Boston University's College of Basic Studies: A Non-Traditional Approach Which Successfully Serves Marginal Applicants

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Boston University's College of Basic Studies:
A Non-Traditional Approach Which Successfully Serves Marginal Applicants

By Charles P. Fogg, Gene M. Smith

The authors are pleased to acknowledge the generous support of the Esso Education Foundation and the George A. Ramlose Foundation; as well as, the vital institutional support and encouragement of Judson Rea Butler, the founding dean of the College, Horatio M. LaFauci, under whose leadership the College flourished for 14 years, Brendan F. Gilbane the current dean and Dean B. Doner the Academic Vice President of Boston University.

The College of Basic Studies (CBS) offers a successful, 2-year, post-secondary educational program designed specifically to serve low-achieving students. It admits applicants who are denied admission into 4-year programs at Boston University because of marginal pre-entrance credentials; then, through application of principles described in this report, CBS provides new paths to career and professional training for those students. Improved education and promotion of equal opportunity are the objectives of the program. Admitting low-achieving students and providing them a "second chance" is its mission. Innovation and reform in the procedures of education have been the guiding principles of the program since its inception.
The success of the CBS plan is extraordinary as judged by each of five criteria studied to date. The purpose of this paper is to describe the features of the CBS plan, present the assumptions on which it is based, document the program's success, provide evidence concerning the reasons for that success, discuss the efficiency of the plan, and indicate its potential for solving problems facing institutions of higher learning and the students they serve.

Features and Assumptions of the CBS Plan

The CBS plan, which has been operating successfully since 1952, employs team teaching, a core curriculum, extensive guidance counseling, and a highly student-centered orientation (see references 1, 5, 12, 14, 15, & 20). These four features combine to produce a unique administrative and social structure designed to strengthen the motivation of teachers as well as pupils and to increase the per-hour efficiency of teacher-pupil contact. In certain respects the CBS plan is similar to more recent plans designated variously as "cluster colleges," "living-learning" units, and "residence college" programs; but, as described below, the structure of the CBS plan, and the processes made possible by that structure, have produced departures from traditional postsecondary methods and practices even more definite and extensive than those resulting from the programs just mentioned. Moreover, the innovations in structure and process comprising the CBS plan have produced dramatic evidence of improved educational response and have done so with a cost-effective model which can be applied broadly throughout the nation.

An entering class of approximately 550 freshmen is divided into 20 sections of 25-30 students each, four sections of which are assigned to a team of five instructors who represent the five divisions which make up the core curriculum of the College: Humanities, Science, Social Science, Rhetoric (Communications), and Psychology and Guidance. The team, which has full responsibility for the academic education of 100-120 students, meets regularly in formal and informal sessions, reviewing common concerns and problems, teaching techniques, and, above all, their knowledge of the students assigned to them.

The team system attempts to involve a small group of faculty more intimately in the education of their students than more traditional systems permit. It is as though the College were divided into a number of small colleges, each with a faculty of five. Except for the guidance member, who is assigned an individual office to protect a formal counselor-counselee relationship, the instructors forming a team share a common office suite. The resulting high frequency of informal interaction among team members is intended to promote interchange of ideas regarding methods of instruction, content and integration of curriculum, transdepartmental projects, and the educational progress and problems of individual students. The program is presently being conducted in a building designed to enhance the effectiveness of the unique features of the CBS plan.
Development and implementation of the CBS plan was based on three assumptions: (a) Many rejected applicants to 4-year programs at Boston University do have the potential to complete such programs, and this potential can be realized if appropriate educational advantages are made available. (b) Team teaching, a core curriculum, extensive guidance counseling, and a highly student-centered orientation can provide such "appropriate educational advantages." (c) Student enthusiasm, interest, and motivation to learn are stimulated by opportunity for active student participation in group discussions and tutorial sessions, and by sincere faculty interest in each student's individual needs, scholastic effort, and academic achievement.

