OCE/CEA

Three State Recidivism Study

September 30, 2001

Submitted to the Office of Correctional Education
United State Department of Education
by

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The contents of this report were developed under a grant from the Department of Education. However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government.

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Acknowledgments

A study of this size and complexity could never have been undertaken without the assistance of a great many people. First and foremost, the Correctional Education Association gratefully acknowledges the Office of Correctional Education, Office of Vocational and Adult Education, of the U.S. Department of Education for its financial support of the project. In particular, CEA wishes to thank Richard Smith, former director of the OCE, and John Linton, the current director, and their staff for their efforts on behalf of the study. The CEA also wishes to thank the personnel of the three states involved in the project. These individuals include Minnesota Department of Corrections Commissioner Sheryl Ramstad Hvass, Director of Education Marcie Sorensen, Former Education Coordinator, Roger Knudson, and Scott Olson; Reggie Wilkinson, Director of the Ohio Department of Rehabilitation and Correction, and Jerry McGlone, Superintendent of the Ohio Central School System; Maryland State Superintendent of Schools Nancy Grasmick, Secretary Stuart Simms and Adminstrator Tom Stough of the Maryland Department of Public Safety and Correctional Services, Commissioner William Sondervan and Educational Liaison David Jenkins of the Maryland Division of Correction. In addition, much effort was exerted by correctional and education staff and in the systems of all three states. Very special recognition goes to Heather Bedell who spent countless hours entering the data and creating the tables in this report. CEA thanks each and every one of you profusely for help in this landmark study.

EXECUTIVE SUMMARY

The Correctional Education Association conducted the *Three State Recidivism Study* for the United States Department of Education Office of Correctional Education. The study was designed to see if education, independent of other programs, could have significant impact on the behavior of inmates after release. Data on about 3,200 inmates, who were released from Maryland, Minnesota and Ohio prisons in late 1997 and early 1998, are reported in this longitudinal study. The research design, which uses educational participation while incarcerated as the major variable, measures the impact of education while incarcerated on post release behavior, primarily recidivism and employment. The states pooled their data in a format that allows for individual state as well as aggregate reports. Within each state the correctional, parole and probation, education and work force agencies cooperated in the data collection.

When the study began each state determined 1,000 or more people about to be released from their state prisons. This type of research design, called a release cohort, provides for a framework with internal control groups.

The research tools were designed by a number of correctional researchers. The Pre-Release Survey was developed to gather information from the inmates themselves on factors closely correlated with criminal behavior. These included information on socio-economic factors, criminal behavior, family life, educational experiences and work history. The Educational/Institutional Data Collection Form contained questions that included criminal behavior, demographic information, institutional behavior and education history during incarceration. The Parole/Release Officer Survey contained questions designed to collect data on subsequent criminal behavior, employment and educational experiences. Post Release Criminal History Data was collected to measure

recidivism. Employment data was collected to find out about the kinds of jobs and the amount of wages earned after release.

Inmates, about to be released, were assembled in the various institutions where the Pre-Release Survey was administered by trained staff. Those who did not want to take the survey were excused. The refusal rate was very low. Inmates put their answers on scan sheets. Criminal history and educational data from the education and correction records were collected from the various agencies using the Educational/Institutional Data Collection Form in either an electronic or a scan sheet format. After release the parole officers were sent the Parole/Release Officer Survey for behavioral, educational and employment information for the ex-offenders under their supervision. In two states, the state departments of labor were able to contribute Employment Data for post release employment and wage information. Finally, re-arrest, re-conviction and re-incarceration data were collected from state Criminal History Data files. The federal Department of Justice Bureau of Justice Statistics commonly uses these three areas to describe recidivism.

All the information obtained from the surveys and state databases were entered into one large database to allow for individual state and aggregate reports. Over 500 variables were collected on each of the study participants, resulting in a very large quantity of information. There are demographic data on family and community background, economic status and employment, educational experience, offender perspectives on education and motivational factors that correlate highly with criminality as well as educational, correctional and criminal history. This is the first study to collect extensive information from the inmates themselves.

Another unique aspect of the study is the collection of individual wage data from two of the states labor databases. Data was collected from each state, but only Maryland

and Minnesota was useable. The Ohio data was in a format that could not be read by the researchers.

The analysis of the data indicates that inmates who participated in education programs while incarcerated showed lower rates of recidivism after three years. For each state the three measures of recidivism, re-arrest, re-conviction and re-incarceration were significantly lower. The employment data shows that in every year, for the three years that the study participants were followed, the wages reported to the state labor departments were higher for the education participants compared to the non-participants.

The following report narrates the overall design, execution of the study, data analysis, discussion of the results and conclusions.

INTRODUCTION

Correctional educators have worked for years in the belief that education not only provides hope for their students and an avenue for change, but that it also reduces the likelihood of future crime. Correctional educators have continued to teach while facing constant scrutiny and pessimism from the public and from certain legislators about the value of their work among those who have committed serious crimes. While the climate was always difficult, Congress got much tougher on crime in the 1990s. Inmate eligibility for Pell grants for post secondary education was entirely eliminated in 1994. Federal adult and vocational education set asides for correctional agencies were dropped a few years later. There were even limitations put on the right to special education services for the incarcerated. Many states also cut back or eliminated their funds for programs. One state even fired all the full time teachers in the state prisons.

In the meantime correctional educators have continued on in their effort to convince the public and legislators of what they believe is a worthwhile contribution in the ongoing battle to reduce the recidivism of incarcerated offenders returning to their homes and communities. However, as noted in the next section, while there have been a studies examining correctional education, there is a dearth of **rigorous** studies examining the impact of correctional education on post-release behavior particularly recidivism. It was apparent that valid and reliable empirical data was needed to determine if correctional education did, in fact, help reduce recidivism and increase the incarcerated offenders' participation in the labor market after release from prison.

Literature Review

In an attempt to counter the efforts at cutting back or eliminating correctional education there have been a variety of studies conducted since 1990 to measure the value of correctional education including GED participation, vocational training, cognitive

skills programs, and post-secondary/college participation (Flanagan, 1994; Eisenberg, 1991; Saylor and Gaes, 1991; Menon, et al., 1992; Jenkins, Pendry, and Steurer, 1993; Smith and Silverman, 1993; Porporino and Robinson, 1992; Little, et al., 1991; Gainous, 1992). Most of these occurred in the early 1990's with little being done during the last five years (1996-2001). Texas, however, has consistently examined the impact of their correctional education programs and has provided the most comprehensive studies with large sample sizes (Fabelo, 2000).

Unfortunately, many of them have had a number of research design weaknesses. The Three State Study was rigorously designed to eliminate most of these weaknesses and answer the question – is there any value in education for the incarcerated?

A detailed literature review was developed prior to this study. An updated review can be obtained from the Correctional Education Association.

Purpose of the Research

. Most states were struggling to keep education programs in the prisons and did not have the money for research needed to examine their correctional education programs. Thus, the U. S. Department of Education, Office of Correctional Education, saw the need for a study to assess whether or not correctional education programs were reducing the risk of recidivism for those inmates reentering their communities. Although many believe that there are numerous other social and economic benefits to be gained from educating inmates, this study focused primarily on the recidivism outcome. While not initially planned as part of the study, the focus of the research was extended to include wage and earnings data as well. Because of the difficulty associated with accessing wage and earnings data related to laws regarding confidentiality of social security numbers, this information has been rarely examined in the context of the impact of correctional education. In addition, a great deal of demographic/background data was

collected from the study participants to really look at carefully the characteristics and needs of incarcerated offenders who participated in correctional education and those incarcerated offenders who did not participate. This was done to gain information that could assist correctional education administrators in their strategic planning for correctional education programming.

RESEARCH METHODOLOGY

In this section of the report, the methodology for the OCE/CEA Recidivism Study is outlined. Research hypotheses, research design, study limitations, sampling procedure, study population, data collection instruments and measures, data collection procedures, and data analyses are included in the discussion.

Research Hypotheses

The primary focus of the OCE/CEA Recidivism Study was to track the performance of correctional education participants and a comparison group of non-participants in the community after release from incarceration. Specifically, the study assessed the impact of correctional education on recidivism and post-release employment as well as post-release behavior of those on parole or supervised release. The study hypothesized that participation in correctional education programs would result in reduced rates of re-arrest, re-conviction, and re-incarceration compared to non-participants (Hypothesis 1-3). The study also hypothesized that for participants who did recidivate, they would commit less serious offenses (Hypothesis 4) when compared to non-participants. We also hypothesized that post-release behavioral compliance with parole/release conditions and participation in pro-social activities would be higher for correctional education participants compared to non-participants (Hypothesis 5&6).

The seventh hypothesis was that participation in correctional education programs would result in higher rates of employment for participants, as well as higher wages (Hypothesis 8) than those of non-participants.

Research Design

Criminal Justice research often precludes, for legal and ethical reasons, randomization for selection of experimental and control groups. Many times, in

correctional settings, there are also practical and administrative obstacles that do not allow the type of rigorous methodology employed in an experimental design. Thus the OCE/CEA Recidivism Study utilized a quasi-experimental design which is an accepted methodology commonly used in criminal justice/corrections research. The main distinction between experimental and quasi-experimental designs is the lack of random assignment to a treatment or control group. Therefore when randomization is not possible, using a quasi-experimental design with close attention to procedures for selection of the study groups, techniques for measuring dependent variables, and utilization of other controls are methods that can reduce threats to the validity of the research and increase the rigor of the study (Maxfield and Babbie, 2001, p. 176). While a quasi-experimental design is practical for use in settings such as corrections, this design does not sacrifice the ability of the study to examine the impact of a treatment as long as an assumption of comparability can be met between the treatment and control group.

