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Carter, Edith H., Ed.

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ABSTRACT

Designed as a forum for the exchange of information among research and planning professionals, this journal presents articles on institutional research studies and practices. In "The President's Forum," Mantha Mehallis focuses on the changing role of research evaluation and planning in community colleges. Next, Linda Greer, in her article, "Characteristics, Academic Success and Retention of Non-Traditional Age Students at a Community College," reports the methodology and findings of two studies comparing attrition rates among traditional and non-traditional age students in relation to their goals, views of the college, and expectations for campus social life. "Institutional Research and New Program Justification: A State-Level Perspective," by Alan S. Krech, identifies research problems that have appeared in associate degree program proposals and recommends the involvement of trained researchers in proposal preparation. Fontelle Gilbert's article, "Adult Education: Who Participates?" provides a composite profile of adults participating in educational programs at all levels. After the presentation of several book reviews, Elaine L. Tatham, Michael B. Quanty, and Lisa McCarty provide tips for a successful institutional research office in their article, "Success Is a Many Splintered Thing." Timothy Lightfield's "Marketing Control Information," which highlights the role of institutional research in college marketing efforts, is followed by an annotated bibliography of ERIC documents on student attrition. (AYC)

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Spring 1981
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PURPOSE

The Community College Journal for Research and Planning provides a forum for the exchange of information among members of the association and among professional colleagues in the field of research and planning. The journal is multi-purpose and diverse in its articles and information; however, it is unified in its purpose to be of service to professionals working in the fields of Community College research, management and planning.

The journal is designed to provide an outlet for research and discussion on issues important to community college researchers and planners. It also serves as an information source for all elements of higher education interested in institutional management. The journal meets a need to communicate the findings and achievement of research and planning professionals concerned with issues of concern to community colleges.

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Editor: Edith H. Carter, New River Community College, Dublin
Va 24084

Associate Editor-Production Manager: Brian Dely, Jefferson
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Associate Editor: Stanley Adelman, Amarillo College,
Amarillo, TX 79178

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Instructions to Authors

All manuscripts will be reviewed and considered for publication. Manuscripts should be submitted in duplicate, double-spaced on 8½ x 11 white bond. There are no restrictions on the size of the manuscript on the topic reviewed except that articles serve the needs of community college research as stated in the purpose. Style of the journal will conform to the guidelines found in the Publications manual of the American Psychological Association. Correspondence and manuscripts should be submitted to the Editor, Edith Carter, New River Community College, Dublin, Va 24084.

COMMUNITY COLLEGE JOURNAL FOR

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THE PRESIDENT'S FORUM

The general economy and the relative low level of funding currently available for community colleges has begun the trend toward distinct cut-backs in the educational system. Community Colleges have grown tremendously since they first began and have firmly entrenched themselves into the higher education system. However, they have not developed the clout with which the universities have been blessed. The days when community colleges merely opened their doors and were flooded with students all over. The institutional research function, in many cases, was not established as part of the on-going decision making process of the institution. In many cases, research evaluation and planning have been addressed separately. The results have not enhanced any of those areas.

Colleges are just now beginning to realize the importance of values clarification. Mission and goal statements must be identified and clarified as a basis for direction to college managers. Objectives and specific activities can be stated and subsequently evaluated with incorporation of the research and planning function directly into the formal decision making structure. A pro-active approach can be taken. A combination of research evaluation and planning into the management function of the institution should result in the revitalization of the community college as an institution which provides opportunities, personnel growth, and advancement as well as for enhancement of the quality of life in the community.

Institutional Research, I predict, as a separate appendage to the administration of the community college will cease to exist. It is too costly a venture to continue in the form in which it currently exists. Too many researchers are spending the majority of their time filling out state and federal reports instead of concentrating their professional efforts upon analysis of college functions. The focus should be on planning

with research and evaluation used to support the planning function. There must be integration of all of these functions into the decision making process. Only then, will the community college truly be able to accomplish its basic goal, to meet the needs of people it serves. I strongly recommend that every planner and researcher refocus her/his energies to bring about this revitalization.

Mantha Mehallis
President NCRP
1980-81

CHARACTERISTICS, ACADEMIC SUCCESS AND RETENTION OF NON-TRADITIONAL AGE STUDENTS AT A COMMUNITY COLLEGE

Linda R. Greer

The concern of college administrators with declining enrollments and the prospects of a continued shrinking of the pool of traditional age potential college students has resulted in increased attention to two goals: (1) retaining a higher percentage of students who enroll, and (2) attracting a larger number of older students.

A growing number of students 25 years of age and older are enrolling in postsecondary institutions and in 1978 represented over one-third of the college population. Over 50 percent of the 1970 to 1977 enrollment increase in two-year colleges was comprised of older students (Miller, 1980). Is the trend toward an older student population incompatible with the goal of improved retention?

Evidence concerning the relationship between age and attrition is inconclusive. In their review of the attrition literature Pantages and Creedon (1978) concluded that age is not a primary factor in causing attrition. The results of other studies, however, indicate that older students are more likely to drop out than traditional age students (Newman, 1967, Astin, 1975).

Older students are more likely to exhibit certain characteristics which seem to increase the likelihood of leaving college. A student's high school record is the best predictor of college success and persistence (Pantages and Creedon, 1978; Astin, 1975), and older students generally have lower high school averages than their younger counterparts (Ryan, 1969). Whether

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the difference is due to ability and past motivation or grade inflation has not been determined. Another characteristic associated with dropping out of school is working on a full-time basis (Astin, 1975). Because of financial obligations, older students are likely to work more hours per week than traditional age students (Kuh, and Ardaiole, 1979) and to attend college on a part-time basis (Miller, 1980).

Most of the studies supporting high school average and work as predictors of persistence involved a very small number of older students. In addition, because these factors cannot be changed, the findings are not particularly valuable to college administrators and faculty as they attempt to serve and retain increasing numbers of non-traditional age students. Much more promising is the research related to factors which may, to some extent, be controllable.

It is becoming increasingly evident that retention is an extremely complex phenomenon, involving complicated interrelationships among a student's entering characteristics, goals and expectations, the nature of a campus and what a particular individual experiences there (Linto, 1975, Spady, 1970, Rootman, 1972). The theoretical model which seems to be the most complete and to provide the best framework for research is the one developed by Linto (1975). According to Linto, a student enters an institution with given background characteristics, goals, and levels of commitment to his goals and to the institution. The extent to which the interaction between the student's characteristics and his college experiences causes him to become integrated into the academic and social systems of the college determines new levels of institutional and goal commitment and, thus, whether he persists or leaves the college. It is important to note that the two systems--academic and social--are separate and that a person may become integrated into one and not the other. Linto, therefore, distinguishes between different forms of dropout behavior: voluntary withdrawal of the academically successful student and dismissal of the unsuccessful student. He hypothesizes that integration into the academic system primarily affects goal commitment, whereas the level

of integration into the social system is more likely to affect institutional commitment. Expanding upon this concept, he points out that a person who leaves a college voluntarily generally has better grades and a higher level of intellectual development than the average persister.

The importance of entering educational goals, levels of commitment, and expectations in relation to persistence in college has been supported empirically, although most of the studies have not been specifically based on Tinto's model. Few investigations, however, have addressed these dimensions in relation to older students. Traditionally, older students have been assumed to be highly motivated and goal directed. For example, they are more likely to enter college with specific job-related goals than are younger students (Mathews, 1976; Kuh and Ardaiole, 1979). Kuh and Ardaiole also found, however, that older students are likely to have lower degree expectations.

