## DEVELOPING INNOVATIVE EDUCATIONAL PATTERNS FOR NEW LEARNERS: A CASE STUDY Annie R. Hayes, Federal City College

Future prospects of nontraditional programs<sup>1</sup> developed during the past decade seem to be greatly determined by the types of institutional activities currently planned or undertaken to improve their efficiency in serving the new clients. It seems unnecessary to underscore this issue, especially within the context of our current technological and socio-economic advancement but the growth of exigencies competing for the same tax dollars has compelled us to do so. Current literature on innovative educational systems suggest that the emerging patterns of academic developments could provide some meaningful directions to (as well as spell out the difference between) an expanded program or to a laterally, extended alternative pro-gram.<sup>2</sup>

As this movement emerges into an acceptable level of maturity, a strategy to anchor its functions crucial to its survival is indispensable. In response to this need, this paper attempts: 1) to demonstrate the need of a comprehensive scheme for identifying problem areas where statistical services could be utilized to improve the quality of educational services; and 2) to generate insights that might motivate individual institutions to examine certain issues independently or cooperatively with a cluster of colleges. For purposes of illustrating the credibility of the conceptualized approach, this was applied to the educational functions of Federal City College (FCC) in its aim to step up its pioneering efforts of educating the disadvantaged as well as in eliminating the barriers that limit the full academic participation of minorities in higher learning.

### PERSISTENT CHALLENGES

Current thinking of the proponents of innovative higher education reveals that the time has come for educational enterprises to confront the issues that have tenaciously plagued the quality of services provided to new learners and the extent through which these schools have fulfilled their stated mission. This concern is best expressed by paraphrasing Blake<sup>3</sup> on the future of the education of blacks that moves from one scheme to another simply because research resulting from traditionally-oriented models is chaotic and inconclusive.

A synopsis of the productive ideas and procedures emanating from recent literature endorses the following topics to be currently challenging the ingenuity of planners in this field: 1) Changing needs of new learners (CNNL), 2) Restructuring the instructional delivery system (RIDS), and 3) Assessing program impact (API).

Recognizing that these new learners compose the most diverse group that the higher educational system has ever trained in its history, K. Patricia Cross<sup>4</sup> underscores the difficulties encountered in articulating their changing needs.<sup>5</sup>

Gear education to the needs of society by matching the cultivation of individual talents to societal needs in a three-dimensional model patterned after the skills needed in occupations.

Educational diversity must ask each student to select his area of competency and interest with the understanding that tough standards will be imposed.

An individualized instructional system designed to enhance learning professes that each student would have a chance to shape the structure that best fits his needs. These learning contracts imply a restructuring of the instructional system<sup>6</sup> in terms of:

- curriculum content (learnercentered materials for rewarding educational activities);
- community-based learning centers -(extends the campus to day-to-day community life and problems);
- 3) complementary role of faculty and practitioners (teacher as mentor and facilitator of learning while practitioner shares secrets of the trade; enhanced informal student-teacher interaction);
- technologically-oriented teaching techniques (alter the frequency and form of student-teacher communication; demand for wider spectrum of library materials and learning aids); and
- shared administrative functions (student participation in decisionmaking enriches the learning system).

Newman<sup>7</sup> subscribed to this want when he stated that:

"what is needed is not just a gradual extension and expansion of the present form of continuing education but new structural approaches in parallel."

Within the foregoing framework, assessing new learners and experimental programs employing the conventional approach would be inane. In anticipating the significance and complexity of the task and to evolve an assessment technique tailor-made to our problem, social science scholars have expressed their concerns in various ways.

Hodgkinson, for example, believes that not only will institutions need to assess individualized programs in new ways but will have to subject the evaluative skills and techniques of faculty members to the same rigor that they have insisted upon from their students.<sup>8</sup>

Professional books, journals and conferences have likewise been engaged to underscore the impropriety of traditional testing devices for our purpose. Tyler<sup>9</sup> defined these difficulties in terms of: a) Discrepancies in measurement objectives (individual differences vs. changes within an individual or between groups), b) inadequacy of traditional tests for measuring changes in behavioral patterns and c) the need for more meaningful criteria as well as new or modified statistical tools in conjunction with theoretical models specifically designed for this purpose.

Curtis et al's conclusion on the policyrelated aspect of evaluation emphasized that:

> "If new evaluative criteria and techniques are not developed and refined, judgment will be made according to the traditional approach,"10 which implies that earlier efforts along this line shall have been spent in vain.

In the context of this crucial need, the following section is an attempt to illuminate the intricacies of confronting the issue of "what and how each institution can do, as well as what and how institutions can cooperatively undertake." Illustrative examples, however, will largely be in terms of our experiences in educating the disadvantaged at FCC.

