The Learning Skills Center (LSC) at Los Angeles City College is an individualized learning laboratory which offers assistance to students in communication skills and quantitative skills, and provides tutoring in all college-level courses. LSC's programs are diagnostic and prescriptive, and services are available to students on both voluntary and referral bases. This document describes the establishment of an evaluation and management control system for LSC, and presents the results of the first evaluation. Basically, the evaluation involved a comparison of dropout rates between those LSC students who were enrolled in basic English or mathematics classes, and Los Angeles City College students who had been involved in a baseline dropout study. The baseline persistence study showed a dropout rate of 42.8 percent for students in basic English. The dropout rates for the LSC program participants enrolled in basic English, on the other hand, were 16 percent for the fall semester and 6.6 percent for the spring semester of 1974-75. The baseline study showed a 45 percent dropout rate for basic mathematics, as compared to 22.1 percent for the LSC participants during the fall semester and 10 percent for the spring semester. Data are organized into tables, and a bibliography of references for educational program evaluation and audit is appended. (Author/NHM)
EVALUATING AND AUDITING A COMMUNITY COLLEGE LEARNING SKILLS CENTER PROGRAM

BY

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May 6, 1976
OAKLAND, CALIFORNIA
ACKNOWLEDGMENTS

Those at the Los Angeles County Superintendent of Schools Office who helped bring about the evolution of the three evaluation services currently offered to all local educational agencies (K-14) in Los Angeles County should be acknowledged. The County Office "change agents," or "prime movers," include Dr. Richard Clowes, Superintendent; Dr. Maylon Drake, Assistant Superintendent for Educational Programs and Services; Dr. Gordon Footman, Director, Dr. Warren Newman, Assistant Director, and the following consultants of the Division of Program Evaluation, Research, and Pupil Services; Dr. Jean Wiener, Dr. Ruth Cohen, and Dr. Bill Turner. The members of the Los Angeles County Board of Education were also supportive of this effort; they are: Mr. Vincent H. Simpson, President; Mr. Robert M. Bock, Vice President; Dr. Daniel L. Towler, Member; Mrs. Pauline Chace, Member; Mrs. Lucille M. Fields, Member; Dr. Earl V. Pullias, Member; and Mrs. Kathryn Vanderhook, Member.

The authors would also like to acknowledge professionals who participated directly in the planning and implementation of the evaluation and audit of the Learning Skills Center Program at Los Angeles City College.

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INTRODUCTION

The Learning Skills Center (LSC) at Los Angeles City College, established in October, 1974 through a Los Angeles Community College District grant, is an individualized learning laboratory which offers assistance to students in (1) communication skills, including reading comprehension and speed, oral communication, functional writing problems, study skills, spelling and vocabulary development, and English as a second language (2) quantitative skills, including quantitative reasoning from basic arithmetic computations through trigonometry; and (3) tutoring in other college-level courses, literally from Anatomy and Zoology.

HOW DOES THE LSC FUNCTION?

Services to students are available on a voluntary and/or referral basis; they may come in on their own or counselors and instructors may refer them to the LSC for specific skill development to reinforce coursework. Students may participate in the LSC for credit or noncredit and may enter and discontinue at any time during the year—In short, they may participate in an open entry/open exit program that is diagnostic and prescriptive. If a student decides in advance that he wants to enroll in the LSC, he may pre-enroll or go through the regular admissions procedure. If he decides at any time during the semester that he would like to enroll in the LSC for credit, he is eligible. (A student who chooses to do so may also participate in various LSC programs without credit.)

When a student comes to the LSC, his language and mathematics skills are tested. On the basis of these diagnostic tests, a program is prescribed for him tailored to his needs and designed to help develop his academic potentials. A subsequent test is made 6 to 8 weeks later to see if the program is working. If it is not, a new prescription is developed for him. Moreover, if a student has difficulty with LSC materials or with other coursework, a tutor is assigned to help him overcome other learning problems he may be experiencing.

All students' work at the LSC is individualized and self-paced (that is, a student functions individually in the learning skills program, taking as much time as he needs, whether it is one week or several months). Helping to create a student's positive self-image is a fundamental thrust of the individualized programs in the LSC (SUCCESS is built into each of the programs).

WHY DO AN EVALUATION AND AN AUDIT?

The coordinator of the LSC decided to build an evaluation and management control system into the operation for several reasons: (1) to provide a system of accountability, (2) to demonstrate to those
Interested what was happening in the LSC, (3) to determine what objectives and plans were appropriate for the Los Angeles City College campus, its students, and faculty, (4) to plan a definite course of action to structure an amorphous situation, because students and faculty were generally unknown quantities, and (5) to validate the LSC as a valuable operation.