Efficiency of the CBS Plan

Because of the combined use of team teaching and a core curriculum, most of a student's contact with the CBS faculty is with his five instructors. He may have only a nodding acquaintance with most other faculty members, but he knows his five and they know him. It is this feature of the program that provides the unusual combination of economy of teaching and extensive individual student attention. Upon first learning of the CBS plan, many educators mistakenly infer that this plan requires a large investment of faculty time per student taught. As just stated, this is not the case. The student-faculty ratio at CBS is about 20 to 1. This point is emphasized because its recognition is crucial for understanding the practical value of the CBS plan. Indeed, as an educational model, perhaps the most provocative aspect of the CBS plan is that it provides increased student-faculty contact by modifying the use of currently available resources rather than by allocating new resources. Thus, it generates increased educational excellence without increasing the cost of education.

Implications for Education

The success of the CBS plan has implications for educational theory and practice which go beyond the specific problem of providing compensatory education for marginal high school seniors desiring a college education. New educational models are needed to permit an expanded population of college students to be served without sacrificing the benefits of frequent face-to-face interaction between student and instructor. CBS offers such a model.

During the past decade there has been a growing awareness that the impersonal atmosphere of the large university, with its attendant "academic anonymity," produces adverse effects on student morale and motivation. (See references 8-11, 18,21, & 24.) As emphasized by Kerr,11 we need "... to make the university seem smaller, even as it grows larger." The advent of "cluster college plans" and "living-learning" units seems directed at the accomplishment of such a change.22 25

The CBS plan, like those just referred to, reduces "academic
anonymity” by innovative changes in structure and process which increase the intimacy of interactions between students and teachers and between students and students. In addition, the CBS plan has developed an approach to learning which is oriented toward functional understanding of broad unifying concepts rather than the acquisition of facts specific to particular areas of subject matter. Focus on concepts, their interrelatedness, and their functional significance enhances the satisfaction of learning and promotes recognition of its instrumental usefulness.

Evidence of Success of the CBS Program

Success of the CBS program is best judged by evaluating the success of the students it serves; i.e., marginal applicants who are not admissible into 4-year programs at Boston University as freshmen. Our success with these low-achieving students has been measured by five criteria: (1) mean growth on standardized achievement test scores, (2) percent of students successfully transferring into 4-year programs at Boston University and elsewhere, (3) upper division grade point average of CBS transferees within Boston University, (4) percent of CBS students who receive baccalaureate degrees, and (5) percent of CBS students who receive graduate degrees. After reviewing the evidence generated by analyses performed on selected samples of CBS students using each of the five criteria just mentioned, we shall consider the evidence presently available concerning the reasons for that success.

Criterion #1: Growth scores on standardized tests of achievement. For one class of CBS students (the class of 1962), success of the plan has been evaluated in terms of scores on standardized tests of academic achievement. The Graduate Record Examinations tests of Achievement (hereafter abbreviated GRE) in the areas of Social Science, Humanities, and Natural Science were administered to students at CBS at the beginning of the freshman year and again at the end of the sophomore year. Parallel forms were used. Each student’s growth score on a particular test was obtained by subtracting the prescore from the postscore.

As first semester freshmen, the CBS average was below the national freshman average in all three areas of the GRE (mean percentiles were 37, 27, and 47 for Social Science, Humanities, and Natural Science, respectively), but as second-semester sophomores, the CBS average was above the national sophomore average in all three areas (mean percentiles for those areas were 65, 68, and 62, respectively). Additional analyses showed that the change in status of the CBS students, relative to the national norms, was not due to a difference between mean GRE scores of freshmen who subsequently “survived” the 2-year program at CBS and mean scores of the entire entering freshman class.

Still a different standard for evaluating the mean GRE growth scores of the CBS sample was obtained by comparing them with mean growth scores found in a sample of 996 college students studied by Lannholm and Pitcher.16 The CBS means were from 1.5 to 2.0 times as great as the means in
the non-CBS sample, and the difference between the two samples was statistically significant \((p < .001)\) for each of the three areas tested with the GRE. Concerning their sample, Lannholm and Pitcher say: "... scholastic ability of the combined groups from these three colleges was similar to that of the typical four-year college in the 1952 norms for the American Council on Education Psychological Examination."

We considered the possibility that the greater-than-average growth of the CBS students might be due to the fact that their low pre-scores gave them greater-than-average "room to grow"; however, that interpretation was rejected because the correlations between pre-scores and growth scores were found to be very low for all three areas tested. The correlation coefficients were +.12, -.04, -.09.