The major research based specifically on Tinto's theory and indicating a positive relationship between social and academic integration and persistence (Terenzi and Pascarella, 1977), seemed to involve primarily younger students at residential institutions. Whether or not the model is applicable to non-traditional age students, particularly at commuter institutions, is unknown.

The purpose of the investigations reported here is to examine differences between non-traditional age (25 and older) and traditional age (17 to 19) entering students in relation to retention, academic success, and selected aspects of educational goals, levels of goal and institutional commitment, and expectations for experiences at the college. The studies were conducted at Clayton Junior College, a unit of the University System of Georgia. Located in a suburban setting in Metropolitan Atlanta, the non-residential college has an enrollment of around 3,000 students. Approximately 30 percent of the students are 25 years and older.

The Influence of Age on Persistence and Academic Success of Entering Freshmen

During the Spring of 1979, an ex post facto study of first-time freshmen who entered the college in the

Fall of 1976 was conducted to determine (1) whether five groups representing levels of persistence and academic success were significantly different in regard to entering characteristics, and (2) the relative contributions of specific characteristics to discriminating among the groups. Based on attendance patterns between Fall 1976 and Spring 1979, 441 of 567 freshmen in the regular academic program (as opposed to a developmental program) were classified into three levels of persistence: leaver, stayer, and graduate. Leavers and stayers were then both subdivided into two groups, based on grade point average as of the last quarter of attendance. The resulting five categories, along with the criteria for inclusion, are shown in Table 1.

In the five group discriminant analysis that was conducted, each of the five groups representing level of persistence/academic success was found to be statistically different from every other group on six variables combined ($p < .000$): age, high school average, SAT scores, sex, and marital status. Age contributed significantly to group differences, both independently (univariate $F = 6.18$, $p < .0001$) and relative to other characteristics, serving primarily to discriminate between leavers and stayers of the same academic success level and between successful stayers and graduates.

Although the students who were 25 years of age and older were more successful academically than their younger counterparts (age 17 to 19), a lower proportion of them either graduated or continued to be enrolled at the college. The majority (57 percent) of the older students who left the college had succeeded academically, whereas only 37 percent of the traditional age leavers had been successful.

Table 1. Criteria for Assignment of Regular Students to Persistence/Academic Success Levels; Means and Standard Deviations for Age by Level

Category	Criteria	Age	
		Mean	S.D.
Unsuccessful	GPA = 0 - 1.9	19.8	3.7
Leavers	Last quarter attended-		
(n=138)	Summer 1977 or before		

Table 1. (Continued)

Category	Criteria	Age	
		Mean	S.D.
Unsuccessful Stayers (n=41)	GPA = 0 - 1.9 Attending 5 or more quarters, including Fall 1978 or Winter 1979 OR earned 75 or more hours	19.2	4.5
Successful Leavers (n=92)	GPA = 2.0 - 4.0 Last quarter attended Summer 1977 or before	22.5	7.0
Successful Stayers (n=76)	GPA = 2.0 - 4.0 Attended 5 or more quarters, including Fall 1978 Winter 1979 OR earned 75 or more hours	22.0	6.1
Graduates (n=77)	Graduated	19.2	5.5

Differences Between Traditional
and Non-Traditional Age Students
Relative to Entering Goals,
Institutional and Goal Commitment
and Expectations for College Experience

METHODOLOGY

Sample

Included in this study were 393 17 to 19 year old students and 148 students 25 years of age and older, all of whom entered the regular academic program during the Fall of 1979. The samples represented over 85 percent of the respective groups.

Instrument

An Entering Student Questionnaire (ESQ) was designed to operationalize the concepts of educational goals, levels of goal and institutional commitment, and expectations for experiences at the college. The questionnaire administered to all entering students during the

New Student Orientation held prior to the beginning of Fall Quarter, 1979.

Sixty items from the ESQ (for 541 subjects) were included in a factor analysis, the first step of which was a principal factor analysis with iteration. To maximize the interpretability of the factors, the 16 factors resulting were subjected to varimax rotation. Based on an examination of the resulting factor structures, four of the factors were chosen as representing meaningful dimensions related to goals, institutional and goal commitment, and expectations regarding experiences at the college. In general, factor scores for each subject were calculated by summing the raw scores on variables with factor loadings above .40, with variables loading above .40 on two dimensions being included in the factor on which it had the higher loading.

In order to determine (1) the ability of the factors to discriminate, both separately and in combination, and (2) the relative contribution of each factor to age group differences, a stepwise discriminant analysis was performed. To further test the strength of the dependent variable a classification analysis using the individual group co-variance matrices and individual discriminant scores was done.

Computer programs used in the analyses were subprogram discriminant, and subprogram factor for the Statistical Package for the Social Sciences (Nie et al, 1975).

Results

Factor analysis of the subjects' responses to 60 ESQ items yielded 14 factors with eigenvalues greater than 1.0. For purposes of further analysis, each factor was assigned a name based on what appeared to be the conceptual dimension represented. No claim is made, however, for the construct validity of the scales relative to these concepts. No attempt was made to group the resulting factors into the large dimensions of educational goals, institutional and goal commitment, and expectations. Because several factors could each have logically represented more than one larger dimension, such groupings would have been arbitrary and, therefore, meaningless.

Ten of the ESQ items combined were found to differentiate between the age groups, with the variables yielding

a multivariate F of 39.82 ($df = 10$ and 530, $p < .0000$). The means, standard deviations, and univariate F ratios for each of the ten ESQ variables are shown in Table 2.

The function resulting from the discriminant analysis yielded a X^2 value of 299.23 ($df = 10$, $p < .000$) and a canonical correlation with age group membership of .655 (Table 3). Variables contributing most to group separation were expectations for missing classes and/or dropping out of school, expectations for campus social life, and image of the college. As can be seen in Table 2, older students were more likely to expect to miss classes or drop out of college, had lower expectations for participation in campus social life, but had a somewhat more positive image of the college. Contributing moderately to group differentiation were the influence of family on college attendance, the importance of academic quality and the recommendations of others in choosing the college, and the likelihood of changing one's choice of career or major. Older students were less influenced by others, both in their decision to attend college and in their choice of the particular college. They also indicated a greater degree of certainty in regard to their careers and majors.

Evidence obtained from classifying the same subjects included in the discriminant analysis was positive. The overall classification accuracy rate was 86 percent, with 83 percent of the older students and 87 percent of the younger group classified correctly.

Conclusions and Discussion

The older students who entered the regular academic program in the Fall of 1976 were more successful academically than their younger counterparts. In spite of this difference, their attrition rate was higher (53 percent vs. 34 percent): In other words, the majority of the older students who left the college did so with successful academic records, whereas most of the younger leavers were unsuccessful.

Based on Linto's model, the older students would be expected either to have been different from the younger students in regard to entering goals and commitment to

those goals and the institution, or to have achieved a lower degree of integration into the campus social system. Since it was impossible to study these dimensions for the 1976 entering students, differences in goals, levels of commitment, and expectations for college experiences between the older and traditional age students who entered the college in the Fall of 1979 were investigated. The age groups were distinctly separate groups relative to nine variables representing various aspects of these dimensions.

Goals

The educational goals of the older students were not as different from those of the traditional-age students as might have been expected on the basis of previous research. Although not included in the multivariate analyses, data relative to the highest intended degree were available for both age groups. The difference in degree aspirations was not significant, a finding that was inconsistent with the results of the Kuh and Ardaiole study (1979).

