facility. Program implementation concerns the methods by which the delivery of the programs are held, including shop areas, labs, and classrooms in which success or lack thereof in reference to the learning experience on the part of the students.

Using this framework, descriptions are prepared of the environment, the participants, and the program activities and services which are implemented. Outcomes of the program are also assessed. The description of the environment, participants, and activities are then used to explain how the outcomes were achieved and to suggest changes for increased program efficiency described previously (Herman, 1987; Davis, 1994; Terenzini, 1994).

As previously noted, Krathwohl (1998) observes that by virtue of creating questions and hypotheses, it is possible at this link in the chain of reasoning that a model can be created suggesting that something will happen of a certain size in a particular direction, related to certain variables (see diagram, Chapter 1).

In Chapter 1, these research questions and hypotheses were posited:

1. What are the demographic characteristics of the general male inmate population? This will be answered with descriptive statistic.
2. Is there a significant statistical difference between the recidivism

percentage of non-completers of a diploma program and the recidivism rate overall? In North Carolina state correctional facilities?

Ho1 There is no significant statistical difference between the recidivism percentage of non-completers of a diploma program and the recidivism rate overall.

3. Is there a significant statistical difference between the recidivism percentage of completers of a diploma program and the recidivism rate overall in North Carolina state correctional facilities?

Ho2 There is no significant statistical difference between the recidivism percentage of completers of a diploma program and the recidivism rate overall.

4. Is there a significant statistical difference between the recidivism percentage of completers of a diploma program and the recidivism rate of non-completers enrolled in these programs at the Caswell Correctional Center?

Ho3 There is no significant statistical difference between the recidivism percentage of completers of a diploma program and the recidivism rate of non-completers enrolled in these programs at the Caswell Correctional Center.

In order to address the research questions and hypotheses, a quantitative study is required. This paradigm is termed the traditional, the positivist, the experimental, or the empiricist style. Quantitative thinking comes from an empiricist tradition established by

such authorities as Comte, Mill, Durkheim, Newton, and Locke (Smith, 1983), whereby the researcher views reality as “out there” independent of the researcher.

There are reasons why a quantitative approach must be utilized here, and they involve the subject characteristics of the population to be studied. It is very difficult to obtain clearance from the Department of Prisons to specific information involving released or currently incarcerated inmates for the purposes of survey distribution or interview procedures. This technicality suggests a quantitative study to be the only logical direction for a study such as this. Further strengthening this method of study is the notion that certain classes of people are considered to be vulnerable to the entreaties of researchers (Lindlof, 1995).

It is intended that the population of program participants in two areas of curricula at the Caswell Correctional Center be examined. Within this population, all completers of one-year diploma (two semesters and summer) programs at Caswell – Heating and Air Technology and Welding Technology – will be examined. The intent is to denote differences in the rate of recidivism among these cohorts in comparison with each other and all programs participants that did not complete requirements for graduation. These statistical differences will then be related to the overall recidivism rate during the same time period.

This analysis was to be accomplished through the assistance of the Human Subjects Research Department with the Division of Prisons. Due to the highly-regulated use of inmate data, an examination of the rate of recidivism will yield counts of the students falling into the following categories: non-completers of a diploma program and



one-year completers of a diploma program.

Released inmates not on parole are inherently difficult to geographically track, as was observed in studies described in Chapter 2. As Rudenstam and Brown (1992) observe, efforts at experimental control are oftentimes impractical in social science research with human subjects. In situations such as this, it is an accepted research method of choice to incorporate a quasi-experimental design that compromises some of the rigor of the controlled experiment, but maintains the logic of experimental research (Cook & Campbell, 1979). This kind of research has also been referred to as “ex post facto research,” a systematic empirical approach in which the investigator does not employ experimental manipulation nor random assignment of subjects to conditions, because events have already occurred or they are intrinsically not manipulable (Kerlinger, 1979). So-called causal statements morph into correlational statements in quasi-experimental research, although it is often possible to infer a sequence of events in causal form. So this type of study will be correlational in nature and simply examine relationships between the prison education intervention described and good-time spent in the general population. Both experimental and correlational traditions have a rightful place in the evaluation of quantitative and qualitative data and, in many instances, statistical methods drawn from both paradigms are viewed as equally legitimate choices (Gigerenzer, 1991; Creswell, 1994). Correlation measures association, but association is not the same as causation (Freedman, Pisani, Purves & Adhiskari, 1991).

### **Instrumentation and Data Collection**

For this study, no survey instruments were deemed necessary; as mentioned

earlier, a relationship between educational treatment and recidivism is intended to be the focus. Data was collected through the assistance of the Institutional Effectiveness Director at Piedmont Community College and analyzed for recidivists through the aforementioned Human Subjects Department, Division of Prisons, in Raleigh.