**Criterion #2: Percent of CBS students successfully transferring into 4-year programs.** This index of success has been studied in four CBS classes ('64, '65, '66, and '70). For a student to be counted as an "outside transferee," we required institutional documentation that the student in question had been accepted for admission into a four-year program outside of Boston University. For transferees within Boston University (inside transferees), we required evidence not only of acceptance but also of enrollment. Table 1 shows the results of these analyses. The 785 students (35%) for whom inside transferee or outside transferee status could not be confidently assigned were classified as "unknown" and do not appear in Table 1.

**TABLE 1: PERCENT OF CBS STUDENTS TRANSFERRING INTO 4-YEAR PROGRAMS**

<table>
<thead>
<tr>
<th>CBS CLASSES</th>
<th>1964</th>
<th>1965</th>
<th>1966</th>
<th>1970</th>
<th>Total ('64, '66, '70)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>CBS Freshmen</td>
<td>577</td>
<td>566</td>
<td>513</td>
<td>590</td>
<td>2,246</td>
</tr>
<tr>
<td>Inside Transferees</td>
<td>211</td>
<td>37</td>
<td>203</td>
<td>36</td>
<td>180</td>
</tr>
<tr>
<td>Outside Transferees</td>
<td>185</td>
<td>32</td>
<td>155</td>
<td>27</td>
<td>128</td>
</tr>
<tr>
<td>Total Transferees</td>
<td>396</td>
<td>69</td>
<td>358</td>
<td>63</td>
<td>308</td>
</tr>
</tbody>
</table>

To place the results of table 1 in perspective, it is important to note that the 65% continuation rate for the four classes of CBS students is nearly twice the 33% continuation rate reported by Medsker (17, 23) in a study of 17, 627 students enrolled in two-year collegiate programs and more than twice the rate of 20 to 25 percent reported by Newman et. al.\(^{19}\) in a large
scale national study. Newman et al. also report that of the more than one million students entering all types of colleges each year, fewer than half complete two years of study.

Criterion #3: Upper division grade point average of CBS transferees within Boston University. It is reasonable to ask whether the high transfer rate of CBS students just cited (65%) might be only an illusion of success. How well do CBS transferees perform after leaving CBS? Does the CBS program actually enhance the academic potential of its students (enabling them thereafter to compete successfully in traditional 4-year programs) or does the protective and supportive CBS environment serve merely to hide, temporarily, an academic marginality which reappears after transfer? Criteria #3, #4, and #5 address this question.

Criterion #3 does so by comparing the upper division grade point averages of CBS transferees to 4-year Boston University programs with the upper division grade point averages of students originally admitted into those 4-year programs as freshmen. Figure 1 shows such comparisons for eleven consecutive CBS classes in each of the three 4-year colleges in Boston University to which we transfer most of our students. The results indicate that CBS transfer students perform in a manner essentially indistinguishable from that of other students enrolled in these upper division programs. The mean difference between the grade point averages of CBS transferees and other students enrolled in the School of Education, the School of Public Communications, and the College of Liberal Arts are -.004, +.006, and -.08, respectively. Even the largest of these three mean differences is less than a third of a grade step; e.g., less than a third of the difference between an overall average of "B-" and an overall average of "B," and as such, is inconsequential.

Figure 1. Cumulative Senior GPA for C.B.S. Students Transferring into Selected Programs in the University, and Cumulative Senior GPA for Students Originally Enrolled in These Programs.
Criterion #4: Percent of CBS students receiving the baccalaureate degree. The comparisons in Figure 1 show clearly that CBS transferees who complete the junior and senior years in 4-year programs within Boston University do so with acceptable grade point averages, but one might question whether this happens at the cost of a high post-transfer dropout rate. Criterion #4 addresses that problem both for CBS graduates transferring into Boston University programs (inside transferees) and for those transferring into 4-year programs outside of Boston University (outside transferees). The estimate of graduation rate for inside transferees is more
dependable than is the estimate for outside transferees, since the former is based on actual institutional records at Boston University whereas the latter, at present, is based on responses to questionnaires mailed to CBS alumni.