In this research, we used a release cohort (a group of inmates being released from incarceration during a certain time frame) for our study population. A cohort study is a methodology employed in quasi-experimental designs for nonequivalent groups where there is a belief that the treatment group does not systematically differ from the comparison group on important variables. Only after the release cohort is selected would data that would identify the cohort participants as either the treatment or comparison group be collected. This design takes advantage of the natural flow of cases through the criminal justice process with an assumption that the treatment group and the comparison group are similar on key variables known to impact recidivism and employment. Part of the research can also be categorized as a longitudinal study since the release cohort was followed for a three-year period following release from incarceration for measures of recidivism and employment.

Limitations

There were three main study limitations for this project. First, as mentioned in the previous paragraphs, randomization of the study participants was not possible. To address this limitation, a release cohort was used to select the treatment and control groups to be studied. Second, the findings cannot be generalized to other settings. The study groups were selected from three states – Maryland, Minnesota, and Ohio. Other states may have characteristics that could impact recidivism and employment outcomes differently than the three states in the study. For example factors such as how criminal acts are defined by each state's statutes, state sentencing guidelines determining who goes to prison, how criminal history data elements are reported to the state's criminal history repository, and the quality of the state's employment data could impact study outcomes in other states. However, the results of this study provide a general framework for continued research on the efficacy of education programs in correctional settings.

Third, the extent of educational involvement by months or hours is not absolutely known for the entire study group. Although some data was collected on months involved correctional education for a number of different programs, it was only for a portion of offenders in the study, thus making it difficult to assess the impact of length of time of participation in correctional education on recidivism. Record-keeping for these data elements was inadequate in all three states for a number of different reasons: (1) failure by education staff to maintain data in a systematic manner that could be reported with any confidence at the institutions (attempts to figure hours based on good/gain time credits given to inmates were rejected by the researchers); (2) movement of offenders to different institutions for security/custody purposes which meant attendance records were often lost in the process of files being moved with the inmate; and (3) inadequate

management information systems at the central offices. Since the study was conducted, the three states have implemented better management information systems for correctional education programs utilizing computer-based reporting either through the World Wide Web or through their own network systems.

Sampling Procedure

Originally Maryland, Alabama, and Ohio volunteered to participate in the study but the logistics could not be worked out in Alabama. With Alabama unable to participate a third state was sought for the research, and consequently Minnesota volunteered. This gave us an opportunity to examine correctional education in a small prison population (Minnesota), a medium-size prison population (Maryland) and a large prison population (Ohio). We wanted a large enough sample to look at a number of different variables so we decided to select 1000 inmates from each state for a total of 3,000 inmates in the study group. To generate a release cohort, we selected the entire population of inmates being released within a specified time period rather than a sampling.

In order to identify the release cohort, each state's Department of Corrections was asked to generate a list of inmates who were going to be released during the next several months until a list of 1200 from each state was reached. Information included the inmates' projected release date and the institutions from which they were being released. Over sampling was done to address those who might be released early and would not be available for the study. This list with the pertinent information was provided to the data collectors for each state. Table 1 shows that overall there were 3170 in the release cohort: 1373 (43.3%) correctional education participants and 1797 (56.7%) non-participants. Each state's sample size is as follows: Maryland - 275 (31.1%)

participants and 610 (68.9%) non-participants; Minnesota – 574 (54.6%) participants and 477 (45.4%) non-participants; and Ohio 524 (42.5%) participants and 710 (57.5%) non-participants. Having the opportunity to include over 3,000 offenders in the study, makes this research one of the largest and most comprehensive studies ever conducted assessing the impact of correctional education on post-release behavior.

Table 1: OCE/CEA Recidivism Study Cohort

	Correctional Education Participants		Non-Participants		Totals
	N	%	N	%	N
Maryland	275	31.1	610	68.9	885
Minnesota	574	54.6	477	45.4	1051
Ohio	524	42.5	710	57.5	1234
Total for all states	1373	43.3	1797	56.7	3170

Population

The study group was comprised of the entire population of a cohort of inmates released from incarceration during 1997 and 1998 in Maryland, Minnesota, and Ohio. After the release cohort was identified, the cohort was separated into two groups – education participants and a comparison group of non-participants. As stated earlier, the selection of a release cohort is a method used for non-equivalent "treatment" and comparison groups with an assumption of comparability. However, to further ensure the comparability of the two groups, significance tests were conducted for several key characteristics to see if the two groups differed on important variables that might impact the recidivism and employment results. Table 2 provides the characteristics and

description of the two groups (education participants and non-participants) and indicates whether or not they were significantly different on any of these variables.

Study Group Description/Characteristics

Certain demographic characteristics such as age, gender, race/ethnicity, and living environment place offenders at greater risk for recidivism. We wanted to compare the two study groups, participants and non-participants, on these key variables to determine if either study group was at greater risk of recidivism when compared to each other. What we found is that the mean age of the participants was 30.8 years and 32.6 years for the non-participants. As is typical in prison populations, a large majority in both groups were male (87.6% of the participants and 88.7% of the non-participants) while only a small number were female (12.4% of the participants and 11.3% of the non-participants). Forty percent of the participants were white, 52.9% were African American, 3.3% were Hispanic, 2.6% were Native American, 0.6% were Asian/Pacific Islander and 0.4% were classified as other. For the non-participants group, 36.4% were white, 57.7.% were African American, 1.7% were Hispanic, 2.5% were Native American, 0.6% were Asian/Pacific Islander, and 1.1% were classified as other. A little more than ten percent of both groups reported that English was a second language for them. More than half of the survey respondents (56.3% of participants and 60.7% of non-participants) reported being from large cities/urban areas. Only 5.6% of the participants and 6.1% of the non-participants reported living in a rural area before their current incarceration.

Of these demographic variables, the participants and non-participants were significantly different on age and race. Based on previous research, the difference in age (younger) puts the participant group at higher risk for recidivism while the difference in

race (non-whites) places the non-participants at higher risk for recidivism (Schmidt & Witte, 1989; Smith & Akers, 1993).

Family stability can also impact recidivism. Such factors as being married, having children to support, and being financially able to take care of your family can reduce the risk of recidivism. Thus when we examined the family variables, we discovered that the majority of both the education participants and non-participants were single, divorced, or separated. Nearly half of the study participants who had children were financially responsible for their support (45.7% of the participants and 46.2% of the non-participants). Both groups were equally likely to have received some type of public assistance prior to their current incarceration including food stamps, welfare, AFDC, Medicaid and public housing, and they were equally likely to have family members currently receiving public housing assistance. Overall there were no significant differences between the two groups on any of the family variables.

Research has shown that employment is a key factor in the successful reentry of offenders into the community after incarceration. When we examined and compared the two study groups on employment variables we found that over a quarter of the survey respondents (27.3% of the participants and 26.5% of the non-participants) had not held a legal job in the year prior to incarceration. Nearly 40% of both groups also reported that during their lifetime they had held seven on more jobs. Considering the mean age of both study groups, they were changing jobs regularly. Only 55% of the participants compared to 64.4% of the non-participants had held a legal job one year or more (statistically significant). Of the participants, 27.1% reported that they had been unemployed one to six months in the year prior to incarceration compared to 22% of the non-participants (statistically significant). The last two employment variables placed the education participants at higher risk of recidivism than the non-participants.

Both groups were equally likely to have received benefits (a job with paid benefits is a good indicator of stable employment) paid by their employer including health insurance, annual leave or vacation, sick leave, unemployment insurance, or a retirement plan. It should be noted, however, that only a little more than 60% had health insurance paid by the employer, less than 10% had paid annual leave or vacation, only a little more than 10% had paid sick leave, and a little under one-third had a paid retirement plan.

One of the best predictors of recidivism is prior criminal behavior. In addition, based on social learning theory (Akers, 1998) family members and/or close friends who are involved in criminal behavior can also influence decisions to engage in criminal activities. Thus, we wanted to examine a number of criminal history variables including family/close friends incarceration history. What we found was that 60% of the education participants had a family history of relatives being incarcerated compared to only 51.2% of the non-participants. In both groups, almost 70% had a history of close friends from their neighborhood being incarcerated in jail or prison. Types of crimes for which the study groups were incarcerated showed that 50.2% of the education participants were incarcerated for violent crimes compared to 37.9% of the non-participants, 26.5% of the participants and 29.8% of the non-participants were incarcerated for property crimes, and 17.5% of the participants compared to 24.5% of the non-participants were incarcerated for drug offenses.

The education participants reported being younger (18.6 years of age) at age of first arrest than were the non-participants at age of first arrest (20.1 years of age). More (44.5%) of the education participants had served time in a juvenile facility than the non-participants (34.1%). Both groups had similar mean numbers of prior times in jail (5.1 times for participants and 4.7 times for non participants), and on parole (1.67 times for

participants and 1.74 times for non-participants). Participants had been placed on probation 2.6 times compared to non-participants who had been place on probation 2.7 times. Participants had also been incarcerated in jail and prison a fewer number of times (3.6 and 2.4) compared to non-participants (3.7 and 2.6). Although the two groups showed a statistically significant difference on family history of incarceration, crime for which serving current incarceration, age at first arrest, commitment to a juvenile facility, number of times placed on probation and number of times in jail and prison, three of these variables placed the participants at greater risk and three placed the non-participants at greater risk. Overall the criminal history variables indicate that both groups shared a similar amount of risk for recidivism.

In order to assess the impact of education, we wanted to determine where both study groups were in terms of their educational backgrounds. Only 37.7% of the education participants reported completing high school, GED, vocational training, or college compared to 57.9% of the non-participants placing the participants at a higher risk of recidivism than the non-participants. For those who participated in educational programs in the year prior to incarceration, the educational participants in the study group had lower completion rates compared to the non-participants in education programs such as Adult Basic Education, high school, and GED preparation. Both groups had similar completion rates for pre-incarceration vocational training and college education.