The older students seemed to be more certain of their goals than the younger ones, with the dimension including items related to the likelihood of changing one's major or career contributing moderately to group differences. Substantiating this difference was the fact that a significantly higher proportion of younger students had not declared a major ($\chi^2 = 30.28$, $df = 2$, $p < .0000$).

The educational goals of the non-traditional age students appeared to be somewhat more job oriented, as would be expected, based on the findings of Kuh and Ardaiole (1979) and Mathews (1975) and the fact that more of the older students worked at full-time jobs ($\chi^2 = 113.69$, $DF = 4$, $p < .0000$). They were less interested in traditional liberal arts type goals, e.g., getting a general education and learning more about themselves and were taking courses which were directly related to their jobs. These factors, however, contributed only slightly to group differences. Economic motives for attending college were important to both age groups.

Evidence related to the level of commitment to ed-

Table 2. Means, Standard Deviations, and Univariate F Ratios by Age Group for Ten Dependent Variables (ESQ Dimensions)

Variable	Range of Possible Scores	17-19 age group (n=393)		25 + age group (n=148)		Univariate F ratio
		Mean	S.D.	Mean	S.D.	
Liberal education objectives	3-15 ^a	5.9	2.3	6.9	2.9	17.95*
Likelihood of changing major/career	2-10 ^a	6.6	2.9	7.5	2.1	17.35*
Expectations for missing classes/drop-out	5-25 ^a	21.5	2.6	18.7	3.4	90.70*
Family desires as reason for college attendance	3-15 ^a	10.2	3.0	12.8	2.9	82.45*
Recommendations/academic quality as reasons for choosing CJC	5-25 ^a	14.5	3.2	16.3	3.5	30.06*
Positive image of CJC (courses, instructors, students, enthusiasm)	7-35 ^a	12.6	3.3	11.8	3.1	6.14***
Expectations for campus social life	4-20 ^a	9.2	2.6	12.4	2.9	153.6*
Expectations for remaining at CJC	2-10 ^a	5.6	1.3	5.5	1.6	0.61***
Satisfaction with high school performance	2-10 ^a	5.5	2.3	6.3	2.4	12.12**
Courses related to present job	2-10	4.9	2.2	6.3	2.9	37.22*

Multivariate F = 39.82, with 10 and 530 degrees of freedom (p .0000)

Lower scores indicated more positive response to dimension as stated.

Univariate degrees of freedom = 1 and 539

* p < .0000

** p < .0005

*** p < .01

educational goals was inconclusive. The older students perceived a much higher probability that they would have to miss classes because of job or family responsibilities. This dimension received the heaviest weight in the discriminant function and, it would seem, may logically be viewed as an indication of commitment. On the other hand, the older students appeared to be more self-motivated, viewing family desires as a reason for attending college as less important than the traditional age subjects.

Image of the College/Institutional Commitment

The dimension representing image of the college was relatively important to separation of the age groups, with the older students having a more positive image. Included in the factor were items related to the extent to which students expected the quality of the faculty, students, and courses to be comparable to that at a four-year college or university. Additional items related to the college are enthusiasm for attending college and expectations for satisfaction. Although the factor represented expectations for experiences at the college, one might expect that perceived quality would be related to institutional commitment. The validity of this relationship appeared to be supported by the fact that the older students had higher expectations for remaining at the college long enough to earn an associate degree.

Expectations for Campus Social Life

The factor representing expectations for campus social life ranked second in degree of contribution to the discriminant function. The older students seemed to view the college primarily as a place to take courses, and attached little importance to such things as meeting new people, making friends, and participating in campus activities.

Implications

These studies dealt primarily with the opposite ends of the process described in Tinto's Model: the outcome (persistence or dropping out) and entering characteristics, although academic success, the primary measure of academic integration, was included. An additional problem was

Table 3. Stepwise Discriminant Analysis Results
For ESQ Dimensions

Step	Variable	Wilks' Lambda	Standardized Discriminant Weight
1	Expectations for campus social life	.79*	.53
2	Expectations for missing classes/dropping out	.70*	.62
3	Positive image of CJC	.65*	.46
4	Family desires as reason for college attendance	.62*	.29
5	Likelihood of changing major/career	.61*	.26
6	Recommendations/academic quality as reasons for choosing CJC	.59*	.30
7	Satisfaction with high school performance	.59*	.21
8	Courses related to present job	.58*	.17
9	Liberal education objectives	.57*	.19
10	Expectations for remaining at CJC	.57*	.11
(Discriminant function $X^2(10) = 299.23, p < .000$. Canonical $r = .655$)			

that the investigation related to persistence and academic success was conducted with one group of students; the study of entering characteristics, with a later group. Finally, the results are based on students at a single institution and may not be generalizable to other settings.

Although academic success was not a component of the study of the Fall 1979 students reported above, data relative to grade point averages for the first quarter of enrollment were available. The percentage of the students over 24 years of age earning an average of "C" or better was almost twice that of the 17 to 19 year old group (85 percent vs. 43 percent). The older students were also more certain about their educational and career goals, had a higher level of self-motivation relative to the decision to attend college, and entered with a more positive attitude toward the college than did the younger students. In spite of these differences, based on evidence from the research literature and the behavior of the students who enrolled in 1976, the older students are much less likely to remain at the college than their younger counterparts.

Additional research is needed to determine the causes of the problem. The results of these studies, however, suggest some interesting questions for further research.

According to Linto's theory, and supported by Ierenzini and Pascarella (1977), integration into both the academic and social systems of the college is important. No data relative to social integration were available for either the 1976 or 1979 students. The 1979 older students, however, indicated a much lower level of interest in various components of social integration. Does lack of interest eliminate the dimension as an important variable, relative to persistence? Or do older students have different kinds of social integration needs? Could a lower level of commitment to education (as suggested by the higher expectations for missing classes and dropping out of school) be the major problem? Or, because of job and family responsibilities, is real commitment to education impractical? Are the students getting what they expect from the programs in which they are enrolled? Until additional information relative to questions such as these is available, the extent to which it is possible

to reduce attrition among older students is unknown. The results reported here, however, seem to suggest at least one general implication for decision makers at commuter institutions which serve both traditional age and older students. Since the two age groups studied appeared to represent somewhat different subpopulations, each with unique characteristics and, possibly, reactions to college experiences, it is probable that each group has special program and service needs. Options which allow colleges to identify and meet these needs more successfully, thereby increasing the likelihood that older students will persist at an institution, should be explored.

Reference Notes

1. Subprogram discriminant from the Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner, and Bent, 1975) was used for the computer analysis.

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Harvard Law of Animal Behavior: Under carefully controlled conditions, organisms behave as they damn well please.

* * * *

Maier's Law No. 1: If facts do not conform to the theory, they must be disposed of.

* * * *

Maier's Law No. 2: The bigger the theory, the better.

INSTITUTIONAL RESEARCH AND NEW PROGRAM JUSTIFICATION A STATE LEVEL PERSPECTIVE

Alan S. Krech

Recently, a great deal of institutional research has focused on student follow-up and the evaluation of existing programs. These are important matters, particularly at a time when financial constraints have made accountability a byword in legislatures. Such financial constraints, combined with actual and projected decreases in the pool of 18 through 21 year olds, have moderated the expansionist policies of many institutions. Nevertheless, technological advances, changes in the labor market, and institutional aspirations have continued with sufficient intensity so that new program proposals arrive at state offices with regularity.

In my position with a state coordinating board, I am responsible for the review of two-year associate degree program proposals, and must recommend the approval or disapproval of such programs to the Standing Committee on Academic Affairs of our board. All of the proposals have already been approved by institutional boards and, in many cases, another state board. Nevertheless, I am continually appalled at the poor quality of research and the faculty logic used as justification in these proposals, and am increasingly forced to demand survey verifications and proposal rewrites before taking the programs forward with favorable recommendations.