Analyses of institutional records at Boston University for inside transferees from four CBS classes ('64, '65, '66, and '70) have produced results permitting confident rejection of the hypothesis of high upper division dropout rate for such students. Of 810 students in those four CBS classes who transferred into 4-year programs at Boston University, 737 (91%) received the baccalaureate degree. See table 2.

**TABLE 2: PERCENT OF CBS INSIDE TRANSFEREES WHO OBTAIN BACCALAUREATE DEGREES AT BOSTON UNIVERSITY**

<table>
<thead>
<tr>
<th>CBS CLASSES</th>
<th>1964</th>
<th>1965</th>
<th>1966</th>
<th>1970</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Inside Transferees</td>
<td>211</td>
<td>203</td>
<td>180</td>
<td>216</td>
<td>810</td>
</tr>
<tr>
<td>BA Degrees</td>
<td>190</td>
<td>90</td>
<td>187</td>
<td>92</td>
<td>166</td>
</tr>
</tbody>
</table>

Our estimate of the baccalaureate success rate of CBS students transferring outside of Boston University is based on mail-questionnaire responses. Of 586 respondents in the classes of '64, '65, and '66, 316 had previously been classified by us as inside transferees, 152 had been classified as outside transferees, and 118 had been classified as "unknown." The rates of achievement of Baccalaureate degrees for those three groups were 92%, 75%, and 26%, respectively. The rate for the three groups combined was 76%. Since these results are based on self-reports rather than institutional records, and since the response rate for deliverable questionnaires was only 50%,* cautious interpretation is required. Nevertheless, the percentage estimate for BA degrees among students classified as inside transferees, derived from questionnaire responses (92%), is very close to that obtained by actual count (91%) and this concordance increases confidence in our percentage estimate for BA degrees among students classified as outside transferees (75%).

**Criterion #5: Achievement of graduate degrees.** The mail-questionnaire study also provides information concerning the post-baccalaureate success

* The 586 returns are from an initial sample of 1,588. Questionnaires sent to 405 of these students were returned marked "address unknown." The response rate for the 1,183 deliverable questionnaires was 50%.
of CBS students. Analysis of responses from students in the classes of '64, '65, and '66 indicates that of the 448 who reported having received a BA degree, 147 also received a graduate degree (either a master's or a doctorate). Of these, 26 reported receiving doctorates. The fact that the mail-questionnaire study was conducted at a point in time only four years beyond the expected year for receipt of the BA degree for the class of '66 (and five and six years, respectively, for the classes of '65 and '64) suggests that a subsequent sampling at a later point in time can be expected to yield somewhat higher percentage figures for achievement of graduate degrees, particularly for doctorates.

Search for Reasons Underlying the Success of the CBS Program

The previous section documents the extraordinary success of the College of Basic Studies. The continuation, graduation, and post-baccalaureate success rates of CBS students all support the conclusion that the CBS plan is highly successful in providing new paths to career and professional training for low-achieving students. Documentation of success of the CBS plan is, however, only one of our objectives. Equally important is the question of how that success is achieved. What elements of structure and process in the CBS program account for its success?

The originators and administrators of the CBS plan have, from the beginning, assumed that four critical elements are major contributors to the program's success: team teaching, a core curriculum, extensive guidance counseling, and a highly student-centered orientation. As indicated earlier, these four elements combine to produce a unique administrative and social structure designed to strengthen the motivation of teachers as well as pupils and to increase the per hour efficiency of teacher-pupil contact. We believe these elements contribute importantly to the success of the CBS program, but a definitive test of that belief is not easily obtained. Nevertheless, we have accumulated quantitative information bearing on this matter.