The results of the Test of Adult Basic Education records obtained from the institutions demonstrated that both groups scored similarly on all three portions of the test. However, both groups' scores reflected low skill levels for reading (8.8 for the participants and 8.5 for the non-participants), math (7.6 for the participants and 7.5 for the non-participants) and language (6.5 for the participants and 6.2 for the non-participants) for an overall grade level of 8.0 for the participants and 7.8 for the non-

participants. The skills level was higher for the participants versus the non-participants although there was no statistically significant difference between the two groups on TABE scores. This is interesting because the participants had lower levels of educational attainment. It should be noted that both groups were below a literacy competency level of ninth grade in all areas. Because of the credentialing issue, however, the non-participants were in better shape educationally than the participants with more having completed high school or GED (a minimum level of education needed to secure meaningful employment). Participation in correctional education programs certainly enhanced the educational standing of the participants in the study group at the time of release.

Both groups reported similar rates of preparedness for return to the community after release from incarceration. Less than half of both groups (49% for the participants and 48% for the non-participants) said they had a job in the community upon release. Eighty-seven percent (87%) of the participants and 83% of the non-participants believed that they had a place to live, however, a significant number of inmates (approximately 15% of 3000) were released homeless mostly to large cities/urban areas. Although 95% of both groups had a legal social security number, only 40.7% of the education participants and 45.8% of the non-participants had a photo id which is generally required for employment.

The description/characteristics of the education participants compared to the non-participants showed that the two study groups were not significantly different on a number of key variables. For the small number of variables where they did differ significantly, the difference almost always put the education participants at a greater risk of recidivism than the non-participants. Overall, the two study groups were sufficiently

equivalent to support inferences about how correctional education participation affects recidivism.

Table 2: Inmate Pre-Release Survey: Characteristics and Descriptions of Education Participants and Non-Participants (Based on Self-Reporting)

	Participants		Non-Participants	
	Mean	%	Mean	%
Public Assistance Benefits Received in the Year Prior to This Incarceration				
Food Stamps		39.2		50.0
Welfare		18.5		13.6
AFDC		5.7		8.7
Medicaid		26.9		18.2
Public Housing		9.7		9.5
Family Receiving Section 8 Housing				
Yes		15.9		14.0
No		84.1		86.0
Employment in the Year Prior to Incarceration:				
Number of Legal Jobs Held in the Year Prior To This Incarceration				
None		27.3		26.5
One or Two		57.7		60.0
Three or Four		11.0		9.6
Five or More		4.0		3.9
Number of Legal Jobs Held in Lifetime				
None		8.4		8.4
One or Two		13.9		13.4
Three or Four		17.6		18.2
Five or Six		20.8		19.9
Seven or More		39.3		40.2
Longest Time a Legal Job Was Held During Lifetime*				
Never Employed		6.6		6.0
One to Six Months		23.1		17.3
Seven to Twelve Months		15.3		12.4
One Year or More		55.0		64.4
Months of Unemployment in the Year Prior to Incarceration*				
Always Employed		26.8		28.3
Never Employed		13.4		12.4
One to Six Months		27.1		22.0
Seven to Twelve Months		6.2		9.5
One Year or More		7.2		8.5
Longest Period of Time Ever Unemployed in Lifetime				
Always Employed		14.9		15.9
Never Employed		9.9		9.4
One to Six Months		31.9		31.7
Seven to Twelve Months		12.9		12.0
One Year or More		30.4		30.9

	Participants		Non-Participants	
	Mean	**%**	**Mean**	**%**
Benefits Paid By Job Held Longest In Year Prior to Incarceration				
Health Insurance		60.1		62.4
Annual Leave or Vacation		9.0		8.8
Sick Leave		10.6		11.2
Unemployment		20.2		17.6
Retirement Plan Included				
Unemployed		12.8		13.1
Yes		28.0		32.7
No		59.2		54.3
Criminal History Variables:				
Family History of Incarceration in Prison or Jail*				
Yes		57.4		51.7
No		42.6		48.3
History of Close Friends from Neighborhood Being incarcerated in Prison or Jail				
Yes		68.8		69.1
No		31.2		30.9
Crime Which Serving Current Incarceration*				
Violent		50.2		37.9
Property		26.5		29.8
Drug/Alcohol		17.5		24.5
Misdemeanor		1.2		2.2
Traffic		.3		.7
Probation/Parole		2.1		3.0
Other		2.2		2.0
Age at First Arrest*	18.56		20.09	
Ever Served Time in a Juvenile Facility*				
Yes		44.5		34.1
No		55.4		65.9
Number of Felony Arrests Prior to Current Arrest	5.05		4.69	
Number of Times Prior to this Sentence Been In Jail*	3.57		3.73	
Number of Times Placed on Probation*	2.64		2.74	
Number of Times Placed on Parole/Release	1.67		1.74	
Number of Times Been In Prison*	2.35		2.62	
Education Variables:				
Highest Grade Completed Prior to Current Incarceration*				
Less than 4th grade		1.0		.4
5th to 8th grade		7.5		5.7
9th grade		11.7		7.8
10th grade		18.7		11.4
11th grade		23.4		16.8
Completed High School		10.2		20.3
GED		13.7		17.3
Vocational Education after High School		3.5		4.2
Some College		7.7		10.7
Associates Degree		2.0		2.9
Four Year College Degree or Higher		.7		2.5

	Participants		Non-Participants	
	Mean	**%**	**Mean**	**%**
Percentage of those enrolled in education programs in the year prior to incarceration who completed:				
Adult Basic Education		31.4		40.9
High School		29.5		43.0
GED Preparation		50.5		59.3
Vocational Education		48.8		48.8
Percentage of participants who had a high school diploma or GED in the year prior to incarceration who completed:				
College Program		25.0		16.3
Associate's Degree Program		44.4		41.7
Graduate Degree Program		32.1		34.5
Test of Adult Basic Education Scores:**				
(mean grade scores)				
Math	7.6		7.5	
Reading	8.8		8.5	
Language	6.5		6.2	
Overall	8.0		7.8	
Release Plan Variables:				
Job in the Community When Released				
Yes		49.0		48.1
No		20.0		22.9
Don't Know		31.0		29.0
Place To Live Upon Release*				
Yes		86.9		82.7
No		5.8		8.1
Don't Know		7.2		9.2
Have Legal Social Security Number				
Yes		95.7		94.9
No		3.1		3.8
Don't Know		1.2		1.3
Have Photo Identification				
Yes		40.7		45.8
No		42.2		39.6
Yes, But Expired		14.2		11.3
Don't Know		2.9		3.4

*Significant at .01.

**Based on institutional records, not self-reported.

Selection Bias

When individuals are not randomly assigned to a treatment which, in this case, is correctional education, and it becomes necessary to use a nonequivalent comparison group design for the research, there is always concern that the differences in the outcomes between the treatment group and the comparison group might be the result of self-selection. Self-selection factors are always suspect and considered a threat to validity of the outcomes. Differences in outcomes between the two groups must take into account any confounding conditions or rival explanations such as self-selection.

Specifically there is always the question of whether or not the treatment group is comprised of individuals who self-select into the treatment because they are more motivated than the comparison group thereby offering a rival explanation for any differences in outcomes and possibly biasing the results. While this may be the case in some situations, it is not necessarily true in correctional settings. Because of the limited availability of correctional programs, there may be highly motivated individuals who wish to participate in the treatment but cannot because there wasn't an opportunity for them to do so.

Nonetheless we anticipated that selection bias (self-selection) might be a concern, and we addressed this concern by including a series of motivation questions on the pre-release survey. Having the data from the motivation questions provided us with an opportunity to compare the two groups on this important issue. Table 3 shows the results of the comparison between the participant and non-participants on a number of questions about motivation. What we found was that the two groups were sufficiently equivalent with respect to motivation. Therefore, any concern about whether or not the treatment group was more motivated than the comparison group should be alleviated, and the question with respect to self-selection adequately addressed.

Table 3: Group Statistics for Motivation*

	Mean
Motivation to prepare for a job or vocational training	
Participants	1.32
Non-Participants	1.40
Motivation to get a job, a better job, or higher pay	
Participants	1.28
Non-Participants	1.35
Motivation to improve job performance	
Participants	1.47
Non-Participants	1.49
Motivation to feel better about self**	
Participants	1.36
Non-Participants	1.47
Motivation to contribute better to my family or community	
Participants	1.35
Non-Participants	1.42
Motivation to help children with homework	
Participants	1.62
Non-Participants	1.62
Motivation to become less dependent on others	
Participants	1.48
Non-Participants	1.50
Motivation to make others feel better about me	
Participants	2.16
Non-Participants	2.17
Motivation to look good to prison or parole officials to get out	
Participants	2.77
Non-Participants	2.65
Motivation to get a better situation in prison	
Participants	2.55
Non-Participants	2.45

*Based on a Likert scale from 1 to 5, with 1 = very important and 5= very unimportant.

**Significant at .01.

Data Collection Instruments and Measures

There were five sources of data for this study - three main data collection instruments and offender criminal histories and offender employment data. The three main instruments included the Pre-Release Survey, the Educational/Institutional Data Collection Form, and the Parole/Release Officer Survey. Each instrument is described below and copies of the instruments are attached. The offender criminal history data and the offender employment data are also described in this section.