Before arousing the unmitigated ire of those institutional researchers who, at this point, would like to strangle another state "bureaucrat," let me assure you that it is my suspicion that the problem usually lies with the program development process which, in many if not most two-year institutions, makes minimal

or no use of the institutional researcher. In fact, most new program proposals are written by division chairpersons or faculty members who are subject matter specialists. These people are generally capable of constructing sound curricula, but are often either limited by time or are inept at finding or designing and using research to justify the need for a new program. Furthermore, they usually have a real commitment to their brainchild, and find it difficult to be objective in evaluating the desirability of its implementation. I would suggest that, if the institutional researchers are going to be asked to evaluate the results of existing programs (e.g., to design student follow-up studies) they should also be involved in determining the likelihood of their success prior to their implementation. In short, the institutional researcher should be intimately involved in new program development and justification.

There are certain basic research questions which must be considered when justifying any new program. For example, our State's procedures, which are not atypical from those of other states, include the following requirement:

"a summary of anticipated employment opportunities for graduates, or of demand for services, of the program, quantified to the extent feasible and possible, and covering a reasonable period in the future."

All of the following problems which illustrate poor research or poor research interpretation have appeared in associate degree program proposals which crossed my desk this past year:

1) Misinterpretations or misstatements of job openings-

A proposal contained a table which indicated no current job openings (a matter which caught my attention). 78 openings the first year, 74 the second year, and 72 the third year. In one place in the narrative, it was stated that "this survey has received extremely positive results in that a total of 300 job openings per year (1981-82-83) exist for graduates..." and in another, the authors claimed that "responses to the Employment Needs Survey by potential

employers indicate a need of more than 100...technicians per year during the next three years."

- 2) Misstatement of geographical area surveyed--The summary of a proposal stated that industries surveyed were located in six counties; however, the addresses on the next two pages indicated that 20 of the 35 respondents showing a "need" were located outside of these counties. (The proposal itself was ambivalent, claiming a statewide clientele in some places and a local clientele in others.)
- 3) Inclusion of inappropriate respondents--A survey was made to justify the addition of a program for managers in a specialized industry most common to that area of the State. However, six of the 15 industries surveyed were of the specialized type for which a program was already in place.
- 4) Insufficient description of program purpose--A survey summary stated that the "projected range of annual wages for this position" was \$7,200 to \$21,000 per year, a clear signal that the survey instrument, like the proposal itself, failed to describe the specific purpose and objectives of the program or the level and types of skills of the potential graduate.
- 5) Poor response rate--A survey indicated that 300 firms were contacted and 29 replied. Of the 29, only 18 indicated any job openings over a three year period.

Had trained institutional researchers been involved in the design, administration, and interpretation of any of the surveys from which these actual illustrations are drawn, the institutions involved would certainly have been saved considerable embarrassment and time in correcting the problems and rewriting portions of the proposals.

Employment surveys are not, of course, the only sections of program proposals which can be improved by using the expertise of the institutional researcher. For example, our State's procedures call for

"the identification of the student population to be served, or the pool (s) from which the prospective applicants are expected to be drawn, including an

explanation of the basis, and sources, of all assumptions."

Admittedly, this requirement is more difficult to satisfy than most required by our procedures. Nevertheless, it should be safe to assume that a capable researcher would not make the same mistake that one of our institutions made when it responded, "a recent study of our service area population indicates that (name of institution) is only serving 4% of the populace. Thus student availability is not anticipated as a problem."

Researchers should also be able to bring some pragmatism to the projection of costs for a new program. For example, while institutional and state level administrators are naturally concerned about the costs of new programs, they are usually clever enough to discount the myth that no new faculty are ever needed, nor are costs incurred for the general education core in a new occupational program. Although one might expect to experience such a phenomenon on rare occasions when current general education faculty are underutilized, it is difficult to understand how program after program adds 20 students the first year and an additional 20 the second, all of whom require a minimum 24 hour core of general education, and none of whom ever require new general education faculty and the costs associated therewith.

Finally, and I do not intend to make my list of concerns comprehensive, we and many other states have a section of the proposal format which requires the institution to state the criteria by which the new program, if approved, will be evaluated. It is disappointing to see how often proposals substitute "method" for "criteria" and tell us what will be examined rather than what standards it will be measured against.

Perhaps, at this point, it appears that another overzealous bureaucrat can do nothing but criticize. Let me assure you that this is not so. Many of us have served in institutions and have been in on the submission end of proposals. We may have a heightened sense of responsibility to taxpayers, but we still retain a strong concern for the needs of students as

well. Thus, we are more likely to recommend approval of a proposal that projects limited productivity for a legitimate reason than we are to favorably commend a poorly justified program that promises the pot of gold at the end of the rainbow.

For example, our board recently approved a program in court reporting that promised to graduate relatively few court reporters. It was correctly predicted that there would be heavy attrition from the program because the required speed (200 words per minute on the machine) would turn out to be beyond the capabilities of many students. However, the program was designed so that, with minor adjustments, such students could meet the requirements of the executive secretarial program and graduate on time. We recommended this program because a realistic assessment of the potential problems had been made, and a solution was built in which was fair to both students and taxpayers.

Institutional research properly used serves to strengthen the case for good program proposals and to raise serious questions about poor ones. It is my belief that college administrators would be wise to directly involve institutional researchers in the development of all new program proposals, and to assign such researchers specific responsibilities concerned with preparing, distributing, and evaluating employment surveys, documenting student interest, projecting costs, and setting evaluative criteria.

Reference Notes.

1. Adapted from a paper presented to the Southeastern Association for Community College Research, July 23, 1980, San Antonio, Texas.
2. Policy and Procedures Concerning New Programs (Columbia, South Carolina Commission on Higher Education, April, 1980), p. 10.
3. Ibid., p. 11

ADULT EDUCATION: WHO PARTICIPATES? AACJC REPORT

Fontelle Gilbert

The "average" adult learner is 36 years old, has a family income of \$20,300, 2 years of college, and is seeking career and/or personal enhancement, according to Participation in Adult Education, 1978, a report just released by the National Center for Education Statistics (NCES).

This picture of the "adult" learner includes all the part-time credit learners and all the non-credit learners enrolled at two-year colleges.

The National Center for Education Statistics (NCES) sent AACJC tables from the Participation in Adult Education, 1978 report. These tables are the latest from the series of triennial surveys conducted by the Bureau of the Census for NCES, sent to AACJC in advance of the final report. The information and statistics below are taken from the report.

"Adult education for the purpose of this survey consists of courses and other educational activities, organized by a teacher or sponsoring agency, and taken by persons beyond compulsory school age. Excluded is full-time attendance in a program leading toward a high school diploma or an academic degree. These persons are to be reported:

- All adult or continuing education for non-credit courses or activities.

- Courses taken for credit as a part-time student (usually less than 12 semester or quarter hours).

- Courses taken as a full-time student in a vocational or occupational program. (programs of 6 months or more duration are not counted as adult education.)

-Courses given by correspondence, television, radio, newspaper, tutor, or private instructor.

-Courses or educational activities given by an employer, labor organization, etc.

Elementary or secondary level instruction for adults who have not finished high school."

Findings:

-18.2 million or 11.8 percent of the adult population (aged 17 or over) are enrolled as "adult education" students.

-More than half (57%) are women.