The two groups described previously receiving educational treatment (the independent variable) to be compared with the overall recidivism percentage (dependent variable) will be considered convenience samples because an entire group of individuals is available to examine for the study (Creswell, 1994). The choice for sampling design may be based on access to specific individuals in a population, i.e., inmates. A *single-stage* sampling procedure is to be used, whereby the researcher has access to names in the population and can sample those individuals directly (Babbie, 1990).

### **Data Analysis**

According to McMillan (1996, p.171) correlational studies examine “the degree to which variations or differences in one variable are related to variations or differences in another variable.” In simple correlational studies, researchers gather data from variables for each group to be studied and calculate a correlational coefficient. When two variables are perfectly correlated, the coefficient equals +1.00 or -1.00. If the variables are unrelated or distantly related, the coefficient is close to 0.00.

Correlations are statistical descriptions that describe the strength of the relationship between one variable and another. At best, correlations are statistical conclusions of what happens within a correlational matrix, which is nothing more than a convention for graphically representing data that, presumably, have one connection to

each other (Babbie, 1990; Freedman, et al, 1991). The fact that a relationship exists as shown by a correlation does not allow us to infer a causal relationship, as often the relationship is the result of a third variable or a combination of other variables (Krathwohl, 1998). Regardless of whether a relationship is causal, a correlation allows for predictions, and thus such relationships are extremely useful.

For experimental designs with categorical information (groups) on the independent variable and continuous information on the dependent variable, t-tests or univariate analysis of variance (ANOVA), analysis of covariance (ANCOVA), or multivariate analysis of variance (MANOVA-multiple dependent measures) are sometimes used to determine the statistical significance of mean score differences regarding treatment groups (Creswell, 1994).

Descriptive statistics will be used to define the population demographics and summarize the data. Means, medians, and standard deviations are intended to characterize the groups to be studied in regard to academic preparation and time out of prison or recidivism. Correlations will be computed on each component of the independent variable – level of academic achievement – to determine whether significant correlations exist between it and the dependent variable – the recidivism rate. Level of significance is to be set at  $p < .05$ . Where significant correlations are found in a design, those component variables are entered into a regression equation to determine a predictive value for the dependent variable.

All analyses were carried out using SPSS for Windows (SPSS 12.0, SPSS Inc., Chicago, IL). Descriptive statistics are reported as mean (SD) for continuous/ordinal

variables and N (%) for categorical variables. A two-sample z-test based on the normal approximation to the binomial distribution was used to compare percentage recidivism in the study sample to the North Carolina population percentage recidivism. The Chi-square test was used to evaluate associations between race and graduation and return rates. Analysis of variance was implemented to compare the distribution education, age and time between exit and return between racial groups. The two-sample t-test was used to compare the distribution of education, age, and time between exit and return between those who did and did not graduate and for age, and education, between those who did and did not return to prison. The Pearson correlation statistic was used to evaluate the associations between education, age and time between exit and return to prison. A two-sided p-value of 0.05 or less was selected to determine the statistical significance of the test statistics.

### **Delimitations and Limitations**

Cook and Campbell (1979) note that despite the creative utilization of experimental design configurations since the 17<sup>th</sup> century, it was not until the last 100 years that these notions became systematized. The advantages of experimental control for inferring causation must be weighed against the disadvantages that arise because it is not always desirable to learn about causation in controlled settings.

Delimitations imply limitations on the research design that have been deliberately imposed (Rudenstam & Newton, 1992), and usually restrict the populations to which the results of the study can be generalized. In the parameters of this study, the population regarding educational treatment in the considered prison facilities is the focus.

Limitations, on the other hand, refer to restrictions in the study over which there is no control. It should be noted that, for purposes of this study, no prior control is possible regarding educational background, age, or race of the individuals since restrictions are imposed at the state level considering personal inmate demographic information. A percentage can be obtained indicating completion rates of diploma students which will be statistically analyzed utilizing appropriate correlational procedures. However, until this information is delivered, not very much can be considered about data analysis in advance of the study (Lincoln & Guba, 1985).

The inherent delimitation of this proposed study is that only those inmates at the Caswell facility are intended to be participants. This is sufficient in addressing how the study will be narrowed in scope.

Since limitations of a study identify potential weaknesses in the processes and outcomes to be reported (Creswell, 1994), herewith are described problems using recidivism as a program evaluation measure.

The question of validity has to do with the truth of observations, such as whether the research instrument accurately reports on the object of interest (Lindlof, 1995).

Validity is often characterized by its internal and external dimensions. An internally valid inquiry concerns one in which the variation of an independently controlled variable results in a pattern of variation in a dependent measure. Since potential threats to internal validity include factors in the research context such as instrument changes, subject maturation and the like, this construct will need not be considered in this ex-post-facto study utilizing no instrumentation. An externally valid inquiry is one in which an

observed pattern generalizes to other situations regarding times, setting, and subjects. Cook and Campbell (1979) note that potential threats to generalizability usually occur when random probability sampling procedures are not followed. Since this study involves populations, sampling is not a factor.