Inmate Pre-Release Survey

The pre-release survey is a self-report instrument which included questions designed to gather information on inmate demographics, family information, prior employment data, adult and juvenile criminal histories, educational experiences both prior to and during incarceration, participation in programs other than education, motivation questions, and release plans including post-release residence, employment and criminal justice information. The pre-release survey was comprised of sixty questions chosen to elicit information pertinent to recidivism factors and participation in educational programming. The questions covered the following areas:

a. Participant demographics including DOC number (used as the study participant identifier, age, gender, race, and area lived in prior to incarceration;
b. Family background including 12 questions on such topics as prior and current government assistance, marital status, number of dependents, number of children, visitation questions, and family criminal history;
c. Employment information, including six questions to determine the inmate's prior work and wage history;
d. Criminal history, including eight questions on both juvenile and adult arrests and incarcerations including the age at first arrest, and types and numbers of commitments/incarcerations;
e. Educational experiences both prior to and during current incarceration, including seventeen questions on academic and vocational education and questions to assess satisfaction with correctional education programming;
f. Participation in other programs, including questions about involvement in substance abuse or sex offender treatment, institutional job assignments, and prison industry participation;

g. Motivation questions which included a series of 16 questions with Likert scale responses to find out why people participate or should participate in correctional education programs;
h. Release information, including seven questions about the inmate's plans after release, employment prospects, housing arrangements, and documents needed for employment such as a photo id and legal social security number.

Educational/Institutional Data Collection Form

An instrument was developed to collect institutional/educational information about each inmate in the study sample. The data collected included the crime and sentence length of current incarceration, basic demographic information (race, gender and age), number of felony arrests and convictions, major institutional infractions as a measure of institutional adjustment, programming and employment while incarcerated, and prerelease information. While much of this information was requested of the inmates in the pre-release survey, we wanted to crosscheck as much of the data as possible for accuracy. We were also looking for any factors that might impact recidivism such as long-term substance abuse, mental illness, and unstable family backgrounds. Thus questions about the inmate's involvement in these types of programs were part of this data collection instrument.

We also included questions about the inmate's participation in education programs/activities. The education records, for those subjects enrolled in academic and vocational education programs, included information about types of educational programs in which the inmate was enrolled (ABE, GED, Life Skills, Vocational Training, etc.), level of participation from first date of entry into the program to final exit from the program, the number of diplomas and/or certificates received, and whether enrollment was mandatory, court ordered, or voluntary. A Test of Adult Basic Education (TABE) score from the beginning of the inmate's incarceration and an exit TABE score if

available was collected as well. Data for this instrument were collected for all study participants whether or not they were enrolled in correctional education programming.

Parole/Release Officer Survey

The parole/release officer survey was designed to survey parole/release officers of offenders in the release cohort who were released under parole or release conditions. Although we knew that not every offender in the study sample would be released under supervision, we wanted to gather as much information as possible in a short-time frame about the study participants. The surveys were conducted between 6 months and 1 year after the offender's release from incarceration. We received information on 428 offenders in the release cohort (162 participants and 266 non-participants). The officers did not know who were the participants and who were the non-participants in the study. They were given a name and a state id number only. The survey asked 10 questions about the offender's post-release behavior. The survey focused on collecting information in three primary areas: (1) types of pro-social activities such as participation in education, vocational training, substance abuse treatment and counseling that the offenders were engaging in after release; (2) information on whether or not the offender was in compliance with parole/release conditions, and (3) information on post-release re-offending which would provide more timely data than that which would be captured from the criminal history data because of the lag time in reporting to each state's criminal history repository.

Criminal History Data

Criminal history data was obtained to examine the release cohort's post-release behavior (recidivism). The focus was on: (1) re-arrest, re-conviction, and re-incarceration; (2) time to re-arrest, re-conviction, and re-incarceration; and (3) re-arrest, re-conviction, and re-incarceration offenses. The categories we selected to use for

classifying recidivism offenses were based on the categories used by the U. S. Department of Justice, Bureau of Justice Statistics. These categories were violent, property, drug/alcohol, misdemeanor, traffic, and probation/parole violations. A seventh category classified as other was added for offenses such as non-payment of child support that did not fit into other categories. The criminal history data was obtained for a three-year period following the offender's release from incarceration allowing a longitudinal analysis of recidivism.

Employment Data

The information collected for the offenders' post-release employment was official data maintained by the state departments of labor in accordance with the Federal Department of Labor guidelines. Only a limited amount of information was available, which included quarterly wages reported by the employer and state industry codes (SIC's) of the employer reporting. While data elements for employment were limited, it did provide information about whether or not the offender was employed in a legal job and what their quarterly earnings were. This allowed us to compare the education participants and the comparison group on these two important variables. The employment data followed the study participants' work and wage history for a period of three years following their release from incarceration. As was the case with the criminal history data, the three-year follow-up provided an opportunity to conduct a longitudinal analysis of the employment data. What this data did not provide was the type of employment (job classification) that the offender was engaged in after release, hourly or weekly wages, and number of hours, days, or weeks worked each quarter. Also there are some labor classifications that are not required to report such as farm labor. Therefore, it is likely that some underreporting of actual employment for the study groups would

occur. The assumption is, however, that it occurs for both groups, participants and non-participants, equally.

Measures

A number of measures were utilized by the study to test the hypotheses proposed. Three measures were used to test the recidivism hypotheses: re-arrest, re-conviction, and re-incarceration. All three were dichotomous dependent variables with yes or no categories. This information was obtained from official criminal history records maintained by each state. Re-arrest was defined as any arrest for any of the seven defined offense categories. Re-conviction was defined as a "guilty" judgment in criminal court for any criminal act including violation of probation/parole. Re-incarceration was determined if the data reported a sentence to prison based on information in the official criminal histories. A fourth recidivism measure examined re-arrest offenses for both study groups. Re-arrest offenses were broken down into seven categories utilizing the same categories defined by the Bureau of Justice Statistics, U.S. Department of Justice. This was done to provide consistency across the states in defining offense categories. The offenses were based on legal definitions of the crime provided by each state.

The parole officer survey was designed to evaluate the compliance of the offenders with conditions of their release as well as participation in pro-social activities. Compliance was measured by a dichotomous dependent variable defined as revocation of parole, yes or no. A categorical dependent variable detailing the study participants' current parole status was also used to examine compliance. Categories for this measure included whether or not the offender was still reporting, if the sentence had expired, or if the case had been transferred to another jurisdiction. Participation in pro-social activities was measured by percent of offenders participating in post-release programs. These

programs included substance abuse treatment, education, and vocational training. This information provided by the parole officers.

Legal employment of the offenders was measured using official labor data collected in each state. These official records provided information about whether or not the study participants were employed in legitimate positions by employers that reported earned income and withheld taxes. A dichotomous dependent variable for legal employment (yes, no) was created based on this information. The state departments of labor also provided information on the amount of wages earned by the study participants. This wage information was used to calculate total wages earned during the three years that the study participants were followed and compared the participants to the non-participants on this dependent variable.

Data Collection Procedures

Inmate Pre-Release Survey

The pre-release survey was piloted with a group of inmates in Maryland to test the readability and clarity of the questions. The Flesch-Kincaid readability test had been conducted which showed a reading level of 6.1 for the survey instrument. While most of the questions posed no difficulty for the inmates, there were a few questions that were revised to address inmate concerns. The pilot study was also used to determine the length of time needed for inmates to complete the survey instrument. A video administration of the survey was also used to assist inmates with low reading skills, but inmates who did not experience any difficulty in reading the questions on the survey found the video administration much more of a hindrance than a help. On average the survey took approximately 45 minutes for inmates to complete.

All data collection began with training the data collectors responsible for administering the pre-release survey. Training included question and answer sessions, demonstration of the video, a walk through of the questions on the survey, and a written detail of the protocol for collecting the data. Data collectors were encouraged to present the survey and provide explanations in a positive and enthusiastic manner in order to reduce the number of refusals. In addition, the video provided a short presentation by two inmates about the importance of the study and to encourage their fellow inmates to participate in the research. Teachers or Department of Corrections personnel administered most of the surveys in the three states. In Minnesota and Ohio, individuals were assigned as research assistants specifically to complete this task. In Maryland, because one institution was temporarily closed, teachers from that facility were used to collect the data from the other institutions. We made sure that no teachers were giving the pre-release survey to their own students. In addition the primary investigators for this study were on site at various times to ensure that the protocol was being followed and to monitor the administration of the survey instrument.

The list of releasees and the institutions where they were located were obtained from each state's Department of Corrections and provided to the data collectors. These data collectors traveled to the various institutions and requested from correctional staff that the list of releasees be brought to the area where the survey was to be administered. The pre-release survey was administered in small group settings at the institutions where the inmates were being released. Each state released inmates from a number of different sites. Only those inmates who were mentally unstable or who were critically ill were not included as part of the release cohort. The decision was made that if the refusal rate were higher than 20% at any site additional data would be collected to compare the refusals with the study sample. Refusals were defined as those who did not want to participate

once the study and survey were explained to them. Most all sites provided some refreshments for those participating in the study. All potential participants were advised that the survey was strictly voluntary and that no sanctions would be used against those who did not want to participate (verbal informed consent). The time required to administer the surveys varied from state to state since the number of inmates being released each month was different for all three states. It took approximately two months to collect the data from Ohio, four months for Maryland, and one year for Minnesota.

Educational/Institutional Data Collection Form

The educational/institutional data was collected by research assistants, teachers and/or caseworkers either at the institution or at the central offices of the states' Department of Corrections. Each state was provided a scantron form with the questions described in the previous section (Data Instruments). Comment sections were included so that information not listed on the scantron form could be included. Training was provided to the various states on how the data was to be collected, how to read important information in the files, and how to report the data on the scantron form. In addition, the project's director and researcher were available to answer questions during data collection. Some data elements were available electronically and were entered into an SPSS database, which was forwarded to the project researcher. All scantron forms were reviewed to collect information from the comment sections for later data entry.

Parole/Release Officer Survey

Parole officer data was collected only in Ohio and Maryland and was not collected in Minnesota. Both Maryland and Ohio operate under a centralized correctional system whereas Minnesota's community correctional supervision is decentralized by county. Thus, the logistics of trying to coordinate the collection of parole officer surveys among the several counties in Minnesota, and because the surveys

for Minnesota's release cohort extended to a year, it was not feasible to include them in this portion of the data collection.