-The higher the level of education already achieved, the more likely the person is to be enrolled in adult education. About 28 percent of those adults with 4 or more years of college were in attendance, 18.1 percent of those with 1 to 3 years of college, 10.7 percent of those with 4 years of high school, and 3.5 percent of those with less than 4 years of high school.

-The more affluent, the more likely the person is to be enrolled in adult education. Over 18 percent of those with incomes of \$25,000 or more, 15.1 percent of those with incomes between \$15,000 and \$24,999, 11.3 percent of those with incomes between \$10,000 and \$14,999, 9.7 percent of those with incomes between \$7,500 and \$9,999, 6.3 percent of those with incomes between \$5,000 and \$7,499, and 4.9 percent of those with incomes under \$5,000.

-About one-third more were employed than were looking for work.

-The three major course administrators are: 4-year college or university, 2-year colleges or vocational-technical institutes, and employer, in that order. When category one is divided between 4-year colleges and universities, which seems viable since many part-time university students are working on advanced degrees, community colleges become the prime suppliers of adult education.

-The average age of the adult learner seems to be about 36. Since 1975 there has been a slight decrease in representation from the youngest group and a

small increase in the oldest group. This may mirror the continuing growth in the "over-55" segment of our population.

-The two main reasons for taking an adult education course are: to improve or advance in current job (38.9%) and personal or social reasons (31.2%).

-Most learners are not looking for certificates, diplomas or degrees. Of those who did select such an objective, 16.1 percent checked "certificate or license in trade or profession," and 17.6 percent checked "college or university degree."

-Personal, or family funds are used for 57 percent of course payment, and 24.1 percent of the courses are paid for by the employer.

-The main reasons for dropping a course are: 17.1 percent due to illness of self or care of family members, 15.5 percent due to disappointment with course, and 12.1 percent due to too much to do.

The study, conducted by Evelyn R. Kay, Chief, and Ruth Boaz, project officer of the Adult & Vocational Surveys and Studies Branch of NCES, has major implications for those groups that administer adult education.

Sources of Information

Participation in Adult Education, 1978. National Center for Education Statistics, advance report, February, 1980.

The American Freshman: National Norm for Fall 1979. American Council on Education and Laboratory for Research on Higher Education at the University of California, Los Angeles.

LITERATURE FOR RESEARCHERS

Levine, Arthur. When Dreams and Heroes
Died: A Portrait of Today's College Student.
San Francisco: Jossey-Bass Publishers,
1980. 157 pp.

Reviewed by:

William A. Robbins, Virginia Polytechnic
Institute and State University.

The subtitle of When Dreams and Heroes Died by Arthur Levine is "A Portrait of Today's College Student," thus describing the focus of this study. Levine has drawn this portrait of "Today's College Student" in the setting of the American environment. Levine utilized national survey data primarily from the investigative activities of two major centers. Most data is from the four Carnegie Surveys to which he had direct connection as a senior fellow at the Carnegie Foundation for the Advancement of Teaching, and from the annual surveys of first-time, full-time college freshmen conducted since 1966 by Alexander Astin's staff at the Cooperative Institutional Research Program of ACE and UCLA.

Like C. Robert Pace and K. Patricia Cross before him, Levine has used the insights of the scholar/educator/researcher/humanist to reveal a rich body of material from massive national investigations. Besides detailing almost endless evidences of social changes that have been shaping the child and adolescent who becomes the college student, Levine lifts out of a mass of data those trends, especially "Meism," that in his view are keys to interpreting the present period.

Levine recommends major curricular reform to deal

with the weakness in academic basic skills, the myopia of seeing only "me first" rather than our common humanity, and the dangerously narrow training which can help a person get a first job but not provide the learning and skills befitting good career preparation. To Levine, such a liberal education proposal calls for a first year to be spent on a common interdisciplinary core related to social issues, together with special instructions on basic skills,

Levine writes with a smooth, informing style and has delightful turns of phrase, such as "going first class on the Titanic," and balancing oversights such as the charts which show terms (upside down on pages 122 and 123). This study fills a void in the literature on the college student. Notwithstanding its popular rather than scholarly format (although data is utilized and sources are clear), many college leaders, policy makers and concerned citizens will find valuable material here to help answer questions bearing on the college related questions, "Where are we? Where are we going? and What should we be doing?"

Burns, R. B., The Self Concept: Theory, Measurement, Development and Behavior.
London and New York: Longman, 1979, 341 pp.

Reviewed by:
 Charles Houston
 Virginia Western Community College

R. B. Burns has collated into a comprehensive primer an exceedingly personal, dynamic evaluation of the construct "self-concept." The book is divided into four major sections each with a summary: (1) Section A - the history and theory of the self-concept; (2) Section B - Measurement of the self-concept; (3) Section C - Developmental issues; and (4) Section D - the self-concept in everyday life. The collection and summary of 39 instruments which have been employed in measuring

the self-concept are certainly a gold mine for anyone needing standardized instruments to measure self-concept. Information concerning sources, value judgements, and effective use is clearly and concisely presented.

This book has major implications for community college researchers. First, a large number of community college students enrolled and withdrew (stop-out, flunk-outs, changed career objective, etc.) in the 1970's and 1980's. Second, since traditional factors including high school rank, grades, and aptitude/achievement tests cannot fully predict or explain academic success, a need to investigate other factors that may influence academic achievement is implied. In summary, this book provides a message to community college researchers that a deeper understanding of self-concept is needed in order to understand and modify student academic development. An ex post facto, multivariate study which includes self-concept measures with traditional measures such as high school grades, rank in class, aptitude/achievement tests, etc., would help develop prediction models for academic success.

Remediation--Some Perspectives

Grant, Kathryn M. & Hoerber, Daniel R. Basic Skills Programs: Are they Working? Washington, DC: American Association for Higher Education, 1978. (AAHE/ERIC Research Report No. 1) 51 pages.

Maxwell, Martha. Improving Student Learning Skills. San Francisco: Jossey-Bass, 1979. 518 pages.

Roueche, John. Holistic Literacy in College Teaching. New York: Media Systems Corporation, 1980. 118 pages.

Trillin, Alice S. and Associates. Teaching Basic Skills in College. San Francisco: Jossey-Bass, 1980. 327 pages.

Reviewed by:

Darrel A. Clowes. Virginia Polytechnic Institute and State University.

Basic skills instruction has been a historic function of higher education, but the enrollment surges and accompanying selective admissions of the forties, fifties, sixties, and early seventies combined with the emergence of the open-door public two-year college to protect most four-year colleges from large numbers of students deficient in basic skills. Two-year colleges assumed the primary responsibility for basic skills instruction, and the research and writing in this area was confined to the two-year colleges and the staff people, journals, and university faculty concerned with them. However, the times are changing, and these four publications are clear evidence. During the seventies many four-year colleges moved towards open admissions, and basic skills instruction again became a major function of the four-year college.

All four publications reviewed here are about teaching basic skills in two and four-year colleges, but now the focus is clearly on the four-year institutions. Grant and Hoeber review the literature to identify successful practices from the past and to relate them to four-year college environments. Maxwell and Trillin draw on their experiences in major four-year institutions to describe possible approaches to teaching basic skills, and Rgueche draws on his extensive work with basic skills programs in two and four-year colleges to propose a new model for higher education. These publications are different in their assumptions about higher education, about basic skills, and about assessment, but collectively they evidence a major concern with basic studies in four-year colleges and the return of an old function to the four-year college curriculum.