This study makes no claim to assessing an offender's risk factor. This principle has two components. First, it states that treatment will be effective when services are matched with the individual's risk of re-offending. A risk factor can be anything about the offender's past or present circumstances and behavior that is predictive of criminal behavior (Gendreau, Goggin, & Little, 1997). Secondly, Andrews and Bonta (1994) classified risk factors into two categories: static and dynamic. Static risk factors, i.e., age, previous convictions, early family situations, are aspects of an offender's past that are considered predictive of recidivism but are not subject to change. On the other hand, dynamic risk factors or *needs* reflect the present circumstances and behavior of the offender, and, as such, are mutable. There are two types of offender needs: criminogenic and non-criminogenic. Examples of the former are attitudes, cognitions, and behavior regarding employment, education, peers, authority, substance abuse, and interpersonal relationships that can lead to conflict with the law. The importance of criminogenic needs rests in the premise that when treatment programs target these needs, reduction in offender behavior can reasonably be expected to occur (Andrews & Bonta, 1994).

The evaluation of treatment programs depends on the availability of accurate measures of risk. While randomized experiments are difficult to achieve in corrections agencies, the aforementioned use of quasi-experimental design using comparison groups

can be readily created if offenders have been assessed as to their risk level (Goggin & Little, 1997). In support of this point is that the Andrews, et al, (1990) meta-analysis found the quality of the research design was a minor factor in assessing the effectiveness of services. The authors endorsed the use of evaluations that controlled for pretreatment risk levels if randomized experiments were not possible.

### **Summary**

The methodology chapter traditionally includes the general design of the study to reinforce that described in Chapter 1, the study population and sample selection, data collection instruments and procedures, and analysis strategies (Ogden, 1991). This chapter often includes a statement describing the statistical tests that will be used to address the hypotheses and research questions (Rudenstam & Newton, 1992). It is viewed here that this benefit positively will impact on the treatment of data as collected. All considerations in this regard will be applied toward Chapter 4 concerning the collection of the data deemed necessary as indicated by the research questions and inherent hypotheses presented previously, leading to conclusions drawn and suggestions for further research in Chapter 5.

## Chapter 4

### Data Analysis

The purpose of this section in a dissertation is to present the findings as clearly as possible with tables, figures, transcript summaries, and a description of what is important and noteworthy regarding these (Rudestam & Newton, 1992).

The purpose of this study is to examine the possible positive influence regarding recidivism concerning two diploma programs at the Caswell Correctional Facility through educational intervention provided by Piedmont Community College. This chapter describes the research questions and the accompanying null hypotheses for questions two, three, and four.

1. What are the demographic characteristics of the general male inmate population in North Carolina?
2. Is there a significant statistical difference between the recidivism percentage of non-completers of a diploma program and the recidivism rate overall?

H 2 There is no significant statistical difference between the recidivism percentage of non-completers of a diploma program and the recidivism rate overall.

3. Is there a significant statistical difference between the recidivism percentage of completers of a diploma program and the recidivism rate overall?

H 3 There is no significant statistical difference between the recidivism



percentage of completers of a diploma program and the recidivism rate overall.

4. Is there a significant statistical difference between completers and non-completers of a diploma program and the recidivism rate overall?

H 4 There is no significant statistical difference between completers and non-completers of a diploma program and the recidivism rate overall.

Before research questions two, three, and four can be addressed, however, demographic characteristics of adult male inmates at North Carolina's state correctional facilities will be considered.

### **Research Question One**

What are the demographic characteristics of the general male population?

Education Services continued to provide academic and vocational opportunities designed to assist inmates become jobholders and responsible citizens upon their release. Each day, more than 3,700 inmates attend full-time academic or vocational programs. More than 1,200 inmates obtained General Education Development (GED) diplomas and over 5,500 inmates earned certificates, diplomas, and degrees during the year 2003. Thus, the Division of Prisons works with the community college system to provide a full range of academic programs, according to the N.C. Department of Corrections Annual Report (2004). The following table reveals certain demographic characteristics of the adult male inmate population housed in North Carolina state correctional facilities as of January 31, 2004 (N.C. Department of Correction, 2004).

Table 4.1 **General Population Demographics**

Race	Population	Percentage
Caucasian	10,358	33%
African American	19,147	61%
Native American	628	2%
Asian	63	.2%
Other	1,193	3.8%
	31,389	100%

Age Group	Highest Average Grade Reported	Valid Population Percentage
Under 20	9	3.3%
20 - 24	10	16.0%
25 - 29	11	17.7%
30 - 34	11	16.9%
35 - 39	11	15.0%
40 - 44	10	13.7%
45 - 49	11	8.4%
Over 50	11	9.0%
Average	10.5	100%

**Participant**  
**aphics**

**Demogr**

What follows refers to the demographic characteristics of those student inmates participating in the diploma programs described at the Caswell Correctional Facility from 1991 through 2001. It should be noted that the N=305 concerning participants remaining incarcerated could not be determined; however, there are indeed 148 graduates, with 107 remaining incarcerated as of February, 2002 (N.C. Department of Correction, 2003).