In Maryland, a letter from the Secretary of Public Safety and Correctional Services directing all divisions in the agency (Division of Correction, Division of Parole and Probation, and Data Information Services) to fully cooperate with the study was obtained. The project director and the educational liaison for DOC met with the parole supervisors to explain the study, seek their input, and gain their cooperation. The Director of Parole and Probation sent out a directive to all parole officers to cooperate and fill out the survey form when they received it. Personal contact was made with all parole agents supervising inmate releasees about the survey. Each parole office received through hand delivery a packet of information with the survey instruments that included the name of the releasee and the supervising officer pre-printed on the sheets. In some cases follow-up contacts were made either by phone or by personal visits to facilitate the return of the Parole Officer Survey. In a number of cases, offenders had been transferred to other agents or parole officers were transferred to other offices. Pre-paid and pre-addressed overnight mailers were provided so that the surveys could be returned immediately to the project director. A similar process took place in Ohio. Nearly 100% of all officers responded to the survey in Maryland and over 90% responded in Ohio.

Criminal History Data

Each state has an agency responsible for maintaining the criminal history database for the state's crime information center which reports the information to the National Crime Information Center (NCIC). To collect the criminal history data (re-arrest, re-conviction, re-incarceration and re-arrest offense), agreements between agencies and the principle investigators had to be coordinated along with assurances of confidentiality. Each state's agency responsible for crime information was provided a list of cases with

state identifiers for each participant in the study population. This agency pulled the criminal histories, which were then forwarded to the research team. The research team hand-coded all the criminal history data and entered this information into the SPSS database. Hand coding was necessary to ensure that the recidivism data were reported equivalently for each state. Criminal history data were collected for a three-year period following the offender's release from incarceration.

Employment Data

Coordinating the collection of the employment data required two years of negotiating and meetings between agencies explaining the purpose of the study and the need for the employment data. Subsequent meetings addressed issues of confidentiality and the technical aspects of obtaining the employment data. Using a list of social security numbers for the offenders in the study, employment records were obtained from the Minnesota's Bureau of Economic Security and Maryland's Department of Labor. It should be noted that only Maryland and Minnesota participated in this portion of the study. Ohio's records are kept on reels and the information could not be transferred to a database that was readable by the project researcher. We were advised that only the U. S. Department of Labor had the necessary equipment to read data in reel format.

Since employers are supposed to report the wages of each worker quarterly, the requested information for the study participants was sent to us in the quarterly format from the state Departments of Labor. The information began with the third quarter of 1997 in order to capture information on the first releasees. The data ended with the third quarter of 2000 which provided a three-year follow-up for the wage and work history of the study participants. This was the most recent data that could be provided by the state Departments of Labor, however, the time frame followed for collecting this data allowed the researchers to track the participants' employment performance for a period of

three years for most participants It should be noted that some study participants had multiple wage reports in one quarter but these reports were from different employers. Because the Departments of Labor do not collect dates of employment other than by quarter, it could not be determined if an offender was working several jobs at one time, or moving from job to job throughout the quarter. Also these data do not capture offenders that were self-employed, working as contract labor, working in another state, working for the Federal government, working in an illegal situation (i.e. being paid "under the table" or engaging in illegal behavior for economic gain) or working in labor classifications not captured by Wage and Labor data (i.e. farm workers). All data were submitted to the research team electronically. However, the data still required "cleaning-up" particularly for outliers.

Once the data was entered, the total amount of wages earned per quarter was calculated by summing the wages for each job during the quarter. Once each quarter's wages were totaled, the quarterly wages were summed to create a variable for total wages earned each year for the years the offender had been out of prison. The release date of each offender was taken into account when calculating the total yearly wages earned so that the figure would reflect a full four quarters of earnings. After all available years' wages were calculated, they were summed again to create a variable of total wages earned while in the community. A dichotomous variable for employment was created. If any of the study participants had any income reported during any time during release, they were coded as yes for the variable "ever employed". This variable represents offenders that worked for employers that withheld payroll taxes. Although the data available were limited, the use of these data establishes a precedent for the inclusion of official labor data in future studies of criminal offenders.

Data Analyses

An SPSSpc database was created for the research. This database was designed with the ability to analyze the data for each state independently of one another or analyze data combined for all three states. The ability to combine all three states' data elements allowed the researchers an opportunity to conduct more sophisticated multivariate analyses in addition to simple significance tests (t-tests and chi-square) by producing a larger sample needed for such tests. We set the alpha level at .01 rather than .05 to provide stronger evidence for making inferences about the data (Agresti and Finlay, 1986, p.147).

RESULTS

Recidivism Outcomes. There were several research hypotheses proposed in the OCE/CEA Recidivism. The first four research hypotheses focused on recidivism. Hypothesis 1 stated that offenders who participated in correctional education programming would have lower re-arrest rates than those offenders who did not participate in correctional education programming. Hypothesis 2 stated that correctional education participants would have lower re-conviction rates than non-participants. Hypothesis 3 proposed that correctional education participants would have lower re-incarceration rates than non-participants. Table 4 shows the re-arrest, re-conviction, and re-incarceration rates for each state separately for both participants and non-participants. In every category (re-arrest, re-conviction, re-incarceration) for every state, correctional education participants had lower recidivism rates.

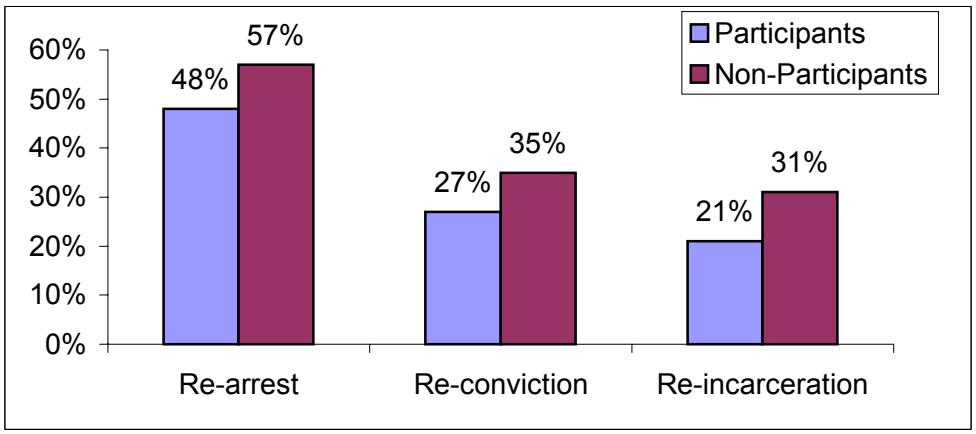
Table 4: Recidivism Data by State

	N	Participants	Non-participants
Maryland			
Re-arrest	840	54%	57%
Re-conviction	840	32%	37%
Re-incarceration	840	31%	37%
Minnesota			
Re-arrest	1025	42%	54%
Re-conviction	1025	24%	34%
Re-incarceration	1025	14%	21%
Ohio			
Re-arrest	1234	50%	58%
Re-conviction	1234	26%	33%
Re-incarceration	1234	24%	31%

In Figure 1 when we combine the recidivism data for all three states, the re-arrest, re-conviction, and re-incarceration rates were lower for correctional education participants compared to the non-participants, and in every category the differences were statistically

significant.

Figure 1: Aggregate Recidivism Data for All States (N=3099)



In the analysis of the re-arrest offenses (Hypothesis 4) the participants committed slightly more violent, traffic, and violations of probation/parole offenses than the non-participants (see Table 5). The non-participants committed slightly more property, drug/alcohol, misdemeanor and offenses classified as other than the participants. Overall there was no statistically significant difference between the participants and the non-participants on types of re-arrest offenses.

Table 5: Re-arrest Offenses for Release Cohort

Crime Category:	Participants %	Non-Participants %
Violent	30.4	24.4
Property	22.9	23.2
Drug/Alcohol	20.7	21.9
Misdemeanor	17.1	22.6
Traffic	2.1	1.8
Probation/Parole Violation	3.5	2.1
Other	3.3	3.8

Parole Officer Survey. A total of 428 offenders from the release cohort made up the sample for the Parole Officer Survey. Only data from Maryland and Ohio were included in this analysis. We hypothesized that the education participants would have higher rates of compliance (Hypothesis 5) than the non-participants. Overall at the time the data from the Parole Officer Survey was gathered (6 months after release), only a small number of participants (1.7%) had been revoked for parole violation (see Table 7). Although the revocation rate for the participants was lower than that of non-participants (2.7%), both groups had unusually low revocation rates based on recent research documenting parole failures. The percentage of parolees who never reported was the same (23%) for both groups. Although the percentage of participants still reporting was higher than those still reporting in the non-participant group (40% compared to 25.7%), a larger number (38.9%) of non-participants' parole supervision had expired compared to the participants (20%) after six months.

According to the data from the parole officer survey, the post-release employment data was basically the same for both groups. Participation in other types of pro-social activities (Hypothesis 6) such as education/training, substance abuse treatment, and counseling was slightly higher for the participants compared to the non-participants.

