To determine if a link exists between academic progress and the correctional process in the reformatory classroom, this study considers the effect of bibliotherapy on the academic achievement and the personality of inmates of the Oklahoma State Reformatory enrolled in a biology course for a total of four, 10-week semesters. Because classes were organized according to inmates' work schedules, groups had to be established by statistical comparison. Chi-square and t-tests were applied to the results of the California Test of Mental Maturity, the Nelson Biology Test (NBT) and the Minnesota Multiphasic Personality Inventory (MMPI). It was found that the eight initial groups were equal, and they were therefore combined into two groups, experimental and control. Both groups received Lecture-Demonstration-Laboratory instruction three hours a day. The experimental groups spent one hour a day discussing mental hygiene and personal problems. Bibliotherapy stresses the textbook, with general reading of predominantly psychiatric-sociological articles and books. Discussion and modified role playing as well as other resources were also integrated into class work. Alternate forms of the source tests administered earlier were given at the conclusion of the program. It was found that the difference in mean gains, for biological knowledge, was in favor of the experimental group. (NG)
Correctional educators are presently seeking for a satisfactory approach to effect greater inmate academic achievement but as one educator comments: "Many inmate students make acceptable academic progress—but we have yet to prove a link between educational advancement and correction. We believe that such a link exists—but we have yet to identify it." (2) This research study has as its basic intent to pursue the problem of ascertaining if there is a link between the correctional process and academic pursuits in the reformatory classroom.

Correctional educators are likewise concerned for the fact that not only are prisons poor substitutes for the kind of environment that facilitates internalization of constructive values, but an individual's receptivity changes so that it becomes difficult for any classroom procedure to put more than a thin coat of paint on an already existing structure. Too often we have not even found an instructional language that conveys meanings to those we would instruct. (5) This study in attempting to delineate a successful method of linking the correctional process and academic progress presents information to assist the institution teacher, with his limited amount of time and training, to become more efficient in conveying the meanings of rehabilitation to the inmate student in the classroom.

PURPOSE OF THE STUDY

The purpose of this study was to: (A) determine the effect of classroom bibliotherapy on academic achievement of inmate students, and (B) determine the effect of classroom bibliotherapy on the personality of inmate students. It is expected that the results of such a study is of principal
value to teachers employed in this type of institution irrespective of their teaching area. It is also anticipated that value can be realized by administrators, librarians, as well as all security officers employed in correctional institutions.

PROCEDURE

SAMPLE

The subjects of this study were 104 inmates of the Oklahoma State Reformatory at Granite, Oklahoma who were enrolled in the regular ten-week semester program in biological science. The major types of convictions in the sample as a whole were for second degree burglary, 83 per cent; grand larceny, 11 per cent; stolen cars, 3 per cent; murder, 2 per cent; and rape 1 per cent. There were both negro and white inmates.

The total length for all four semesters of this study was forty weeks in the school year, 1964-65. The investigator taught both experimental and control group classes. The daily class period was three hours in length and classes met either in the morning or the afternoon. The groups were varied so that two experimental groups were taught in the morning and two in the afternoon.

PRETEST DATA

In an experimental situation of this nature where the investigator is permitted to administer different methods of therapy or teaching to different reformatory classes, but must usually use the classes as they are already organized as result of the inmate's work schedule, it was found to be impractical to attempt control of all concomitant variables by direct selection and matching. A list of possible morning and afternoon inmates was drawn up at the beginning of each semester and inmates were selected to participate in the study of the basis of maintaining a satisfactory work
schedule arrangement. It was found that too stringent a selection of the subjects tended to reduce the effectiveness of the findings since the normal reformatory classroom population may be altered.

Therefore, since experimental control of all the concomitant variables proved to be impractical, the investigator relied upon statistical comparison of the groups to test their initial equality. Statistical procedures utilized in this study include the Chi Square test for independence of data which was used to combine the data of the personality inventory from the eight separate groups. Likewise, the \( t \) test of dependent measures was used to test the difference between mean improvement in regard to pretest and post-test biology information in order that the eight separate groups could be combined into two groups; experimental and control. The \( t \) test was also utilized to test the mean improvement within the combined groups. It was likewise used to test the initial equality of the groups on the pretest data.

None of the critical ratio values obtained were significant enough to question the assumption that all the cases in each group were randomly selected from the same or similar populations, and that the morning or afternoon effect was negligible. Thus, the eight groups in this study were combined into two groups; experimental and control. Also, results of the critical ratio test indicated that there were no statistically significant differences between the pretest means of the experimental and control groups in intelligence, as measured by the California Test of Mental Maturity; biology information as measured by the Nelson Biology Test; and personality functioning as measured by the Minnesota Multiphasic Personality Inventory. Thus, the two groups were considered to be initially equal in regard to these factors.
BIBLIOThERAPY TREATMENT

The eight groups in this study were taught by the Lecture-Demonstration-Laboratory method three hours per day for an average of 48 days a semester. All groups used the same textbook, materials, and laboratory equipment. The experimental group procedure was altered, in that, an average of one hour per day was spent in discussion of mental hygiene materials and the inmate student's personal problems. The bibliotherapy procedure was viewed as being a more inclusive method which included not only general reading materials, such as, fiction and biography, but predominantly psychiatric and psychological articles and books which were supplementary to the primary bibliotherapy source—the textbook. This more inclusive method also utilized other library resources such as, films, filmstrips, tapes, and bulletin board items.