Program participants having not graduated number 264, which is 86.6% of the total N=305. Those having graduated number 41, or 13.4% of the total overall participants. For the purposes of this study, Heating and Air graduates and Welding Technology graduates were not considered separately.

Of the total N=305 participants, 213 have not returned to prison as of 2003, according to The North Carolina Department of Correction Annual Report, 2004. This represents 69.8% of the total; those having returned number 92, which is 30.2% of the total of participants.

Table 4.2 **Year of Birth**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 42	1	.3	.3	.3
44	1	.3	.3	.7
47	1	.3	.3	1.0
49	2	.7	.7	1.6
50	3	1.0	1.0	2.6
51	5	1.6	1.6	4.3
52	3	1.0	1.0	5.2
53	4	1.3	1.3	6.6
54	6	2.0	2.0	8.5
55	11	3.6	3.6	12.1
56	9	3.0	3.0	15.1
57	7	2.3	2.3	17.4
58	9	3.0	3.0	20.3
59	3	1.0	1.0	21.3
60	10	3.3	3.3	24.6
61	9	3.0	3.0	27.5
62	15	4.9	4.9	32.5
63	10	3.3	3.3	35.7
64	14	4.6	4.6	40.3
65	8	2.6	2.6	43.0
66	13	4.3	4.3	47.2
67	16	5.2	5.2	52.5
68	21	6.9	6.9	59.3
69	19	6.2	6.2	65.6
70	28	9.2	9.2	74.8
71	22	7.2	7.2	82.0
72	13	4.3	4.3	86.2
73	17	5.6	5.6	91.8
74	10	3.3	3.3	95.1
75	7	2.3	2.3	97.4
76	4	1.3	1.3	98.7
78	4	1.3	1.3	100%
Total	305	100.0	100.0	

Table 4.3

**Year of Release**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1992	35	11.5	11.5	11.5
	1993	58	19.0	19.1	30.6
	1994	48	15.7	15.8	46.4
	1995	44	14.4	14.5	60.9
	1996	50	16.4	16.4	77.3
	1997	17	5.6	5.6	82.9
	1998	20	6.6	6.6	89.5
	1999	9	3.0	3.0	92.4
	2000	12	3.9	3.9	96.4
	2001	10	3.3	3.3	99.7
	2002	1	.3	.3	100.0
	Total		304	99.7	100.0
Missing	System	1	.3		
Total		305	100.0		

Fig. 4

Age at Release

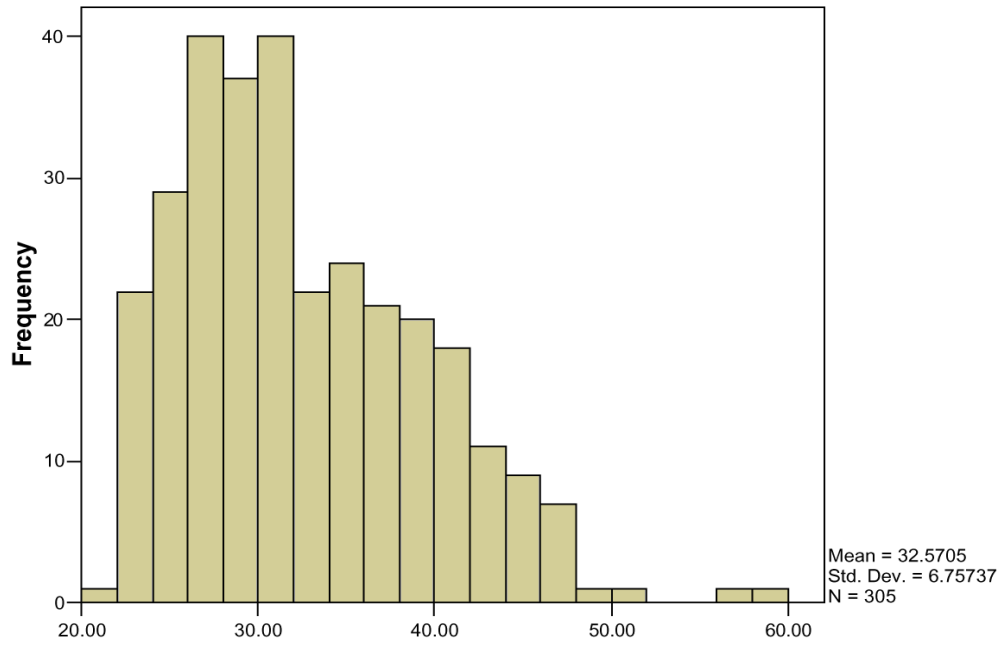
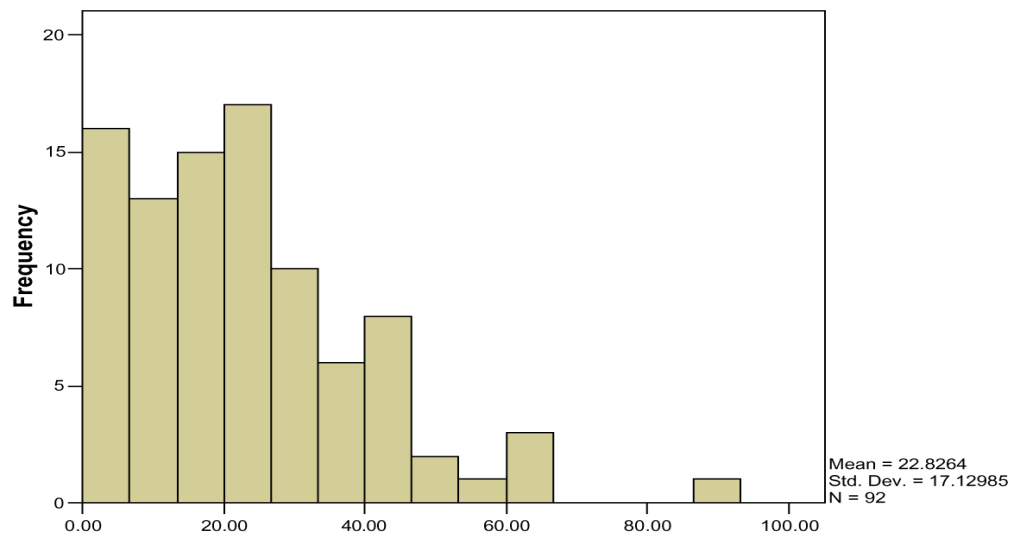