Table 6: Parole Officer Survey Data

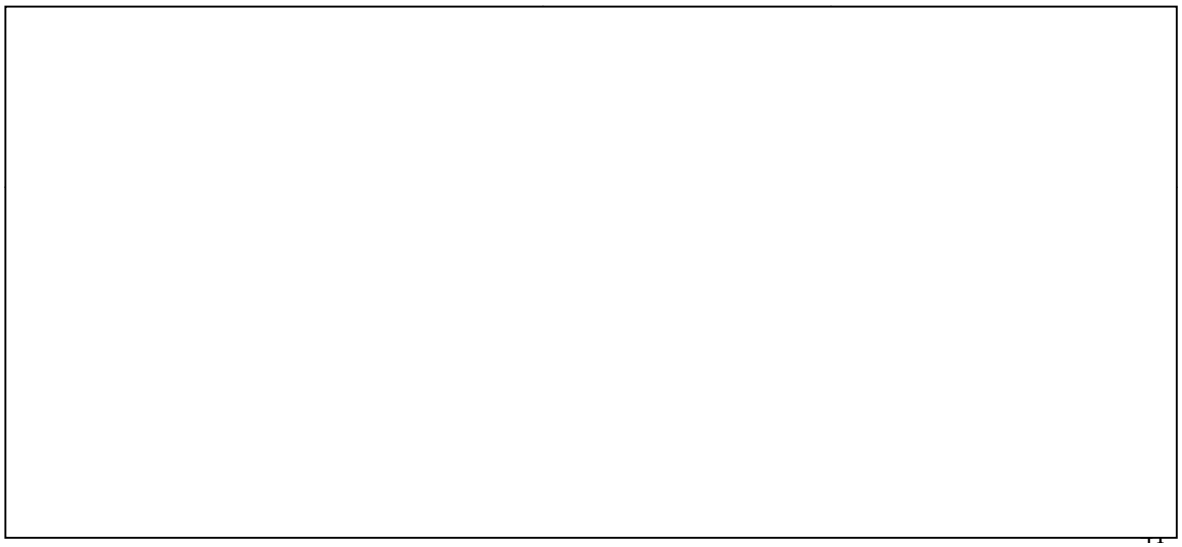


Table 6: Parole Officer Survey Data (continued)

	Participants %	Non-Participants %
Parolee Employment Situation:		
Full-time	16.4	16.5
Mostly Full-Time	15.1	16.9
Mostly Part-Time	14.5	10.8
On Disability	1.9	2.3
Never Employed	52.2	53.5
Number of Different Jobs Held Since release:		
One or Two	76.1	78.6
Three or Four	22.5	19.6
Five or More	1.4	1.8
Longest Period of Time Job Held:		
One or Two Months	7.0	10.6
Three or Four Months	11.3	9.7
More than Four Months	23.9	30.1
One to Four Months	22.5	14.2
Five to Eight Months	15.5	19.5
Nine or More Months	19.7	15.9
Benefits Received at Job:		
None	34.3	34.2
Don't Know	55.7	52.3
Health Insurance	8.6	10.8
Sick Leave	1.4	1.8
Vacation Leave	0	.9
Participation in Additional Education or Training:		
None	67.1	64.2
Don't Know	27.8	31.7
ABE/GED	1.9	1.1
Vocational/Technical	.6	1.5
College or University	.6	.4
Other	1.9	1.1
Parole Received Welfare or Social Security Assistance:		
No	45.7	43.0
Don't Know	52.3	53.0
Yes	2.0	4.0
Participated in Substance Abuse Program:		
Yes	25.3	19.9
No	50.6	54.9
Don't Know	24.1	25.2
Participation in Other Counseling:		
Yes	5.7	5.4
No	60.9	57.6
Don't Know	33.3	37.1

Employment Data. As explained earlier, only Maryland and Minnesota participated in the employment analyses. Using these two states for our data, the research hypothesis (Hypothesis 7) which stated that the education participants would experience higher rates of employment than the non-participants was not supported. The non-participants showed a higher rate of employment (81%) compared to the participants (77%) although the difference was small and not statistically significant. It should be noted that both the participants and non-participants showed higher rates of employment than expected and higher than that reported in other research studies of offenders. These high rates are probably attributable to the state of the national economy and the low rates of unemployment being reported nationwide at the time this study was conducted. Hypothesis 8 stated that the education participants would experience higher wages than the non-participants and this hypothesis was supported (See Table 7). Every year for the three years that the study participants were followed, the wages reported to the state labor departments were higher for the education participants compared to the non-participants. In year one the difference in wages was statistically significant.

Table 7: Wage Data for Release Cohort

	Participants	**Non-Participants**
Ever Employed:		
Yes	77.3%	81.4%
No	22.7%	18.6%
Yearly Wages Earned:	**Mean**	**Mean**
Year One Total *	7775.03	5980.63
Year Two Total	9353.24	8491.75
Year Three Total	10628.78	9557.92

*Significant at .01.

DISCUSSION AND CONCLUSIONS

The OCE/CEA Three-State Recidivism Study evaluated the impact of correctional education programs on incarcerated inmates by (1) measuring recidivism after release from incarceration, (2) assessing post-release behavior for those on parole or supervised release, and (3) examining post-release employment. Both correctional education participants and a comparison group of non-participants were followed for a period of three years after release from incarceration. Specifically, the hypotheses were that correctional education participants would recidivate at lower rates, commit less serious crimes if they did recidivate, experience more positive compliance with parole conditions and engage in more pro-social behaviors after release, have higher rates of employment after release, and sustain higher yearly wages than the comparison group of non-participants.

Since random assignment to education programs was not possible for the OCE/CEA Recidivism Study, a quasi-experimental design utilizing a release cohort was employed to increase the rigor of the research. Using a release cohort allows researchers to make certain assumptions about the comparability of the treatment and the control group. Comparing the treatment and comparison groups on a number of key variables further tested these assumptions. Subsequent analysis of the two groups in the release cohort revealed that they were essentially similar with any differences placing the treatment group at higher risk for recidivism. Also, the perennial concern in recidivism research is that self-selection is the real cause of different results between groups. We attempted to control for self-selection by comparing the two groups on a series of carefully designed questions measuring motivation to participate in correctional education programs. There were essentially no significant differences between the

participants and non-participants on questions of motivation. Therefore, we feel that selection bias did not play a role in the final results.

This study did have, however, three major limitations. As explained in the previous paragraph an experimental design with random assignment to a treatment and a control group was not possible, however, a release cohort was chosen and studied for comparability. Second, the results cannot be generalized to states beyond Maryland, Minnesota and Ohio because certain factors such as statutory definitions of crime, sentencing guidelines, and employment data may be different for other states. The third limitation was the result of the inadequacy of the education records maintained by the three states being studied. We could not ascertain with any confidence whether or not the length of time spent in education programs made a difference. We only looked at participation versus non-participation. It should be noted, however, that since the study was conducted, all three states have improved their record keeping mostly by moving to electronic management information systems.

This research included a significant number of participants and non-participants in the study group. Almost 3,200 inmates were included, making this one of the most comprehensive studies ever conducted in correctional education. In addition, no evaluation of correctional education has ever collected as many variables, over 500, for the study participants. A number of these variables provided background information on both the participants and non-participants. For the first time, a study of correctional education had the opportunity to really examine the characteristics of those offenders participating in the education programs (and those not participating).

What we found was that the participants (and non-participants) were at high-risk of recidivism based on a number of risk factors identified in previous research. The participants as was expected were mostly male (87%). Few had a stable family situation

with only 12% reporting being married. Most participants and non-participants were single. More than half of the participants lived in large urban areas prior to incarceration and were returning to these areas after release. A significant number (64%) had children under the age of 18 for whom they were financially responsible. Many had received some type of government assistance in the past. The number of participants who had family members previously incarcerated was exceptionally high (more than half), and those who had close friends from their neighborhoods who had been incarcerated were even higher (close to 70%).

Both participants and non-participants had experienced unstable and erratic work histories characterized by frequent change of employment, long periods of unemployment, and low wages. Few had ever received any type of work place benefits such as sick or annual leave, or paid retirement plans. The criminal histories of the participants was extensive with over 5 prior felony arrests on average and more than 2 previous incarcerations in prison. Most had been on probation and/or parole. A significant number had prior juvenile records and had been committed to juvenile facilities. Less than half of the participants had completed high school or received a GED. Less than 5% had ever received any vocational education and only a little more than 10% had received any college education. In every area assessed by the Test of Adult Basic Education (TABE), which includes reading, math, and language, participants and non-participants were functioning below a literacy competency level of ninth grade. While most thought they had a place to live upon release, less than half reported that they had a job.

The planning and policy implications for correctional education based just on these background characteristics of the study participants have significant possibilities particularly since the research suggests (discussed in the following paragraphs) that

correctional education does make a difference. For example, given the low literacy levels of both the participants and non-participants, more opportunities for participation in basic education and GED preparation should be provided to inmates. When examining the family variables, we see that a significant number of the study participants have children under the age of 18 that they support so that parenting instruction, financial management classes to increase child support compliance, and family reunification efforts (Reading Is Fundamental is one such endeavor) are needed. Given the erratic and unstable employment history of the study participants, closer attention to vocational education/training and job readiness is needed for incarcerated offenders to assist them in a smooth and successful transition back into the work place after release. Victim impact classes and cognitive skills development could sensitize offenders to the negative consequences of their criminal behavior, which this study found was extensive among the study participants. All of these background characteristics point to a need for increased funding and increased opportunities for participation in correctional education. Further, it is necessary for correctional education programs to expand their offerings beyond basic education and GED preparation to prepare offenders for successful reentry back into their communities after release. The challenges are tremendous, however, correctional education can successfully meet these challenges if given the needed resources and support.

The biggest challenge for correctional education in recent years has focused more on recidivism and other post-release behaviors than on educational attainment. In this study, three measures -- re-arrest, re-conviction and re-incarceration -- were used to test the hypotheses that participation in correctional education reduces recidivism. In addition, an examination of recidivism included the type of re-arrest offenses, which were committed by the study group in order to assess the seriousness of types of re-arrest

crimes committed by both participants and non-participants. These offenses were broken down into the same seven key categories defined by the Bureau of Justice Statistics, U.S. Department of Justice in their research. The first three hypotheses stated that correctional education participants would have lower recidivism rates for re-arrest, re-conviction and re-incarceration. In all three cases, the hypotheses were supported. The fourth hypothesis, that re-arrest offenses for participants would be less serious was not confirmed, since the two groups were not significantly different for the re-arrest offense categories.