In searching for an independent auditor, the Dean of Instruction and the LSC coordinator discovered the Division of Program Evaluation, Research, and Pupil Services of the Office of the Los Angeles County Superintendent of Schools, which has teams experienced in the areas of educational evaluation and audit and would provide their services free of charge. Not only was "free of charge" appealing to Los Angeles City College and its district office, but it also meant that it would be objective and impartial, with no conflict of interests. This was crucial to establish the credibility of the LSC because the faculty, in general, opposed a LSC on campus and were skeptical about what a LSC might do that they could not or were not already doing in their classrooms.

Interestingly, the faculty relaxed when they heard that an evaluation system was built into the LSC operation because they could not imagine what sane person would want that much accountability. The ones who turned out to be nervous about evaluation and audit were the LSC's own workers, both, evening faculty and student tutors. However, when the LSC faculty and student workers discovered that evaluation was a simple process, that it could change during the year, and from year to year to more appropriately fit the needs of the Los Angeles City College students, they relaxed, too.

WHAT WERE THE OUTCOMES?

The outcomes of the LSC program evaluation and audit were of two different types. While the first type was concerned with the LSC program specifically, the second type was more general in that it had an impact on personnel and decisions outside the LSC program.

At the LSC program specific level, there were four results:

1. When compared to baseline persistence data, concurrent attendance in basic math department courses and the LSC was associated with significantly lower (p<0.001) dropout rates for both the Fall and Spring Semesters of 1974-75.

2. When compared to baseline persistence data, concurrent attendance in basic English department courses and the LSC was associated with significantly lower (p<0.001) dropout rates for both the Fall and Spring Semesters of 1974-75.

3. Seventy-eight point nine percent (78.9%) of all LSC users were EOPsS qualified.
More than sixty-five percent (65.0%) of the LSC users were declared vocational education majors.

Because significant levels such as those which were presented above for numbers 1 and 2 have a way of "forgetting where they came from," the reader is entitled to a brief descriptive statement of the rationale behind the dropout comparisons, the quasi-experimental research design that was used, and the statistical procedures that were employed.

Of course, when the LSC program was created, it was hoped that students who participated in the program would perform better academically than those who did not participate. But at that point a question emerged, "How could their academic performance best be judged?" The subsequent search for the most meaningful definition of academic performance led to the identification of a "staggeringly high dropout rate" as the number one problem that needed to be solved in those early stages of the development of the LSC program. Fortunately for the evaluation team of the LSC, a very comprehensive study of persistence rates in basic English, basic mathematics, and other classes had been conducted by Dr. Ben Gold, Director of Research, Los Angeles City College.

It was decided that the LSC program would include an evaluation comparison of dropout rates between those LSC students who not only participated in the LSC program but also enrolled in basic English and/or basic mathematics classes and those who had been involved in the Ben Gold baseline dropout study. Accordingly, this a priori, planned comparison was written into the LSC program evaluation and audit plan as program objective 4.0 (shown in appendix 1). Clearly, then, the comparisons that were made were not made within the "true experimental designs" category described by Campbell and Stanley (D. T. Campbell and J. C. Stanley, 1968).

For purposes of this comparative investigation of dropout rates, the dropout rate in "Total English classes" was operationally defined as the dropout rate for the total group of students who were in English 61, 62, 64, 65, and 66. In other words, students in all five English classes were combined as one basic "Total English" group. Using this definition, the baseline persistence study by Ben Gold showed that 488 out of 1,134 students who enrolled in these five basic English classes withdrew (earned a "W") in the Fall semester of 1971. These figures produce a baseline dropout rate in basic "Total English" of 42.8% for the Fall semester of 1971. It was this high dropout rate that, it was hoped, would be at least partially reduced by participation in the LSC program.

Similarly, the dropout rate in basic "Total Mathematics" classes were operationally defined as the dropout rate for the group of students who were in Mathematics 30 and 31. Ben Gold's study showed that 397 out of 883 students who enrolled in these two basic Mathematics classes withdrew (earned a "W") in the Fall of 1971. These figures produce a baseline dropout rate in basic, total Mathematics of 45.0%. Again, it was hoped that this high dropout rate could be reduced by participation in the LSC program.
So the baseline persistence study contributed a priori dropout rates of 42.8% in basic total English and 45.0% in basic total Mathematics. What data were available on students who both participated in the LSC program and who were in one or more basic English or basic Mathematics class? Two semesters worth of data were available on those LSC participants; data were available for both the Fall and Spring semesters of the 1974-75 academic year.

A very sharp contrast emerged when the dropout rates of LSC participants were compared to the baseline dropout rates. The baseline study showed that 42.8% dropped out of total basic English. In sharp contrast, the dropout rates for total basic English for the LSC program participants were 16.0% for the Fall semester and 6.56% for the Spring semester of 1974-75.