The Grant and Hoeber work does an excellent job of surveying the existing research about "where we are;" unfortunately, the answers to "where we are" are vague. Programs generally are not very successful but evaluation itself is identified as at a primitive stage and part of the problem of inconclusive results. Paradoxically, the section in Grant and Hoeber on evaluation is weak although the references are good. This work is an excellent beginning for studies on basic

skills programs. "I believe there are two non-fatal flaws in this work: the conclusions and recommendations are too strongly drawn for the tentative nature of the literature reported, and the indiscriminate mixing of literature from two- and four-year college studies obscures differences in students, institutional mission, residence patterns, etc. that may be more significant than the similarities.

The Maxwell book and the Trillin book both reflect concern with preparing students for success in a four-year academic curriculum. Maxwell's perspective is U.C.L.A. and its basic studies students. Maxwell's Improving Student Learning Skills is a practitioners' book describing successful programs and providing a good but selective review of the literature. The subtitle describes the book--"A comprehensive guide to successful practices and programs for increasing the performance of underprepared students." The strength of the book is the careful description of practices and programs as possible solutions to instructional problems. Reading, writing, math, study skills and specific academic subjects are discussed with tutors, learning labs and support services as parts of the solution. The weakness of the book is the failure to document "successful" programs and practices. The evaluation component is poor and judgments of success are subjective. The Trillin and Associates book is based on the authors' work at City University of New York. Trillin's Teaching Basic Skills in College has excellent practical chapters on writing, reading, English as a second language, mathematics, and program evaluation written by people with both experience and knowledge in their areas. The result is a well documented description of practices at C.U.N.Y. with helpful explanations for those practices. There is a refreshing humility and acceptance of alternative practices throughout this book that makes real the frequent references to Mina Shaughnessy as mentor and friend. Here the strength is the extreme practicality of the book. Evaluation is discussed in each chapter and commendable restraint is exercised in interpreting results. The chapter

on program evaluation is a good basic primer on evaluation design for the uninitiated--perhaps an important inclusion for faculty considering evaluation projects but elementary for those with research training. Together these two books represent a point of view on basic studies. Basic skills should be taught in college, the approach to the student must be humane and possibly humanistic, but the basic skills effort is only of value as it relates to preparing the student for the traditional academic curriculum of four-year institutions.

Ironically, this point of view was John Roueche's view of basic studies instruction in the two-year college during the late sixties and early seventies; it is not his view of basic studies instruction in higher education today. In Holistic Literacy in College Teaching Roueche proposes a reorganization of curriculum in higher education to focus on learning, any learning, as the primary goal of higher education. For Roueche learning leads to learning so beginning with basic studies, affective learning, aesthetic based learning or academic learning is all the same; the end result is holistic learning which he promulgates as the goal of higher education. The end result of this holistic literacy are unspecified although an involvement with individualized instruction and mastery learning is implied. The arguments of the book range from the relationship between relevance, learning, and education to concern for recent research in right-brain and left-brain learning. The book represents either a new thrust in higher education, a restatement (overstatement?) of the developmental theorists views applied to higher education curriculum, or an extension of a two-year college philosophy toward basic studies to the four-year college. Each reader will have to find their own perspective on this book; some will find it prophetic, others pathetic while some will find it simple and others will find it profound. None will read it without forming an opinion.

We have in these four publications a clear expression of concern for basic studies in higher education.

None uses a strong research base or sets forth specific evaluation criteria. Each demonstrates a particular view on the purposes of basic studies and of higher education, and it may be these differences that cast the most light on the fundamental questions of program purpose, design, and evaluation.

Parkinson's Law No. 1: Work multiplies to fill up the available time.

Parkinson's Law No. 2: The number of people available determines the amount of work.

Chrisholm's Second Law of Human Interaction: Any time things appear to be getting better, you have overlooked something.

Gumperson's Law: If the worse can happen, it will.
(Also stated as; Nature loves the hidden flaw.)

Hall's Law: The higher a person's social position, the more names he is likely to have.

SUCCESS IS A MANY SPLINTERED THING (TIPS FOR A SUCCESSFUL INSTITUTIONAL RESEARCH OFFICE)

Elaine L. Tatham, Michael B. Quanty, Lisa
McCarty Johnson County Community College

A successful institutional research office requires the proper setting (staff, philosophy, planning, and institutional support) together with a current and accurate data base. A comprehensive institutional research office must be able to view the college from a global perspective. The staff must understand both how a data base can be expanded through conducting successful research projects and how to incorporate data into long-range college planning.

Staff Qualities

An institution with the resources to have a staff of more than one full-time professional can be more productive and provide a wider perspective if the individuals complement each other rather than possessing identical strengths. When hiring a new person, it is very easy to focus on qualities that are really superficial to the job. Some basic characteristics seem, however, to be essential for a successful institutional researcher. They include the ability to:

- Apply knowledge about research methodology.
- Use basic statistics (calculate, interpret, identify errors).
- Write clearly, concisely, and with ease.
- Communicate effectively with diverse groups of persons both on campus and in the community.

-Be willing to strive for perfection while responding quickly; understand accuracy is a MUST.

-Acquire skills to use data processing statistical packages like SPSS.

-Be willing and eager to learn.

-Be willing and able to handle ambiguity and stress.

The person hiring an institutional researcher may be well advised to develop a procedure to document the writing and research skills of an applicant. Some individuals who are very fluent verbally can appear knowledgeable about statistics, but really possess only conversational knowledge.

Students, particularly through the work-study program, offer an opportunity to acquire additional staff at low cost. The key to successful use of students and other less skilled employees is a thorough on-the-job training program. Eager and bright individuals can be taught a variety of research assistance skills.

Johnson County Community College has had a long record of success in this area.

Office Philosophy

The daily atmosphere of an institutional research office requires support among staff and some guidelines that promote productivity and mutual respect. Five key phrases that are part of an effective office motto at Johnson County Community College are (1) anticipate--try to be prepared today for tomorrow's requests, (2) incorporate--realize that information and research studies external to the institution as well as existing college data and studies can be valuable to a research project, (3) be flexible--remain calm regardless of the request and be prepared to change one's priorities when necessary, (4) be persistent do not become discouraged with seemingly impossible tasks, (5) be enthusiastic--it's contagious and enjoyable as well as helping to improve productivity.

The long-term success of an institutional research office can be influenced both by the institutional research staff and their relationships with other college staff. Members of the institutional research office

must not just sit in their offices doing research; they must become acquainted with a variety of individuals and gain respect and visibility. Each staff member must also have responsibility for at least one major project so that confidence and recognition can be acquired even by newly hired staff members.

A Successful Data Base

A data base might be defined loosely as information about an institution. Predominantly numeric in nature, a data base encompasses information about courses, programs, facilities, budgets, staff, students, and the community. It is the responsibility of the institutional research office to incorporate this conglomeration of numbers into meaningful data for use in decision-making.

Although one staff member in the research office may have the responsibility for organizing or maintaining the data base, that does not imply the individual is all-knowing. Because of the variety of information collected, the importance of establishing good working relations with other personnel in the institution cannot be minimized. Knowing who has a particular information item or where that information is kept is not sufficient--a poor relationship with the "keeper" can impede accessibility. Cooperation between the research office and staff members (at all levels of the organizational structure) of data processing, financial aid, the business and admissions offices, counseling, and the instructional divisions will facilitate data collection.

Two other concepts are important to remember in establishing a data base. First, it takes time to accumulate meaningful data. Data items for one year by themselves may not be completely adequate. Colleges must be monitoring trends, both internal and external. Data should be collected regularly on an agreed set of items to detect major changes and identify trends. Some institutional studies should be conducted periodically for this same purpose. While the collection of traditional data items--program enrollments, student characteristics, etc.--is important, the focus of the data base should

not be limited to the traditional or to present needs. Future needs can be anticipated through an awareness of issues in education and the community the institution serves, and data can be collected accordingly.