By use of questionnaires developed specifically for this purpose, we have collected information from 1,014 CBS students and from 2,365 CBS alumni which allows us to determine which elements of the CBS program students and former students value most highly and which they value least. The questionnaire administered to students consisted of 150 true-false items, each of which addressed a specific aspect of the CBS plan, or its implementation. The alumni questionnaire consisted of three open-ended questions and four forced choice ratings. The open-ended questions asked: What aspects of CBS did you find most valuable? What aspects of CBS did you find least valuable? What changes, if any, would you like to see take place at CBS? Responses were classified by category, and categories receiving nominations from at least 5% of the respondents are reported in table 3. Two of the four forced choice rating items dealt with specific elements of the CBS plan (team-teaching and core curriculum) and two dealt with global evaluations of the CBS program.
The 1,014 students represented both freshmen and sophomores and the
2,365 alumni were respondents to mail questionnaires sent to nine con­
secutive CBS classes. Thus, our information is based on student perceptions
measured while those students were in the CBS program and on perceptions
of alumni whose temporal separation from CBS varied from one to eight
years.

Strengths and weaknesses as seen by alumni. The responses of alumni
gave clear support to the assumption that the team system and the close
student-teacher interaction are perceived as highly desirable elements of the
program. In addition, the alumni identified small class size and integration
across courses as desirable. The ready availability of guidance counseling
was not evaluated either positively or negatively, and the restricted elective
policy (associated with the use of the core curriculum) was evaluated
negatively. See table 3.

TABLE 3: RESPONSES OF 2,365 ALUMNI
TO OPEN-ENDED QUESTIONS

<table>
<thead>
<tr>
<th>Number of Respondents</th>
<th>%</th>
</tr>
</thead>
</table>
| 1. "What two aspects of the CBS program did you find most valuable?"
  a) close student-teacher interaction | 706 | 30 |
  b) team system | 452 | 19 |
  c) small class size | 420 | 18 |
  d) integration across courses
    (No other items received sufficient nominations to warrant inclusion.) | 130 | 5 |
| 2. "What two aspects of the CBS program did you find least valuable?"
  a) the absence of electives
    (No other items received sufficient nominations to warrant inclusion.) | 437 | 18 |
| 3. "What changes, if any, would you like to see take place at CBS?"
  a) the restrictive elective policy
    (No other items received sufficient nominations to warrant inclusion.) | 770 | 33 |

Open-ended questions are valuable for identifying areas of intense and
pervasive feeling; but responses to such questions must be interpreted
cautiously, especially in areas where feelings are neutral or fail to be shared
by a sizeable group of respondents. Because there are many potential choices and because each respondent was asked to nominate only two desirable or two undesirable features of the CBS plan, the frequency of nomination for particular CBS features is rarely high. Only those aspects of the CBS plan receiving nominations from at least 5% of the respondents are shown in Table 3; hence, the category results for the open-ended questions do not sum to 100%. On the other hand, the forced choice rating scales in the alumni questionnaire asked for a specific rating (positive/neutral/negative or yes/no) from each respondent for each aspect of the CBS plan being evaluated and those category results do sum to 100%.

The results obtained with the open-ended questions, shown in Table 3, can be summarized as follows: close student-teacher interaction, the team system, small class size, and integration across courses are the features of the CBS plan which are most frequently mentioned favorably by alumni; absence of electives is the only feature which is mentioned unfavorably by at least 5% of the respondents.

The results obtained with the forced choice rating procedures, summarized in Table 4, support three conclusions: (1) Alumni see the team system as highly desirable; 85% rated it favorably and only 15% rated it either neutral or negative. (In this connection it is interesting to note that the Carnegie Commission found “personal contacts with faculty” and “advice and guidance from faculty and staff” to be among those areas of deficiency most frequently mentioned by college students.) (2) The core curriculum is also viewed positively. When asked to give a general rating of the core curriculum, taking account of its advantages (conceptual integration and transdepartmental projects) as well as its disadvantages (no electives), 62% of the alumni indicated that they like it, 13% gave it a neutral rating, and only 25% said they disliked it. (3) The overall satisfaction among CBS alumni regarding their experiences at CBS is very high. In response to the question (How would you rate CBS compared with other programs?), 81% responded “good” or “excellent” and only 19% responded “fair” or “poor.” The high general level of endorsement given the CBS program by its alumni is also indicated by the fact that 85% “would recommend it to other students.” (See Table 4.)