Fig. 5

Months Between Release and Return



## Explanation of Analyses

For research questions two, three, and four, an accompanying null hypothesis is included. The null hypothesis indicates that an observed difference just reflects chance variation (Howell, 1997; Gravetter & Wallnau, 2000). To make a test of significance, the null hypothesis must be formulated as a statement. And a test statistic is then used to measure the difference between the data and what is expected on the null hypothesis (Freedman, Pisani, Purves & Adhikari, 1991).

As mentioned in the methodology chapter, tests of significance employed to analyze the data included z-scores, t-scores, the Chi-square test, and the Pearson correlation statistic. The z-statistic converts the observed data to standard units on the basis of the null hypothesis (Howell, 1997). This technique was used in this study to compare recidivism percentage in the sample to the overall North Carolina recidivism percentage. The two-sample z-test based on the normal approximation to the binomial distribution was the method chosen for this comparison. The two-sample t-test was used to compare education distribution, age, and time between exit from prison and return between those that did and did not graduate, and for age and education between those who did and did not return to prison. The only difference between the t-formula and the z-score formula is that the z-score uses the actual population variance (the standard deviation) and the t-formula uses the corresponding sample variance (or the standard deviation) when the population value is not known (Gravetter & Wallnau, 2000).

The Pearson correlation statistic was used to evaluate the possible associations between education, age, and time between exit and return to prison. This statistic

measures the degree and direction of linear relationships between two variables, which was deemed appropriate in this regard (Freedman, Pisani, Purves, & Adhikari, 1991; Gravetter & Wallnau, 2000). A related statistic, the Chi-Square, may also be used to test whether or not there is a relationship between two variables. The Chi-square test, then, was considered appropriate to compare the recidivism percentage between those who did and did not graduate (Howell, 1997). This method was also used to evaluate associations between race and graduation and return rates. Also used in the data analysis was analysis of variance (ANOVA) to compare the distribution of education, age, and time between exit and return between racial groups. Analysis of variance is a hypothesis-testing procedure that is used to evaluate mean differences between two or more treatments or population (Rudenstam & Newton, 1992). As with all inferential procedures, ANOVA uses sample data as the basis for drawing general conclusions about populations (Gravetter & Wallnau, 2000).

### **Research Question Two**

Is there a significant statistical difference between the recidivism percentage of non-completers of a diploma program and the recidivism rate overall?

It is observed from the cross-classification table below that, out of 264 non-completers, 86 (32.6%) returned to prison. The overall recidivism rate is recognized as 65%, according to the North Carolina Department of Correction Annual Report (2004). The z-statistic for this test was computed to be 9.4, which is associated with a p-value of

$P < 0.0001$ . Thus, the null hypothesis ( $H_0$ ) is rejected and it therefore is concluded that there is very strong evidence to suggest that non-completers have a lower recidivism rate than the overall population.

Table 4.4

Table 4.5

**prog Graduate from program? \* return RETURN Crosstabulation**

			return RETURN		Total
			5	6	
prog Graduate from program?	No	Count	178	86	264
		% within prog Graduate from program?	67.4%	32.6%	100.0%
	Yes	Count	35	6	41
		% within prog Graduate from program?	85.4%	14.6%	100.0%
Total		Count	213	92	305
		% within prog Graduate from program?	69.8%	30.2%	100.0%

### Research Question Three

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.423 <sup>b</sup>	1	.020		
Continuity Correction <sup>a</sup>	4.605	1	.032		
Likelihood Ratio	6.095	1	.014		
Fisher's Exact Test				.027	.013
Linear-by-Linear Association	5.405	1	.020		
N of Valid Cases	305				

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 12.37.