## STATISTICAL FUNCTIONS FOR INNOVATION

The conceptual model proposed to ramify the intricate relationships among institutional objectives, research functions and the extent of their realization as enhanced or limited by personal and financial resources are exhibited in Chart A. Since no college is expected to provide an answer to a range of problems by itself, this chart also stresses the matching relationships between instructional targets and policy-related questions as well as the significance of delineating responsibilities (immediate vs. long-term) that can best be independently pursued by colleges or be coordinated within a cluster of institutions with special interests on a problem area. For instance, in FCC's aim to provide the Washington Metropolitan Area with a highly qualified source of manpower, it is committed to comprehend the dynamic needs of disadvantaged learners in order to increase the relevancy of FCC programs to the occupational world.

Deployment of resources certainly reflects priorities attached to immediate and long-range responsibilities. Chart A assumes that institutions of FCC's size,<sup>11</sup> would have an Office of Institutional Research (OIR) that is primarily responsible for developing alternative strategies which are quite indispensable to comprehensive planning of innovative programs. Granting that the FCC practice is considered common to colleges of this size, it is likewise suggested that the active participation of other units (such as the Computer Center and the Student Services), in the fulfillment of these functions should be encouraged.

Cognizant of the time and costs required in the tasks defined, the infeasibility of an institution to delve into the projects acrossthe-board resulted in a compromise. The scheme consists of a priority list of in-house projects (IHP) vs. the inter-institutional projects (IIP) and are presented in Charts B and C. Inasmuch as the triad has to be comprehensively studied, it is imperative that the use of statistical services (i.e., sampling, modeling, inferential techniques, etc.) should be explored. This way, a great deal could be accomplished on behalf of the learner within a shorter period of time, at a reduced cost and at comparable levels of accuracy.

Along this premise, Charts B and C delineate the statistician's role and the prospective beneficiaries for each IHP or IIP listed. For example, in restructuring the instructional delivery system (RIDS) shown in Chart B, the statistical functions on IHP for modifying faculty workloads would be to evolve a scheme for crediting skills related to advising, team teaching and the like. Research findings on faculty workloads would be invaluable for planning faculty activities and the utilization of physical facilities. Similarly, section V of Chart B (on IIP faculty workload) indicates that it appears feasible for a statistician to analyze alternative models that might demonstrate optimum levels of results, with the use of alternative staffing patterns and levels (i.e., professional vs. support personnel).

Chart C defines the long-term activities related to IHP and IIP projects on faculty workload. The statistical services cited in Sections II and V suggest that studies of this nature might bear some repercussions on instructional costs, quality of instructional services and faculty training.

In the interest of efficiency and accountability, the scheme proposed is a process which should improve the quality of education among the disadvantaged, as well as to stabilize the instructional delivery system for tomorrow's students. However, it must be emphasized that this model is not a panacea for all the problems of minority institutions nor the studies suggested be considered ends in themselves.

#### CONCLUSION

The scheme presented in this paper illustrates the variety, complexity and urgency of tasks needed to accelerate institutional renewal among experimental colleges for the disadvantaged. Perhaps of greater interest is the degree to which the management func-



Chart A. A SCHEME FOR IDENTIFYING AREAS OF RESPONSIBILITY

İI	MEDIATE RESPONSIBILITIES AND RESEARCH CHALLENGES	STATISTICIAN'S ROLE PROS	PECTIVE BENEFICIARIES
I	CNNL Basic skills of incoming freshmen Student career goals	) • Develop survey design • 1	Policy-makers Academic planners
-HOUSE PROJECTS (IHP)	<ul> <li>RIDS</li> <li>Learning centers based on community politics, culture, economy, art and technology.</li> <li>Modify faculty workloads reflecting skills and interests in advising, team teaching, text writing, seminar teaching, etc.</li> <li>Identify teaching techniques and devices useful in specific areas (i.e., audio-visual and computerized devices).</li> </ul>	<ul> <li>Develop criteria for selecting topics to revitalize curriculum offerings.</li> <li>Prepare a scheme for crediting learning-producing skills.</li> <li>Analyze the relative effects of various techniques and devices on students and advantages perceived by teachers.</li> </ul>	Curriculum Committee Financial planners Faculty and physical facility planners
	<ul> <li><u>API</u></li> <li>Taxonomy of behavioral changes specific to basic skills, majors and levels of instruction.</li> </ul>	<ul> <li>Delineate criterion - performances</li> <li>specific to each level.</li> </ul>	Faculty and students
(III) SI	<ul> <li>CNNL</li> <li>Develop criterion - referenced tests in basic skills</li> <li>A study of labor market needs.</li> </ul>	<ul> <li>Design sampling scheme for test</li> <li>content and respondents.</li> <li>Develop survey design.</li> </ul>	Students Program planners
ER-INSTITUTIONAL PROJEC	<ul> <li>RIDS</li> <li>Identify recent curriculum innovations to meet instructional technology movement.</li> <li>Alternative staffing patterns and levels of support activities by major field.</li> <li>Set evaluative criteria for endorsing teaching techniques and devices by major field.</li> </ul>	<ul> <li>Project continuing trends with its implications.</li> <li>Analyze alternative models demon- strating various levels of optimum results expected.</li> <li>Apply the criteria on a range of techniques and devices, then share results with cooperating insti- tutions.</li> </ul>	Surriculum Committee Faculty and financial planners Faculty and students
ENI	<ul> <li>API</li> <li>Modify or design evaluation instruments for criterion-referenced testing of skills or behavior.</li> </ul>	<ul> <li>Analyze experimental results then</li> <li>use for sequential relationships</li> <li>between behaviors.</li> </ul>	Program planners and faculty