<table>
<thead>
<tr>
<th>TABLE 4: RESPONSES OF 2,365 ALUMNI TO QUESTIONS REQUIRING A FORCED CHOICE RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. “How do you feel about the Team System at CBS?”</td>
</tr>
<tr>
<td>Liked (85%), Indifferent (9%), Disliked (6%)</td>
</tr>
<tr>
<td>2. “How do you feel about the CBS (prescribed) Core Curriculum?”</td>
</tr>
<tr>
<td>Liked (62%), Indifferent (13%), Disliked (25%)</td>
</tr>
</tbody>
</table>

95
3. "How would you rate CBS compared with other programs?"
   Excellent (39%) . Good (42%) . Fair (14%) . Poor (5%)

4. "Would you recommend CBS to other students?"
   Yes (85%) . No (15%)

**Strengths and weaknesses as seen by students.** As already indicated, the attitudes of students while in the program were assessed by having them respond, either true or false, to each of 150 items. (Whether a true response to a particular item reflected a positive or a negative attitude was determined by prior ratings of this by each of 17 CBS faculty members.) The items were classified by topic area (team system, core curriculum, guidance, student-centered orientation, etc.) and responses were examined both at the cluster and at the item level of analysis. Three tentative conclusions were drawn: (1) Although the perceptions of freshmen were positive, they were somewhat less so than those of sophomores. (2) Overall, the team system and the student-centered orientation were seen as the most desirable features of the CBS plan, but guidance and core curriculum were also evaluated positively. (3) Items within categories varied from each other in consistent ways over the four samples (two groups of freshmen and two groups of sophomores) regarding degree of positive response, thus indicating differentially perceived desirability of specific aspects of the more general concepts. The analytic potential of that finding will be pursued in later work.

**Recapitulation**

CBS provides new paths to career and professional training by successful remediation of students who otherwise would be denied entry into 4-year programs. The college entrance credentials of CBS students are too marginal to permit acceptance into 4-year programs at Boston University; yet, as documented above, a high percentage of these students do obtain baccalaureate degrees after attending CBS and more than a few go on to receive master’s degrees and doctorates. Success of the CBS plan is extraordinary as judged by each criterion studied to date: (1) mean growth on standardized achievement test scores, (2) percent of students successfully transferring into 4-year programs at Boston University and elsewhere, (3) upper division grade point average of CBS transferees within Boston University, (4) percent of CBS students who receive baccalaureate degrees, and (5) percent of CBS students who receive graduate degrees.

Assessments of the CBS program, and of its components, made by 1,014 students and 2,365 alumni, provide clear support to the theoretical considerations which gave rise to the program and led to the adoption of its unique features: team system, core curriculum, close student-teacher interaction, student-centered orientation, small class size, and conceptual integration across courses. Overall expressed satisfaction with the program is high among students as well as alumni.
Improved education and promotion of equal opportunity for low-achieving students are the two major objectives of the CBS plan. Innovation and reform in the procedures of education have been its guiding principles from the outset. The solutions to problems of higher education suggested by the CBS plan are general and structural. Emphasis has been on development of processes of teaching which are both efficient and learner-centered. Joint use of team teaching and a core curriculum provides a structure which facilitates development of learning processes focused on basic concepts and their functional application rather than the accumulation of isolated facts of uncertain relevance to future real-life problems.

The needs and aspirations of the students served by CBS include the easily articulated and readily volunteered desire for access to higher education, but the needs served go beyond that to include the enhanced feeling of self-potency that results from academic advancement, the intellectual satisfaction that derives from an emphasis on the interrelatedness and functional significance of concepts, and the enjoyment that results from learning in small, personalized groups.

At CBS we seek to develop an attitude toward learning that makes the effort of study attractive. All of the structures and processes of the CBS plan are designed to promote such an attitude. The focus on conceptual integration and functional meaning is intended to make learning instrumentally useful and personally satisfying. It speaks directly to the universal plea for relevance.

Finally, we consider the cost-effectiveness of the CBS methods of instruction and operation to be one of its major potential contributions to planning for revised postsecondary education. The combined use of team teaching and a core curriculum produces the unusual combination of economy of teaching and extensive individual student attention. Despite the intimate student-faculty contact, the student-faculty ratio is about 20 to 1. What is perhaps most provocative about the CBS plan, as an educational model, is that it provides increased student-faculty interaction by modifying the use of currently available resources rather than by allocating new ones.

REFERENCES