Is there a significant statistical difference between the recidivism percentage of completers of a diploma program and the recidivism rate overall?

Again referring to the previous data, it is observed that out of 41 completers, 6 (15%) returned to prison. The z-statistic for this test is computed to be 6.5, which is associated with a p-value of  $P < 0.0001$ . Compared with the overall recidivism rate of 65%, the null hypothesis (H 3) is rejected, and it is concluded there is very strong evidence to suggest that completers have a lower recidivism rate than the overall population.

#### **Research Question Four**

Is there a significant statistical difference between completers and non-completers of a diploma program and the recidivism rate overall?

The previous data indicate that a smaller percentage of completers (14.6%) returned to prison compared to non-completers (32.6%). The z-statistic for this test is computed to be a p - value of  $P = 0.020$ . Thus, the null hypothesis (H 4) is rejected and it is concluded there is very strong evidence to suggest that completers have a lower recidivism rate than non-completers.

#### **Exploratory Analyses**

In a previous section of this chapter, Explanation of Analyses, mention was made of techniques used to analyze the data for use in this study. In the following tables reflecting these procedures, the column designated as 5 refers to the “no return” and 6 is, accordingly, assigned to “return” to prison.

These analyses were not carried out to adjust for potential confounders possibly associated with the research questions; the data were explored in this additional manner simply to see what, if anything, could be learned from it. This section, in fact, could have been left out of this study entirely, due to the position taken that the research questions and null hypotheses were entirely appropriate as intended. However, unexpected outcomes are always a possibility with any kind of data analyses (Rudenstam & Newton, 1992).

Concerning race: 1 refers to Caucasian, 2 refers to African-American, and 3-6 were grouped as “other.” The following tables consider race and return, and race and graduate numbers. From these cross-tabulation tables, it is observed that race=1 and race=2 are similar with respect to return rate (30.4% and 31.7% respectively) and completion rate (14.8% and 11.7% respectively). It is concluded that neither return rate nor completion rates were statistically significantly different between races identified as 1 and 2 ( $p=0.11$  and  $p=0.22$  respectively). There are too few of the “other” races to compare statistically.

## Race Statistics

Table 4.6

			return RETURN		Total
			5	6	
race RACE	1	Count	80	35	115
		% within race RACE	69.6%	30.4%	100.0%
	2	Count	123	57	180
		% within race RACE	68.3%	31.7%	100.0%
	3	Count	4	0	4
		% within race RACE	100.0%	.0%	100.0%
	4	Count	4	0	4
		% within race RACE	100.0%	.0%	100.0%
	5	Count	1	0	1
		% within race RACE	100.0%	.0%	100.0%
	6	Count	1	0	1
		% within race RACE	100.0%	.0%	100.0%
Total		Count	213	92	305
		% within race RACE	69.8%	30.2%	100.0%

			prog Graduate from program?		Total
			No	Yes	
race RACE	1	Count	98	17	115
		% within race RACE	85.2%	14.8%	100.0%
	2	Count	159	21	180
		% within race RACE	88.3%	11.7%	100.0%
	3	Count	2	2	4
		% within race RACE	50.0%	50.0%	100.0%
	4	Count	3	1	4
		% within race RACE	75.0%	25.0%	100.0%
	5	Count	1	0	1
		% within race RACE	100.0%	.0%	100.0%
	6	Count	1	0	1
		% within race RACE	100.0%	.0%	100.0%
Total		Count	264	41	305
		% within race RACE	86.6%	13.4%	100.0%

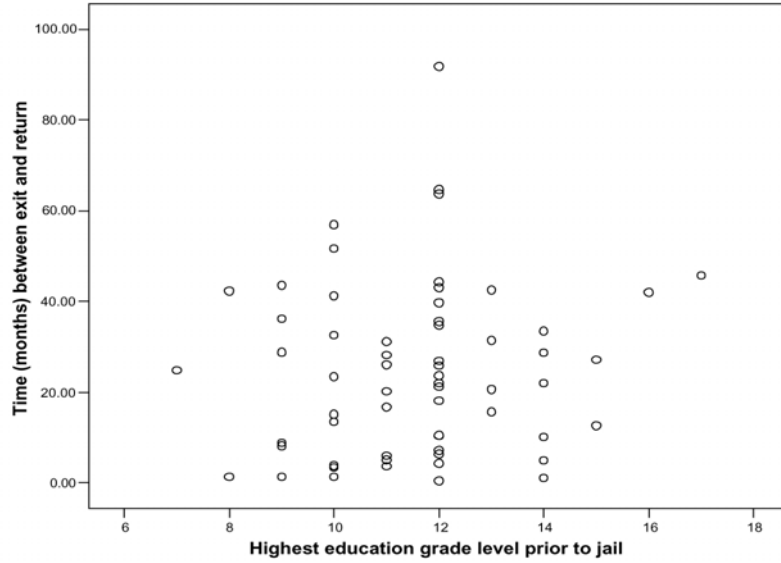
Regarding education, age, and time between exit and return, the scatterplot of education versus age depicted in the graph below suggests a weak positive association. As indicated, as age increases, so does years of education. This observation is further substantiated by the Pearson correlation statistic,  $r=0.21$  ( $P=0.003$ ); this is a weak correlation. The other scatterplots and correlation statistics do not suggest any