The fifth and sixth hypotheses, that the participant group would have higher rates of parole condition compliance and greater participation in post-release pro-social behaviors, were partly confirmed. Reporting to parole officers and revocation actions were fundamentally the same for both participants and non-participants. Post-release employment for parolees/supervised releasees was also similar for both groups though participants were slightly more likely to do better on other pro-social behaviors such as education/training, substance abuse treatment and counseling. Although compliance with parole/release conditions was the same for the participants and non-participants, it was encouraging that more participants were involved in pro-social behaviors after release. One of the long-term goals of adult education is to promote participation in lifelong learning. The seventh hypothesis was that participants would have higher rates of employment, however, non-participants had a slightly higher rate (4% higher) of employment that was not statistically significant. It should be emphasized that both groups experienced high rates of legal employment (legal employment defined as having wages reported to the states' labor departments). These high rates of employment for ex-offenders could be attributed in part to the national economy and low unemployment rates nationwide at the time the study was conducted. The eighth and final hypothesis,

that participants would have higher wages, was confirmed for all three years, however, the difference was modest with only the first year being statistically significant.

The OCE/CEA Three-State Recidivism Study confirms that correctional education significantly reduced long-term recidivism for inmates released in late 1997 and early 1998. With a 29% reduction for re-incarceration (the percentage difference from 21% for participants and 31% for non-participants), the drop in recidivism is large and has important fiscal and policy implications. Education provides a real payoff to the public in terms of crime reduction and improved employment of ex-offenders. Investments in correctional education programs have been confirmed as a wise and informed public policy.

The results can be used to guide policy and legislation within the three states. While it is difficult to ascertain which kinds of education programs are most effective, overall investment in education for the incarcerated seems wise. As a matter of public policy the study shows that education should be emphasized as both a rehabilitative as well as a crime reduction tool. Further research is needed to determine what kinds or combinations of education programs are most effective. While it is difficult to generalize the results of a study from one state to another, the fact that the recidivism results were similar in three different states should be encouraging to those who consider budgets and policies for correctional systems everywhere.

REFERENCES

Agresti,A. and Finlay, B. (1986). Statistical Methods for Social Sciences. Upper Saddle River, NJ: Prentice Hall.

Akers, R. L. (1998). Social Learning and Social Structure: A General Theory of Crime and Deviance. Boston: Northeastern University Press.

Eisenberg, M. (1991) "Five Year Outcome Study: Factors Associated with Recidivism". Austin, TX: Texas Department of Criminal Justice.

Fabelo, T. (2000). "The Impact of Educational Achievement of Inmates in the Windham School District on Post-release employment". Austin, TX: Criminal Justice Policy Council.

Flanagan, T. (1994). "Prison Education Reseasrch Project Final Report". Huntsville, TX: Sam Houston State University, Criminal Justice Center.

Gainous, F. (1992). "Alabama: Correctional Education Research". Birmingham, AL: Department of Postsecondary Education.

Jenkins, H. D., Pendry, J., Steurer, S. (1993). "A Post-release follow-up of Correctional Education Program Completers released in 1990-1991". Baltimore, MD: Maryland State Department of Education.

Little G., et al. (1991). "Treating Drug Offenders with Moral Recognition Therapy: A Three Year Recidivism Report" ¨Psychological Reports, 69, pp. 1151-1154.

Maxfield, M. and Babbie, E. (2001). Research Methods in Criminal Justice and Criminology, 3rd ed. Belmont, CA: Wadsworth.

Menon, R., et al. (1992). "An Evaluation of Project RIO Outcomes: An evaluative report." Austin, TX; Texas Employment Commission.

Porporino, F. and Robinson, D. (1992). "The Correctional Benefits of Education: A Follow-up of Canadian Federal Offenders Participating in ABE." Journal of Correctional Education, 43(2), pp. 92-98.

Saylor, W. and Gaes, G. (1991) "Post Release Employment Project: Summary of Preliminary Findings. Washington, DC: Federal Bureau of Prisons, Office of Research and Evaluation.

Smith, L. and Akers, R. (1993). A comparison of recidivism of Florida's Community Control and prison: A five-year survival analysis. Journal of Research in Crime and Delinquency, 30(3).

Smith, L. and Silverman, M. (1994). "Functional literacy education for jail inmates: An examination of the Hillsborough County Jail Education Program". Prison Journal, 74(4), pp. 415-434.

Schmidt, P. and Witte, A. (1989). "Predicting Recividism using 'Split Population' Survival Time Models". Journal of Econometrics, 40(1), pp. 141-160.

Appendix
Background Information

Maryland Department of Public Safety and Corrections

The Maryland Department of Public Safety and Corrections is one of Maryland's largest state agencies. Within this agency is the Division of Correction with 6,661 staff and 25 state correctional facilities. Maryland has the 14th highest rate of incarceration in the nation and an inmate population as of July, 1998 of 21,977. The demographics of the inmate population are as follows: Average age: 33.2; Sex: 95% male and 5% female; Race: 77.4% black; 21.5% white, and 1.1 % other.

The average sentence is 148.3 months (not including life sentences) and the average length of stay is 50 months. The major offence distribution includes 5.3% for probation violation; 16% for robbery; 17% for murder; 18% for drug abuse; 12% for assault; 6.8% for burglary; 6% for rape, and 6.9% for larceny. In fiscal year 1998, there were 3,666 major infractions, including 459 assaults on staff and 1,222 inmate on inmate assaults, 988 drug uses, and 472 weapons.

The rehabilitative programs offered through the Division of Correction include: Addictions Programs: Addiction counselors assess and educate inmates about substance abuse, supervise and coordinate volunteers working with self help groups and provide direct group treatment to inmates who wish to work on recovery.

A. Substance abuse education is a sixteen session group experience challenging beliefs about substance abuse.
B. Recovery group is an ongoing group addressing release prevention and recovery issues.
C. Alcoholics Anonymous is a community volunteer led self help group.

D. Narcotics Anonymous is a community volunteer led self help group.

Social Work Programs: the Division's social work program includes group counseling and individual intervention, aftercare, planning, HIV counseling, psychological assessment, and services to special populations.

E. Cognitive Therapy Group is a series of four groups, each twelve to fourteen sessions long, addressing decision-making, communication, relationships and reentry issues.

F. Parenting is for men and women – a group experience addressing pertinent parenting skills. Women's issues include childbirth preparation and structured visitation.

G. Domestic Violence is for victims and perpetrators. The men's group is six months, meeting weekly. The women's group is six weeks with an ongoing support group upon completion.

H. HIV Support is for inmates who are HIV positive. Admission is through social work staff.

I. HIV Prevention is individual counseling for inmates with high risk behavior.

Inmate Work Programs: Work programs prepare inmates for release by developing skills and a work history.

J. In 1998, State Use Industries employed 1,306 inmates in 30 programs which produced goods and services for sale to government and nonprofit agencies. The Bureau of Justice Assistance authorizes SUI to partner with private business in manufacturing under Prison Industry Enhancement (PIE).

K. Work Release is a temporary and conditional release from incarceration to obtain and hold employment in the community. Inmates reimburse the state from their wages for food, room and transportation.

L. Work crews and road crews provide jobs for an average of 620 inmates per month. State law governs use of inmates for State and county public works projects and authorizes diminution of confinement credits and wages for working inmates.

Maryland Department of Education Correctional Education Program

Since 1978 the Correctional Education Program, a unit of the Maryland Department of Education, has had legal authority for the education and library programs in the Division of Correction. These activities are under the oversight of the Educational Coordinating Council for Correctional Institutions, chaired by the State Superintendent of Schools. Each correctional institution is headed by a warden or superintendent. The school principal heads the education program at each site and sits on the warden's leadership team. The teachers report directly to the principal, but are subject to all the personnel regulations for Division of Correction employees. In the case of a personnel or jurisdictional problem, there is an Educational Liaison working for the Division of Correction who arbitrates between the two agencies.

During the course of fiscal year 1999, 10,063 inmates were enrolled as students. Program goals include attainment of functional literacy skills, attainment of a high school diploma, or attainment of a certification of completion for an entry level occupational education program. During fiscal 1999, 753 inmate students completed occupational training, 1,336 earned literacy certificates, and 951 earned high school diplomas. In addition to those inmates engaged as students, an additional 544 inmates were employed as educational aides assisting with the school and library programs as their daily work assignment.

The Department relies primarily on a State general fund appropriation to support these school and library services. Federal funds are sought and obtained to supplement basic services to the greatest extent possible. In recent years, two different life skills

grants have been obtained to augment services intended to facilitate a successful transition to post release. The current life skills grant is titled "Prison to Work" and includes a variety of job preparation services such as career guidance and career exploration, portfolio development, and support with the job search upon release. A recent grant from a private foundation has allowed the Department to initiate relationships with several Maryland college and universities to offer advanced education to those inmates who qualify. One recent initiative under this foundation funding supports instruction in fiber optic cabling installation at the Anne Arundel Community College. Finally, the Department relies on funding support and a variety of in-kind support from the Department of Public Safety to provide a more extensive educational and library program offerings.

The Department of Education offers instruction and library services in all of the major Division of correction institutions and at the Patuxent Institution. Instruction is offered by State certified instructors or by employees of participating community colleges. Public Safety case management staff assign inmates to participate in the education program as an institutional work assignment. State law requires most inmates who have not earned a high school credential to participate. Unfortunately, waiting lists sometimes require that inmates in need of schooling await enrollment openings, sometimes for many months. A small number of inmates qualify for State and federally-mandated special education. These include inmates under the age of 21 who have an educationally significant handicapping condition and who have not completed high school.