A conscientious attempt was made to insure that the bibliotherapy procedures were not merely artificially contrived school tasks by amalgamating them into the actual classroom work. The semester academic work and bibliotherapy utilized the following two unit pattern. During the semester group discussion centered around the textbook primarily, plus supplementary biological and psychological-sociological readings. It was felt that the course content in biology would readily adapt itself to discussion of the dynamics of human behavior and the inmate's personal problems. The first week of the semester was spent in studying botany while orientation and pretesting were being completed. In weeks two through five the inmate student was introduced to the similarities in all forms of life. Weeks six through eight were used to introduce the student to the fact that there are dissimilarities in the biological, as well as, the mentational and behavioral sphere.

The investigator's job became the usual biology teacher's task of getting a discussion started and trying to keep it on the unit topic as much as
possible. As was emphasized by Barton, (1) the investigator tried to familiarize himself with the background of each inmate and was thus able to orientate the discussion toward the needs and interests of a particular student or students.

Finally, it was suggested by the experimenter that the entire class read and discuss one short play together in a modified type of role playing. A play which adequately met the needs of the therapy and proved to be popular with the inmate students was "Glass Menagerie," by Tennessee Williams.

The theoretical framework for the therapy is like that of the Ellis (3) or Phillips (8) system in that the experimenter sought to find the dominant, nocuous "self talk" which was sustaining self defeating behavior of the inmates. The intention was to use a method such as this which could ostensibly be managed by the average reformatory teacher if he was sincere and willing to spend time learning the method. It was felt justified in some cases to use the recommendations of Mowrer (4) in both individual and group discussions. In using Mowrer's Integrity Therapy the investigator sought to help the students recognize and accept responsibility by allowing open confession of past misdeeds and encouragement of present and future good works. It was found not to difficult to assist the student to see that he had 'paid for his sins' by serving his prison term and could thus assume a more rational, guilt free responsibility for his behavior. Special care had to be taken in this method to insure that the discussion did not degenerate to mere sermonizing.

POST-TEST DATA

At the end of the ten week experimental period each subject was given an alternate form of the Nelson Biology Test. Comparison was made as to the relative effectiveness of bibliotherapy in the reformatory classroom to produce a significant gain in biology information as compared to gains obtained
by the control group at the .05 level. The critical ratio value obtained is
given in Table I.

TABLE I

COMPARISON OF MEAN GAINS IN
BIOLOGICAL KNOWLEDGE

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Gains Means</th>
<th>S.D.</th>
<th>Diff. Means</th>
<th>S.E. Diff.</th>
<th>C.R.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>56</td>
<td>4.55</td>
<td>7.91</td>
<td>10.41</td>
<td>3.90</td>
<td>2.67*</td>
</tr>
<tr>
<td>Experimental</td>
<td>48</td>
<td>14.96</td>
<td>9.29</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant beyond the .05 level.

The post-test of personality was also given at the end of the ten week
experimental period. Each subject was given the MMPI, booklet form, the same
form as that taken in the pretesting. The critical ratio values obtained by
comparing the mean improvement of the experimental and control groups are
given in Table I.

SUMMARY OF MAJOR FINDINGS

Table I seems to indicate that bibliotherapy in the classroom was the
dominant factor in producing a superior gain in biological knowledge. It
also seems to indicate that without therapy the inmate student will not
obtain a significant increment in biological information.

This result is seen as quite probable and not unusual in a reformatory
classroom situation regardless of teaching method. This is predominantly
due to obvious motivational factors outside the four walls of the classroom.
As Park (6) indicated, those who need educational progress are the most
difficult to get involved in the school process not because of capacity but
because of motivational reasons. This was seen as being due to the fact that
TABLE II
COMPARISON OF MEAN IMPROVEMENT
IN PERSONALITY FUNCTIONING