Secondly, data collection must be consistent if the data are to be useful. The same methodology should be applied each year in the collection of historical data, and any modifications in the process must be understood by the user. The methodology need not be sophisticated, but it must be as consistent as possible. The users of data are usually willing to accept less precision at a lower cost so that the data can be collected more frequently. Time may be a critical factor if decisions are to be made when a major shift occurs or a trend begins to emerge. When a shift occurs or a trend is identified from periodic small sample studies, that may be the time to spend the additional dollars to gain the precision and confidence that a larger study would provide.

Some information that might be included in an institutional data base is outlined below. This list is by no means exhaustive.

- I. Characteristics of students
 - A. Enrollment
 1. Headcount
 2. Credit Hours
 3. FTE
 - B. Full-time vs. part-time
 - C. Male vs. female
 - D. Age distribution
 - E. Geographic origin
- II. Characteristics of service area
 - A. Population
 1. By age
 2. By city
 - B. Income levels
 - C. Growth rates
 1. Birth and death rates
 2. Migration patterns
 - D. Labor force estimates

III. Characteristics of future students

- A. Service area population
- B. Area high school students

IV. Characteristics of institution

- A. Staffing
 - 1. Full-time vs. part-time
 - 2. Degrees earned
 - 3. Salaries
 - 4. Employee classifications
- B. Fiscal data
 - 1. Revenues
 - 2. Expenditures
- C. Facilities
- D. Institutional studies
 - 1. Student perceptions of programs and services
 - 2. Perceptions and needs of community

In addition to providing data for internal decision making, the research office may be responsible for responding to state and federal reports and external requests for data. To avoid misuse, misinterpretation, or potential embarrassment to the institution, several issues should be considered before the data are released:

1. What kind of information is needed?
2. How will the information be used?
3. Who will have access to the information?
4. How much information should be released?

However, some of these issues may be beyond the control of the institution as in the case of government reporting. Always time-consuming, often mandatory, and frequently involving interactions between several departments to formulate a response, governmental requests for information are usually seen as necessary evils. Because data must be supplied in a structured form, it may be assumed to be of little value for internal use.

By looking at the data from a different angle, it may be possible to incorporate the information with institutional or national studies to produce a significant internal report. For example, JCCC has incorporated

data from two HEGIS reports in an instructional competitiveness salary study that is conducted on a national scale. Also, institutional data and information submitted for the 1979 HEGIS Financial Statistics report and NACUBO's Comparative Financial Statistics for Community and Junior Colleges were summarized in a two page report for internal distribution. Even though there may be questions about the accuracy of available national data, an institution can gain some understanding about itself from such comparative studies, particularly if they are repeated on a regular basis.

Expanding Your Data Base

For an institutional research office to reach its full potential, it must expand the institutional data base beyond information typically available from student demographic profiles, facilities inventories and the like. This effort typically involves the use of some type of survey or applied research techniques. Developing a systematic approach to tackle these applied research problems will greatly enhance chances of developing a successful research program. Some theorems and corollaries are suggested to guide institutional researchers in designing and implementing a research project. These principles can be easily expanded to form the basis for designing a systematic program of interrelated research projects.

Theorem 1. You will never find the right answer if you don't know the question. To conduct a successful research project you must first define the problem. This may sound trivial but defining the problem is probably the most important component of a successful research project.

Corollary 1A. You must be specific. Know exactly what question you're expected to answer. To do this you must ask questions. Consider the following example: You are approached by a member of the college administration who asks you whether it would be cheaper for the college to lease or purchase vans. You do a very thorough analysis and conclude that it is cheaper to purchase a van. Unknown to you, however, the current

lease has a penalty clause for terminating the lease early. When the penalty is incorporated into the analysis, it is cheaper to continue the lease for one more year. You forgot to ask specific questions about the request.

Corollary 1B. You must determine the scope of the problem. Once you know the principal question you're expected to answer, you should estimate the scope of the problem. To do this you should determine the number of "sub-questions" you must ask to provide an adequate answer. For example, to determine whether a new career program is feasible, you may have to answer one or more of the following "sub-questions." Will jobs be available for program graduates? Will students from the program have an advantage over individuals who spend comparable time training on the job? What kinds of salaries can graduates expect? Will students be interested in the program? What types of students will be interested? What type of investment is required? Obviously the more "sub-questions" involved, the more complicated your research design will become. Another important question in determining the scope of a problem is: How precise and accurate does the answer need to be? The answer to that question will determine your sample size.

Sample size selection should always consider the purpose for which the data are being collected. If the data are to be the only source of information for a significant decision, a higher confidence level and hence a large sample will be needed. When the results are to be used in conjunction with other data, a lower confidence level and smaller sample may serve the purpose at a significantly lower cost.

Corollary 1C. To avoid working yourself to death, you should check other resources carefully. Often you will find that other organizations are concerned with the same types of questions as your institution. They can provide useful information to address many of the questions you will be asked. For example, many government and planning organizations regularly monitor and project demographic and employment trends. Their information can prove very useful in enrollment projections

feasibility studies, etc. Before using information from any outside sources, though, make sure that their methodology is sound and their information accurate and current.

Some sources that JCCC has found especially useful are the United States Bureau of Labor Statistics, United States Bureau of the Census, Educational Resources Information Center Clearinghouse (ERIC), state annual economic reports and state departments of labor and industrial relations.

Corollary 1D. You must be flexible in applying corollaries 1A through 1C if you intend to maintain your sanity. Institutional research is applied research. The rules of the laboratory do not always apply. Often the administration may not be able to specify questions in exact terms. For example, a typical question may be: "How do we get more students here in the afternoon?" On other occasions you may find after embarking on a project that the question becomes more complicated than it was originally conceived (e.g. How do I explain to the Dean that her pet project does not appear to be feasible?). These complications can at times make institutional research frustrating but they also keep it interesting and rewarding."

Theorem 2. Your methodology is the key to producing valid, reliable, and timely findings. In institutional research, elegance of design is not the prime consideration. The trick in institutional research is design the best method for attacking a problem within the constraints of:

- Complexity of the problem. How much information is needed to make a decision? Your job is to provide enough information so an intelligent decision can be made. The amount of information required will vary greatly from one question to another. One of the most common mistakes an institutional researcher can make is to try to provide all the information on a particular topic. In most cases an administrator will prefer to have the question and answer provided in the simplest terms possible.

- Precision required. How good must your guess be? In many institutional research projects some type of "ball park" figure may be sufficient for making a decision. In other projects very precise estimates may be needed.
- Reliability required. What is the cost of a mistake? In general, the more time, effort, and money that an institution is prepared to commit to a project, the more precise and reliable your findings should be. Your determination of the precision and reliability needed, will influence the length and degree of structure for your survey instrument, your choice of telephone, personal or mailed survey forms, and the sample size you select.
- Available resources. How much staff time, money, etc. can you afford to invest in a project? To make these types of decisions you need to determine how a particular request impacts on the mission and goals of the College. Often a number of small requests can be incorporated into a larger research project having college-wide implications with minimal additional investment.
- Time. You want it yesterday? Often the most pervasive influence on your choice of methodology is time. In many cases a decision needs to be made whether you provide all the necessary information or not. In such cases you must be content to provide the best information you can in the time allotted. The best way to avoid such situations is to anticipate requests before they occur. Nevertheless, no matter how good you become at anticipating requests, you will still on occasion be faced with "impossible" requests. Just remember: Some information is almost always better than none.