Current initiatives in the education and library programs include participation in the pilot pre-release and transition project, development of post release employment placement services for students who have completed programs, development of a join

initiative with State Use Industries to address idleness in Maryland prisons, development of a data management system for enrolled inmates to improve program management, accountability and feedback form post release employment, expansion of parenting education services, and enhanced utilization of various resources for distance learning to expand the range of program offerings at isolated correctional sites.

Minnesota Department of Corrections

The Minnesota Department of Corrections was created in 1959 to consolidate state correctional functions under one agency. A service and regulatory agency, the department has a broad scope of activities and responsibilities. The department currently operates ten correctional facilities including eight for adults and two for juveniles.

Adult prison populations total more than 6,300 inmates; juvenile offenders number around 225. More than 15,000 offenders on probation, supervised release and parole are supervised by department agents. Through the state Community Corrections Act, the department also administers subsidy funds to units of local government for corrections programs. The department has about 3,700 employees. The demographics of the inmate population as of January 1, 2001, are: Average age: 33.3; Sex: 94.2% male, 5.8% female; Race: 47.5% white, 36.1% black, 7.2% Hispanic, 6.9% Indian, 2.3% other.

The average sentence is 35.9 months, not including life sentences. The major offence distribution includes 19.1% for criminal sexual conduct, 16.1% for homicide, 17.2% for drug abuse, 12.4% for assault, 8.3% for burglary and 8.1% for robbery.

The commissioner of corrections heads the department and reports directly to the Governor. Below the commissioner are two deputy commissioners. There are three divisions within the department: adult facilities, management services and community and juvenile services. Additionally, units exist in the areas of investigations, interagency

management, correctional industries, and health services. Citizen advisory groups play key roles in the department in areas such as community corrections, woman offender issues and correctional industries.

Adult inmates in state facilities have access to a variety of work, education and other program activities. Programs are also provided for sex offenders and chemically dependent inmates.

Correctional Education Programs

Correctional education programs in the Minnesota Department of Corrections are offered in all facilities. Educational programs in adult and juvenile facilities focus on basic literacy instruction. The Department of Corrections has mandated that all eligible offenders earn a high school diploma or GED while incarcerated. Vocational and higher education is also made available. Each facility employs an education director. Additionally, the central office education unit oversees all educational programming. Education services include instruction in Adult Basic Education, GED preparation and testing, high school diploma, life skills and cognitive skills, secondary and post-secondary vocational training, and post secondary academic courses. Classes in transition and pre-release are also offered. The Department of Corrections also offers special education and an apprenticeship program. Instruction is provided by appropriately licensed teachers hired by the department and vocationally licensed teachers by contract.

Offender demographics highlight the need for correctional education.

- 34.5% of offenders do not have a GED or high school diploma.
- The average reading level at intake is at the tenth grade level.
- 57.3% adult offenders convicted for a crime against a person
- Average age is 33.3

- 20% are diagnosed with severe mental health issues.
- 94% will return to the community.

Adult Basic Education classes are offered in all facilities. These classes emphasize increasing offenders' literacy skills and help prepare students for the GED test. The Department of Corrections has mandated that all eligible offenders earn a GED or high school diploma during their incarceration.

Special education is offered at three adult facilities (one close custody, one medium custody, and the women's facility) and one juvenile facility. Special education is governed by federal and state guidelines and monitored by the Minnesota Department of Children, Families and Learning.

Vocational instruction is offered via contracts with Minnesota State Colleges and Universities (MnSCU). The training is offered at six of the eight adult facilities. MnSCU provides licensed vocational teachers and programs. All vocational coursework and certificates earned are accredited through North Central Accreditation. Vocational programs offered include masonry, painting, carpentry, cabinet making, dry wall, floor covering, welding, printing, machining, upholstery, computer specialist, computer hardware support, baking, meat cutting, culinary arts, small business management, information processing, barbering, drafting, telecommunications technician, and facility maintenance.

Post secondary academic education is offered at five of the eight adult facilities. Accredited instruction is provided via MnSCU partnerships. College coursework is focused on having students achieve an Associate of Arts degree prior to release. Non-tax dollars, Youthful Offender grant monies and inmate generated phone commissions fund this program.

Pre-release classes prepare offenders for transition back into the community. Pre-release programming begins during the last six months of incarceration and is a blend of pre-release classes, self-help resource areas and staff-assisted services. Job searching and job interviewing are examples of topics covered in pre-release classes. Transition fairs are offered at all medium custody facilities and the female institution. A new transition center has opened at one adult male facility.

The Minnesota Department of Corrections offers educational programs in the hope that, once released, offenders will be trained and educated to enter the workforce and live as productive, contributing citizens. At the end of the third quarter, FY 2001, 1,693 offenders were participating in Adult Basic Education, 831 offenders were participating in vocational education and 257 offenders were participating in academic higher education. Additionally, 1,528 vocational education credits and 107 academic higher education credits were earned by offenders. There were also 266 offenders who completed life skills courses, 92 offenders participating in critical thinking courses and 297 offenders participating in pre-release courses.

In the past three years, Minnesota's correctional education programs have been awarded a number of grants from various sources, the largest of which has been five years of Life Skills/Learn to Earn Federal dollars.

Current initiatives in the education program include:

- The addition of the Corrections Learning Network (CLN) satellite technology. Through this cooperative effort, education programs can be broadcast directly into offender cells or the classroom.

- Piloting a Reading Is Fundamental (RIF) program in all facilities. The goal of this program is to provide children of offenders and juvenile offenders with books, and to provide a connecting activity with their incarcerated parent.
- Creation of a comprehensive education database for the education unit.
- Establishing a more comprehensive transition effort with other state agencies and designing an offender workforce development plan.

Ohio Department of Rehabilitation and Correction

The Ohio Department of Rehabilitation and Correction is one of the State's largest agencies with over 15,000 employees, 31 prisons, and nearly 50,000 prisoners. The Department is the fifth largest correctional agency in the country. In addition, the Division of Parole and community Services provides parole and probation services throughout the 88 counties in Ohio.

The Director of the Ohio Department of Rehabilitation and Correction reports directly to the Governor of Ohio Bob Taft. The Director has an Assistant Director and five Deputy directors in charge of prisons, parole and community services, business administration, management information systems, and human resources. Each of the thirty-one prisons is administered by a warden and various deputy wardens in charge of security and administrative functions of the institutional operation.

The Ohio prison system classifies the correctional institutions into four major categories based on the security level of the security classification of the inmates sent to the respective correctional facilities. Ohio has maximum, close, medium, and minimum security institutions.

The correctional institutions provide a variety of work and educational opportunities for inmates. The Ohio Penal Industries has a diverse number of industrial shops which provide not only the traditional license plate production for Ohio, but also make a wide variety of wood and metal furniture, printing, drafting, computer refurbishing, manufacturing of snow plows and salt spreaders for the Department of Transportation, soap and cleaning materials, asbestos removal crews, data processing, and clothing and shoe manufacture.

Ohio's prison system also operates a number of farms that help to offset the costs of providing vegetables and meat products to feed the large inmate population. The farms produce products such as corn, soybeans, wheat, potatoes, poultry, hog and beef production. In addition, a slaughterhouse and dairy processing are located at correctional institutions within the system.

The correctional institutions also provide job opportunities in the areas of food service, maintenance shops, clerical support, and janitorial services within the various departments of the prison and in the housing units.

Ohio Central School System

In addition to the job and occupational opportunities, the Ohio Department of Rehabilitation and Correction provides academic and vocational training programs through the Ohio Central School System. The Ohio Central School system was chartered in 1973 by the Ohio Department of Education. The OCSS has over 550 teachers, guidance counselors, administrators, and project directors to provide educational programs in all the adult prisons in the state of Ohio. The average daily enrollment for the Ohio Central School System in 1998 was over 13,000 inmates participating in all educational programs. Also, during 1998 the OCSS awarded over 6,000 certificates for academic and vocational achievement. The cumulative enrollment for the Ohio Central

School system in 1998 was nearly 27,000 students. At any one time, 26% of the total inmate population of nearly 50,000 inmates were enrolled in an educational program.

Education programs are established in all of the adult prisons in the State of Ohio. The Ohio Central School System operates the educational programs through a regional system. A principal administers each of the thirteen regions. A principal may have two to three institutions and one or more community-based correctional facility within the region.

The institutional education programs consist of both academic and vocational programs. At a minimum, each institution offers Adult Basic Education, GED Preparation and a Literacy Unit. The Literacy Unit consists of a certified teacher and inmate tutors. The inmate tutors are trained in nationally recognized literacy methods. The inmate tutors then assist the teacher in the instruction of the inmate students.

The vocational programs vary in each institution. The Ohio Central School System has over 33 different areas of vocational programming in the school district. The Ohio Department of Education certifies each of the programs. In addition, the Ohio Central School System has developed, with the cooperation of the U.S. Bureau of Labor – Bureau of Apprenticeship and Training, forty-seven apprenticeship trades. Currently, over 700 inmates are enrolled in the trade and industrial programs throughout the Department.

The Ohio Central School System also provides Pre-Release Training for every eligible inmate prior to release from the institution. The program consists of a three-week intensive course designed to prepare inmates to return to the community. Job search, job interviewing, and job retention skills are a few of the topics covered in the Pre-Release curriculum. In addition, inmates will prepare a resume and a job portfolio to assist in their job search once they are released.

The educational program offerings in Ohio's prisons also include post-secondary education. The Ohio legislature, after a two-year study of post secondary education programs in prisons, determined to retain college and university programs in Ohio's prisons. The Ohio Central School System contracts with various colleges and universities to provide Advanced employment and Job Skills training in the correctional institutions.

The Ohio Central School System provides a variety of educational programs both in academic skill building and vocational training. The goal of the system is to provide the offender the opportunity to improve his or her academic and vocational skills to become a productive citizen upon release to the community.