The baseline dropout study showed that 45.0% dropped out of total basic Mathematics. Again, a sharp contrast—the dropout rates in total basic Mathematics for the LSC participants were 22.1% for the Fall semester and 10.0% for the Spring semester, 1974-75.

That these comparative dropout rates are significantly different statistically can be seen in the display that follows. In all cases, the significance levels exceed the p<.001 level.
RESULTS OF STATISTICALLY TESTING THE FOUR HYPOTHESES OF "NO DIFFERENCE" IN ATTRITION RATES BETWEEN THE TWO GROUPS OF IDENTIFIED STUDENTS

DATA ANALYSIS

<table>
<thead>
<tr>
<th>HYPOTHESES BEING TESTED</th>
<th>LEARNING SKILLS CENTER PROGRAM</th>
<th>BASELINE PERSISTENCE STUDY</th>
<th>TEST STATISTIC</th>
<th>SIGNIFICANCE LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) There is no difference between the total English dropout rates of the students who participated in the Learning Skills Center Program in the Fall semester and of the students in the baseline persistence study.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL SAMPLE SIZE</td>
<td>N</td>
<td>%</td>
<td>TOTAL SAMPLE SIZE</td>
</tr>
<tr>
<td></td>
<td>75</td>
<td>12</td>
<td>16.0</td>
<td>1,134</td>
</tr>
<tr>
<td>(2) There is no difference between the total, basic English dropout rates of the students who participated in the Learning Skills Center Program in the Spring semester and the students in the baseline persistence study.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>61</td>
<td>4</td>
<td>6.65</td>
<td>1,134</td>
</tr>
</tbody>
</table>
### DATA ANALYSIS

<table>
<thead>
<tr>
<th>TOTAL SAMPLE SIZE, NUMBER, AND PERCENTAGE OF STUDENTS WHO DROPPED OUT</th>
<th>LEARNING SKILLS CENTER PROGRAM</th>
<th>BASELINE PERSISTENCE STUDY</th>
<th>TEST STATISTIC</th>
<th>SIGNIFICANCE LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TOTAL SAMPLE SIZE</td>
<td>N</td>
<td>%</td>
<td>TOTAL SAMPLE SIZE</td>
</tr>
<tr>
<td>(3) There is no difference between the total mathematics dropout rates of the students who participated in the Learning Skills Center Program in the Fall semester and of the students in the baseline persistence study.</td>
<td>95</td>
<td>21</td>
<td>22.1</td>
<td>883</td>
</tr>
<tr>
<td>(4) There is no difference between the total, basic Mathematics dropout rates of the students who participated in the Learning Skills Center Program in the Spring semester and the students in the baseline persistence study.</td>
<td>90</td>
<td>9</td>
<td>10.0</td>
<td>883</td>
</tr>
</tbody>
</table>
Because this comparative investigation of dropout rates is an example of a quasi-experimental study (D. T. Campbell and J. C. Stanley, 1968), it cannot be said that participation in the LSC program at Los Angeles City College causes or results in lower dropout rates in total basic English and total basic Mathematics. However, because this investigation is an example of an associational study, it can be said that participation in the LSC program at Los Angeles City College is associated with significantly lower dropout rates in total basic English and total basic Mathematics (James Popham, 1969). And, because such program participation is associated with significantly lower dropout rates, it is important that the salient elements of the program be described and that the description be made available to other professionals in this field.

On a general level, there were some interesting spinoffs. The Curriculum Committee, responsible for recommending which courses should be accepted or rejected by the Academic Senate, demanded that all new course outlines be written in terms of performance objectives so that students could know exactly what was expected in the course. Furthermore, the Curriculum Committee notified all instructors that course outlines must follow a management by objectives format if they were to consider the proposed course for approval.

Some of the most significant outcomes can be described best in terms of individual cases. One twenty-eight year old male student who had tested on the second grade level equivalent in October, advanced to the 7.5 grade level equivalent when he tested in June. At first he could not believe that the time he devoted to his program at the LSC had worked. To test it he decided to take his driver's test. On July 3 he came dancing into the LSC to proclaim that, "I don't have to look over my shoulder while driving anymore. I got my driver's license!" S. V. had learned to read at a high enough level to pass the test to drive legally in California. That also meant he could get a job, probably be successful in other courses on the campus, and be proud of his accomplishments.

J. B., a thirty-eight year old mother of four teenaged sons, was notified on May 20 that she was failing her Algebra class and could expect to have to repeat it in Summer School. The LSC provided her with a math tutor for one hour daily, from May 20 until the first week of June when her final exam had to be taken. She received 100% on the final exam, the highest grade in the class, and earned a grade of "B" in the course.