association.

### Prior Education vs. Return

Table

4.7



Correlations

		higrd Highest education grade level prior to jail	age Age (years) at exit from prison	exitret Time (months) between exit and return
higrd Highest education grade level prior to jail	Pearson Correlation	1	.210**	.098
	Sig. (2-tailed)	.	.003	.454
	N	202	202	61
age Age (years) at exit from prison	Pearson Correlation	.210**	1	-.113
	Sig. (2-tailed)	.003	.	.282
	N	202	305	92
exitret Time (months) between exit and return	Pearson Correlation	.098	-.113	1
	Sig. (2-tailed)	.454	.282	.
	N	61	92	92

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The following table concerns an exploratory analysis involving age, education, and time between exit and return by graduation numbers. The average education, age, and time between exit and return look similar between those who did and did not graduate. The P-values confirm this with P=0.28, 0.0083, and 0.9 for education, age, and

time from exit to return, respectively.

### Graduates vs. Non-graduates

	prog Graduate from	N		Mean	Median	Std. Deviation	Minimum	Maximum
		Valid	Missing					
higrd Highest education grade level prior to jail	No	175	89	11.59	12.00	1.752	5	17
	Yes	27	14	12.00	12.00	2.320	7	17
age Age (years) at exit from prison	No	264	0	32.3059	31.0356	6.60305	21.67	58.27
	Yes	41	0	34.2748	34.2082	7.54457	23.09	57.34
exitret Time (months) between exit and return	No	86	178	22.7655	20.4590	17.29979	.52	91.77
	Yes	6	35	23.6995	23.9672	15.86418	5.11	45.70

### Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
higrd Highest education grade level prior to jail	Equal variances assumed	1.512	.220	-1.084	200	.280	-.411	.380	-1.160	.337
	Equal variances not assumed			-.883	30.742	.384	-.411	.466	-1.362	.539
age Age (years) at exit from prison	Equal variances assumed	.516	.473	-1.742	303	.083	-1.96898	1.13054	-4.19368	.25573
	Equal variances not assumed			-1.580	49.975	.120	-1.96898	1.24638	-4.47243	.53448
exitret Time (months) between exit and return	Equal variances assumed	.076	.783	-.128	90	.898	-.93392	7.27248	-15.38196	13.51413
	Equal variances not assumed			-.139	5.862	.894	-.93392	6.73984	-17.52049	15.65265

Table 4.8

The last exploratory analysis concerns education and age in relation to who did and did not return, indicated by the data on the table below. The average years of education appears similar for those who did and did not return to prison. The average

age appears smaller for those who did return to prison, however. These observations are substantiated by the t-tests:  $P=0.6$  and  $P<0.0001$  for education and age, respectively.

**Statistics**

			N		Mean	Median	Std. Deviation	Minimum	Maximum
			Valid	Missing					
return RETURN									
higrd Highest education grade level prior to jail	5		141	72	11.69	12.00	1.781	5	17
	6		61	31	11.54	12.00	1.971	7	17
age Age (years) at exit from prison	5		213	0	33.6809	32.3753	7.01872	22.19	58.27
	6		92	0	29.9999	29.2356	5.31129	21.67	44.38

**Independent Samples Test**

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the	
										Lower	Upper
higrd Highest education grade level prior to jail	Equal variances assumed	1.646	.201	.521	200	.603	.147	.282	-.409	.703	
	Equal variances not assumed			.501	104.306	.618	.147	.294	-.435	.729	
age Age (years) at exit from prison	Equal variances assumed	12.710	.000	4.503	303	.000	3.68100	.81751	2.07227	5.28972	
	Equal variances not assumed			5.019	225.081	.000	3.68100	.73342	2.23575	5.12625	

**Age Prior Education, and Return**

Table 4.9

## Summary

The data analyses carried out had to do with historical information gleaned from a total population of student/inmates participating in two post-secondary educational programs. Even though there were multiple limitations associated with this project, the notion that the described educational treatment impacted positively upon post-release societal concerns validates the research involving these programs and the positive effect on recidivism.