## CHART B. A STATISTICIAN'S ROLE IN IN-HOUSE PROJECTS (IHP) AND INTER-INSTITUTIONAL PROJECTS (IIP) OF AN INSTITUTION'S IMMEDIATE RESPONSIBILITIES

	LONG-RANGE RESPONSIBILITIES AND RESEARCH CHALLENGES	STATISTICIAN'S ROLE PROSPECTIVE BENEFICIARIES
(HP)	<ul> <li><u>CNNL</u></li> <li>Applicant population's characteristics.</li> <li>Attrition and retention models.</li> </ul>	<ul> <li>Develop survey design to measure changes.</li> <li>Design a model to project the size and type of continuing and affiliated students at a given time.</li> <li>Admission and Registrar</li> <li>Program planners</li> </ul>
IN-HOUSE PROJECTS (	<ul> <li>RIDS</li> <li>Periodic revision of curriculum content and program offerings to match student needs.</li> <li>Pricing of differentiated staffing workloads (faculty, teacher's aide and practitioner) in advising, committee service, producing scientific exhibits, etc.</li> <li>Seminars and workshops for relatively successful teaching techniques.</li> </ul>	<ul> <li>Recommend curriculum changes based on student needs and labor market trends.</li> <li>Identify cost centers and attach prices based on training, expe- rience and skills used.</li> <li>Follow-up trainees on the appli- cation and satisfaction derived.</li> <li>Curriculum Committee</li> <li>Financial planners</li> <li>Faculty and students</li> </ul>
	<ul> <li><u>III API</u></li> <li>Taxonomy of program components, by field of specialization and level of instruction.</li> </ul>	<ul> <li>Design a model showing the causal          Faculty and students effects of program components on students majoring in different fields at varying levels of advancement.     </li> </ul>
CTS (IIP)	<ul> <li><u>CNNL</u></li> <li>Applicant's changing interests and skills.</li> <li>Construct criterion-referenced tests in basic skills.</li> </ul>	<ul> <li>Identify patterns of interests</li> <li>Program planners and skills for curriculum revision.</li> <li>Develop criteria for identifying</li> <li>Students levels of competencies.</li> </ul>
INSTITUTIONAL PROJEX	<ul> <li><u>V</u> RIDS</li> <li>Modify or develop criterion-referenced tests in different areas of specialization and grade levels.</li> <li>Patterns of differential costs and differentiated roles of faculty, teacher aide and practitioners by major.</li> <li>Comparison of experiences with new techniques by</li> </ul>	<ul> <li>Delineate the universe of behavioral competencies by major and grade level as a basis for curriculum construction.</li> <li>Analyze sources of differentiated costs by major.</li> <li>Evaluate sources of satisfaction</li> <li>Faculty and students</li> </ul>
INTER-1	<ul> <li>major and level of instruction.</li> <li><u>VI API</u></li> <li>Modify statistical techniques for evaluating change.</li> </ul>	<ul> <li>or dissatisfaction by major.</li> <li>Reanalyze the relevance of traditional techniques to measur- ing differential change patterns.</li> </ul>

# CHART C. A STATISTICIAN'S ROLE IN IN-HOUSE PROJECTS (IHP) AND INTER-INSTITUTIONAL PROJECTS (IIP) OF AN INSTITUTION'S LONG-RANGE RESPONSIBILITIES

tions of a statistician could be appraised and utilized both for providing objective and contemporary responses to topics unique for optimizing limited resources within a relatively shorter period of time. The paper also subscribes to the importance of a systematic plan of research activities within an institution or by a consortium of colleges which could align and develop policies and practices that might hold much promise for the future of educational patterns for new learners.

### FOOTNOTES

<sup>1</sup>Nontraditional program includes any program or activity which differs from earlier norms of an institution as well as the products of an experiment when viewed within its institutional context, see Curtis <u>et al</u>.

<sup>2</sup>Expanding opportunities in higher education refer to varied programs provided for the college-inclined group of students while extending educational opportunities related to new instructional systems for old and new types of learners, see Watson (1974).

<sup>3</sup>Blake, pp. 162-165.

<sup>4</sup>The educational model for diversity is presented in "New Forms for New Functions," by Cross, pp. 86-92.

<sup>5</sup>Bear in mind that the new students are older, more mature and eager to quickly obtain a degree relevant to a changing tight job market which could possibly mobilize them out of a dead-end job.

 $^{6}$ See Watson (1972) and Gelber (1974).

<sup>7</sup>Newman, p. 69.

<sup>8</sup>Hodgkinson, p. 91.

<sup>9</sup>Tyler and Wolf, pp. 143-154.

<sup>10</sup>Curtis, Laird and Wartgow, p. 67.

<sup>11</sup>FCC enrolled 7,700 students in AY 1974-75.

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