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean Improvement Experimental</th>
<th>Mean Improvement Control</th>
<th>Diff. in Means</th>
<th>S.E. of Diff.</th>
<th>C.R.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hs-.5k</td>
<td>3.42</td>
<td>13.71</td>
<td>3.30</td>
<td>9.53</td>
<td>.11</td>
</tr>
<tr>
<td>2. D</td>
<td>4.04</td>
<td>12.02</td>
<td>2.73</td>
<td>12.73</td>
<td>1.31</td>
</tr>
<tr>
<td>4. Pd-.5k</td>
<td>7.33</td>
<td>9.87</td>
<td>-4.95</td>
<td>12.77</td>
<td>12.28</td>
</tr>
<tr>
<td>5. Mf</td>
<td>1.71</td>
<td>10.51</td>
<td>.66</td>
<td>9.79</td>
<td>1.05</td>
</tr>
<tr>
<td>7. Pt-.1K</td>
<td>2.46</td>
<td>12.02</td>
<td>-4.20</td>
<td>12.88</td>
<td>-1.71</td>
</tr>
<tr>
<td>8. Sc-.1K</td>
<td>7.96</td>
<td>15.20</td>
<td>-2.07</td>
<td>14.23</td>
<td>10.03</td>
</tr>
<tr>
<td>9. Ma-.2k</td>
<td>2.27</td>
<td>11.63</td>
<td>-3.86</td>
<td>9.94</td>
<td>6.13</td>
</tr>
<tr>
<td>10. Si</td>
<td>3.33</td>
<td>8.08</td>
<td>1.71</td>
<td>9.15</td>
<td>1.59</td>
</tr>
</tbody>
</table>

*Significant beyond the .05 level.

these inmate students have encountered enough failure experiences to be properly skeptical of their ability to succeed. It was found that those inmates in the control group who made a significant gain in biological knowledge were usually those who were to soon come up for parole or job reclassification, both of which require good academic records. It was found by the investigator, as was so aptly expressed by Park that: "To implant a degree of academic motivation and confidence in those with 'born to lose' tattooed on their arms is less a pedagogical technique than it is major surgery." (7)
As can be noted from Table II the critical ratio values obtained by comparing the mean improvement of the experimental and control groups on the MMPI were significantly in favor of the experimental group on scales, Pd, Sc, and Ma. However, there was a significant decrement of performance on scales Pd, and Sc, for the control group. This seems to indicate that inmate personality functioning tends to worsen somewhat due to the day to day variables present in this penal institution's program.

This latter result portends ominous far reaching significance for correctional officials. If inmate attitudes worsen as this study seems to indicate then it becomes apparent that the high rate of recidivism could be due to factors indicating a lack of insight as to what is the link between recidivism and reformatory programming. This result should be viewed in light of and correlated with the results presented in Table I which showed that academic achievement was lacking in the control group classroom situation. It is thus seen that these results give credence to Rich's contention that "only a program which seeks, first, to eliminate mental, social, and emotional problems and, second, help delinquents acquire knowledge for human efficiency, can be of real value for the individual." (9)

Table II seems to indicate that the experimental group possessed fewer psychopathic deviate tendencies in that the Pd scale measures traits which are supposedly antithetical to the mores of society. Thus, a significant decrease in this scale shows that the goals of the institution and therapy are being facilitated by the experimental procedures. The second scale which showed a significant decrease was the Sc scale. This scale is thought to measure the way in which the person may distort some aspect of the world around him, perceiving it differently than others and reacting to it in unusual ways. It is thus seen that the inmate students in
bibliotherapy were less prone to distort reality and to accept their situation as it is, and the purpose of correction as it was meant to be. This scale is intended to measure the personality factor characteristic of persons with a marked overproductivity in thought and action. When this becomes abnormal, the hyper-activity may lead to antisocial acts, when coupled with a high Pd scale, or to irrational manic behavior when coupled with a high Sc scale.

CONCLUSIONS

On the basis of the techniques of statistical analysis used in this study, and within the limitations imposed by the tests employed and the length of the experimental period, the following conclusions are drawn.

1. The improvement of the experimental group in biological information as measured by the Nelson Biology Test was significantly greater than the improvement of the control group.

2. The improvement of the experimental group in personality functioning as measured by the MMPI was significantly greater than the improvement of the control group.

3. The significant improvement in the performance of the experimental group over the control group on these tests is attributed to the experimental procedures used.

4. The experimental procedures used in this investigation were the most effective in improving inmate performance on scales Pd, Sc, and Ma of the MMPI.

5. The experimental procedures used in this investigation were the least effective in improving inmate performance on scales Hs, D, and Pt of the MMPI.
6. The significant improvement of both groups on scale Si is attributed to the teaching method utilized and/or the total rehabilitation program of the institution.

7. The significant decrement in the performance of the control group on scales Pd and Ma is attributed to the inadequacies of the total rehabilitation program of the institution.

8. The bibliotherapy procedures utilized in this regularly scheduled, average reformatory classroom situation were the most useful when not artificially imposed as something extra to the average curricular offering. It is necessary to use the textbook as the unifying resource material, supplemented by short articles in other textbooks plus articles in psychology-sociology.


(6) Park, op. cit., pp. 4-6.

(7) Park, ibid., p. 5.