The research questions regarded whether there was significant statistical differences between recidivism percentages and educational treatment. The results showed that, compared to the overall percentage of 65%, only 33% of program non-completers returned to prison, and 15% of graduates returned to prison. Thus, the accompanying null hypotheses were rejected, as the data analysis described in this chapter concluded there was strong evidence to suggest that both completers and non-completers of the two programs were likely to have a lower return rate than the general inmate population overall.

Chapter Five will address the inherent concerns herein and salient suggestions for future studies in this regard.

## Chapter 5

### Conclusions and Recommendations

The purpose of this study was to examine the possible positive influence regarding the recidivism concerning two diploma programs through educational intervention provided by Piedmont Community College at the Caswell Correctional Facility: Welding Technology and Heating and Air Technology.

The data consisted of four research questions, the first considering the inmate qualities concerned with those in North Carolina: What are the demographic characteristics of the general male population? This was revealed in the inclusion of a table containing information regarding race and age groupings of this cohort.

Research Question Two pondered: Is there a significant statistical difference between the recidivism percentage of non-completers of a diploma program and the recidivism rate overall? It is noted that the latter stands at 65% currently in North Carolina. The data analysis confirmed that there is, indeed, very strong evidence that non-completers have a lower recidivism rate than the overall population, and, therefore, the accompanying null hypothesis was rejected. Similarly, Research Question Three: Is there a significant statistical difference between the recidivism percentage of completers of a diploma program and the recidivism rate overall, revealed that the data confirmed that there is very strong evidence to suggest that completers have a lower recidivism rate than the



overall population and the accompanying null hypothesis was rejected. And Research Question Four: Is there a significant statistical difference between completers and non-completers of a diploma program and the recidivism rate overall, again demonstrated through analysis of the data associated with it, that there is substantial evidence to suggest that completers have a lower rate of recidivism than non-completers. Therefore, again the accompanying null hypothesis was rejected.

### **Evaluation of Programs**

Considering conclusions associated with this study, it is apparent that further research must be carried out regarding in-depth evaluations of the effectiveness of prison educational programs. Much more thorough research than the current *ex-post facto* method is imperative in order to make sense of the multi-dimensional aspects impacting this educational environment.

Our efforts, as individual faculty and administrators, as faculties and staffs of specific programs, and as participants in the educational institution of prison programs concerning higher education, have the potential to contribute to educational practices far removed from the confines of the inmate-student. At the moment, this potential remains just that—a suggestion of things that may emerge. The challenges of evaluating prison higher education are formidable, in part due to the nature of this endeavor and in part because so little basic research has been initiated.

Regarding the dearth of research on higher education in prison, it is

acknowledged that the inmate-student is an unknown member of the academy (Williford, 1994). These individuals enroll in educational programs and matriculate for reasons more complex and elusive than the reasons for which traditional students attend post-secondary institutions. Institutional researchers are only now coming to recognize that students attend community colleges for reasons and in patterns that cannot be explained by the models developed to understand full-time residents attending four-year colleges. It remains to be seen if prisoners enrolled in these programs are different in degree or in kind from their closest cohorts, the traditional community college students.

From the researcher's perspective, even less is known concerning the faculty and administrators who seek out the rewarding but oftentimes trying opportunities to work in this environment. What attracts them, what retains them, what happens to them over the course of several years are only three obvious questions about which there is little insight.

Similar questions can be asked about colleges and universities that sponsor and sustain correctional higher education programs. Some programs emerge and evaporate with great frequency, while others enjoy a lengthy productivity. Although the concrete particulars may be known to the participants in any given program, very little is known concerning what factors are at play in these endeavors as a national institution.

### **Recommendations**

Besides the previous ruminations concerned with program evaluation,

there are other methods that can be employed by future researchers regarding educational effectiveness in correctional settings.

- A process-oriented ongoing longitudinal research project would be an excellent way to possibly gain insight as to the reasons why individuals participate in these programs. A qualitative approach in tandem with the inherent quantitative study techniques would be a valuable complement in gaining insight in this concern.
- Projects involving the study of non-post-secondary programs should be conducted. There are many educational programs offered through the community college such as Adult Basic Skills and Human Resource Development. Also delivered and available for research is the General Education Development (GED) high school equivalency program. Many of the post-secondary education participants are graduates/completers of these programs. Of interest would be how these programs affect the enhancement of the inmates post-incarceration success.
- Followup studies would be invaluable in determining the effectiveness of these described programs. An examination of job success and general employability of program participants could be a relatively uncomplicated endeavor, considering the individuals targeted could be studied away from the constraints of the prison environment.

- Community colleges should be examined in the context of why they offer correctional programs. Faculty and administrators should be surveyed and interviewed individually to conclude the reasons behind these endeavors, whether they be purely or partly academic vis-à-vis financial to the college.

With this knowledge and insight, it is indeed possible to engage our students with a legitimate sense of knowing what we are doing and how well we are doing it, to explain our work to those stakeholders who support and certify the programs, and to address the oftentimes uninformed and misinformed critics who challenge the very existence of correctional educational programs of all categories.

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