A. B., a female student fifty-five years of age from Peru, was rejected from an English 60 series class in Summer School. (English 60 series was established to help students with writing problems before they could take English 1.) She was informed that she had failed the writing exam and that she had also failed to qualify on the reading exam required for English 60 series courses. She came to the LSC. A tutor was assigned to work with her in writing and she was tested for the reading program. A. B. was required to work six hours a week in the LSC during

Students were not randomly assigned to either participate in the LSC program or not participate. In fact, of course, the groups of students attended Los Angeles City College at different times.
Summer School for three credits. After that she took the English screening test, scored 12.8 in reading and was successfully enrolled in English 1.

Finally, there is S. S., an eighty year old woman who came to the LSC in Summer School 1975 because she could not read. She did not even know the alphabet. Her husband had died recently and S. S. was on her own. She didn't know how to write a check to pay her rent. She could not even print! She had figured out numbers by herself because she had to use the phone and the bus. If she wanted to get around, and "...there is no way," she said that she, "...could teach herself to read where the buses were going." S. S. learned the alphabet, the sounds of all the letters, and how to read simple words and sentences in five months.

Stories like the above can be heard almost daily around the LSC. To paraphrase Timothy Manning, an evangelical preacher in the American colonies in the early 1700's, "It doesn't matter how you get a student to learn, as long as you get him there." And a built-in system of evaluation and audit reveals that Los Angeles City College's Learning Skills Center is getting students "there, where it is happening."
SUGGESTED REFERENCES FOR EDUCATIONAL PROGRAM EVALUATION AND AUDIT


Booklets for Developing Evaluative Skills. Tucson: Educational Innovators Press, A Division of Becom Corp., Booklets 1, 2, 3, 6, 7, and 8.


Haggart, Sue A. & Rapp, Marjorie L. Increasing the Effectiveness of Educational Demonstration Programs. Santa Monica, California: The Rand Corporation, 1972.


Kester, Donald L. "The State of the Art & Science of Educational Program Evaluation Services (K-14) in Los Angeles County as Experienced by One Los Angeles County Consultant." in Eric. Ed 104919.


Instructional Objectives Exchange, A Project of the Center for the Study of Evaluation. Los Angeles: UCLA Graduate School of Education.


## APPENDIX 1

### LOS ANGELES CITY COLLEGE LEARNING SKILLS CENTER PROGRAM

#### PROGRAM PERSONNEL RESPONSIBILITIES

<table>
<thead>
<tr>
<th>TARGET</th>
<th>TASK</th>
<th>MEASURE</th>
<th>DATE</th>
<th>AUDIT SAMPLE</th>
<th>DATE</th>
<th>ANALYSIS</th>
<th>REPORT</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>A majority of students (more than 50%) who use the Learning Center</td>
<td>Will be students who are eligible for EOPS services</td>
<td>Student use form and EDP student master list</td>
<td>Feb. 14, 1975</td>
<td>Random sample of students taken from the list of total students in the target group</td>
<td>March 10, 1975</td>
<td>Determine audit sample percentage</td>
<td>Interim</td>
</tr>
<tr>
<td>4.0</td>
<td>Students who come (attend regularly), complete the NEP-Math or NEP-Reading, will be a group.</td>
<td>Will have a higher rate of completing Math and/or Basic Reading courses. Basic Math courses are: Math 30 and 31. Basic English courses are: English 60 Series.</td>
<td>Admission Office reports students grades and summary sheets. Showing completion rates for Learning Center students and for a comparison group of students who have not gone to the Learning Center</td>
<td>March 9, 1975</td>
<td>Random sample of Learning Center students in the target group and a random sample of students in the comparison group taken from the grade reports and summary sheets</td>
<td>March 10, 1975</td>
<td>Determine audit sample course completion rates for both groups</td>
<td>Interim</td>
</tr>
<tr>
<td>5.0g</td>
<td>The Director of the Learning Center</td>
<td>Will use the student self evaluation form</td>
<td>Completed student self evaluation form--kept in student's folder (twice each semester)</td>
<td>Feb. 14, 1975</td>
<td>Completed student self evaluation form</td>
<td>March 10, 1975</td>
<td>Report level of attainment or agreement</td>
<td>Interim</td>
</tr>
<tr>
<td>6.2</td>
<td>The Learning Center Program Evaluator</td>
<td>Will make one interim evaluation report regarding the level of attainment of all program objectives (Objectives 1-5.0g)</td>
<td>Completed interim evaluation report</td>
<td>March 3, 1975</td>
<td>Interim evaluation report</td>
<td>March 10, 1975</td>
<td>Report level of attainment or agreement</td>
<td>Interim</td>
</tr>
</tbody>
</table>