Theorem 3. To be valid your results must be accurate; to be helpful, they must be useful; to be useful; they must be understandable.

Corollary 3A. If you expect your data to be accurate, you must check them, recheck them, and then check them again. Be sure that figures not only "add up" but that they make sense.

Corollary 3B. To assure that your data are helpful, useful, and understandable you must know your audience.

Corollary 3C. Statistics can be a tool for confusion as well as understanding.

In applying these last two corollaries, you should remember that you will usually be writing for administrators who need to make a decision. Journal style is not appropriate. Too much emphasis on esoteric statistical analyses will often detract from your main purpose. It is sufficient that you know the statistics. The administration will typically defer to your judgment in this area. You should concentrate on explaining the results in such a way that they can be readily understood and used. Remember also that you are writing for very busy people. Always include an abstract or summary where you draw attention to the most important findings. You can assume that many people will read only the abstract.

Planning and Institutional Support

A successful institutional research office must set the example for planning; a disorganized office that does not plan internally will be unlikely to gain respect on campus. Good planning produces better results and provides for better utilization of time; more available time increases productivity. In addition, respect will usually promote institutional support of the research office.

Institutional research is an ongoing process. Each project undertaken should contribute to a master plan for the office and ultimately to the College master plan.

MARKETING CONTROL INFORMATION

Timothy Lightfield

Lord Eric Ashby is noted as saying that an institution must fulfill two conditions: it must be sufficiently stable to sustain the idea which gave it birth and sufficiently responsive to remain relevant to the society that supports it.

In response to this challenge, many community colleges have adopted formal marketing planning and management concepts and systems. Beyond improving student recruitment and retention, marketing activities have led to more responsive institutions and eliminated complacency in programs and services.

Journals and references have repeatedly highlighted the role and potential contribution of institutional research and planning for three aspects of marketing:

1. The role of research and planning in the assessment and delineation of current and projected community needs and interests and of changing environmental conditions.

Studies of constituency or market needs and demographic profiles of the populations served are clearly set forth as areas of focus for research in the community college. Other research and planning efforts in this focus are directed at job market and economic analyses and trends; identification of educational and social service resources; community influentials and decision analyses; and, studies of the aspirations, interests, expectations and learning preferences of client populations, social institutions, and agencies.

2. The role of research and planning in defining, segmenting, and positioning the college's various service markets.

Studies are undertaken to ascertain the particular needs, wants, and interests of each differentiated market segment and the position of the college in terms of being able to respond. More sophisticated research is conducted to position the college in relation to other organizations and agencies which overlap in responding to the market segments identified. Such research enables the college to adjust marketing objectives to the available resources and the primary or target markets.

3. The role of research and planning in examining the responsiveness of the college and its impact upon the markets.

Colleges have engaged in active market research to determine the degree and extent the institution is serving its key publics or markets. Some examples are: public and student attitudinal surveys; market audits; institutional image, consideration of usage, and awareness surveys; economic, social and cultural impact examinations; follow-up studies of graduates, non-returnees, and other student groups; faculty perception and contribution surveys; and, institutional outcomes or student goal attainment.

A fourth role of institutional research in market planning and management is less clearly distinguished than the three roles described:

4. The role of research and planning in the development of records, control and monitoring systems and the analysis of internal delivery operations.

In business terms, this involves calculation of such performance records as sales market, share distribution, profit or returns, costs of selling forces, competitive market studies, costs per market response, lost acceptances, and new product acceptance and potential. In colleges, this role focuses upon controls of the inquiry, application, enrollment program/course selection, finance and other processes.

The marketing control information must coincide with market planning for the community college. For marketing effectiveness, the college must exercise controls and be able to mount operational and systematic

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controls that will enable the institution to bring actual results in line with desired results.

The development of control systems in marketing is absolutely crucial and, in fact, may be the most significant component of the entire planning and management effort. Yet, the role of institutional research in the development of such control systems typically is ignored. This is an area where research can have dramatic impact on the institution and where the information can be directly fed into decision-making. The development of controls means the development of systematic approaches to the functions involved in the marketing mix--product, pricing, delivery, and communication--all of which involve assessment and evaluation.

In no area of control and feedback is this more important than with the tabulation of admission inquiries by source and under common definitions. The controls allow the college to evaluate the methods of generating the inquiries by source and to determine which methods are most productive quantitatively and qualitatively--i.e., which inquiry source or activity has shown the highest conversion rate to application, enrollment, and ultimately, to program completion. Without such tabulations and the generation of regular and on-going reports, the institution has no way of knowing whether or not the poster mounted on the high school bulletin board is effective, let alone whether it remains intact. By knowing the inquiry generated, the college is able to know in which direction to allocate resources.

Another example of a control mechanism is with print image. It is certainly no secret in the advertising world that a hodge podge and amateurish selection of words and images presented to the public is ineffective, perhaps even dysfunctional. However, many colleges are guilty of allowing anyone and everyone to publish a brochure or newsletter without allowing its most gifted and experienced personnel in those areas to design, compose, or at least edit all communications. The lack of standards and systems for the control of same is debilitating to any formal marketing. The researcher can assist in creating pre- and post-tests for each

communication and in applying the principles of "Better Information for Student Choice". Controls can be introduced into the publications planning and design processes to ascertain the effectiveness of each publication.

Research can have a most productive role in working with the publications arm of the college to develop appropriate controls and systems and to create operational efficiencies.

Beyond the above general examples, a variety of reports need to be generated to ascertain controls. A schedule of three reports is provided Table I.

TABLE I SCHEDULE OF CONTROL REPORTS--
INQUIRY AND APPLICATION

A. Original Actions to Generate Inquiries

- Return from each direct mail effort (source, number sent, yield)
- High school visits, contacts made and yield
- Materials distributed upon receipt of inquiry:
- Letter(s)
- Prospectus
- Campus visit materials
- High school program poster(s) distributed
- Counselor Fact Sheets distributed
- Viewbooks distributed (handouts)
- High school appointment posters distributed
- Specialty brochures created/distributed
- Media advertisements/announcements
- College presentations

B. Inquiries Generated by Source

- | | |
|------------------------------------|------------------------------|
| --Direct mail efforts | --Financial aid referrals |
| --High school program brochures | --Faculty referrals |
| --High school visits | --High school counselor(s) |
| --Unsolicited walk-ins | referrals |
| --Unsolicited mail | --College Counselor(s) |
| --Unsolicited telephone | referrals |
| --Prospectus cards | --College fair referrals |
| --High school promotional displays | --High school College Nights |
| | --Mail exhibits/visits |

--Newspaper clippings
returns

--Transfer (direct contacts)
--Other

C. Follow-Up Activities and Yields (To Move "Prospects" to
"Applicants")

--High school visits/yields
--Personal interviews
--Faculty/staff interviews
--Telephone calls
--Campus Visits
--Deposit/fee yields
--Application status

D. Follow-up Activities and Yields (To Move "Applicants"
to "Commitments")

--High school visits
--Personal interviews
--Program counseling/advising
--Telephone calls
--Admissions status list
--Orientations
--College student contacts

E. Inquiries Withdrawn by Decision Point

--Lost Inquiry
--Lost Interest
--Lost Acceptance
--Lost Registration

F. Evaluation of Activities Comparing Current Year with
Previous Year

--Weekly, Monthly, Cumulative, Summary by Term
--Goal versus actual

Of, course, such control measures can create tensions within the institution and place the researcher and planner in anxiety-generating situations. There needs to be a non-defensive atmosphere which facilitates such institutional self-introspection so that the college can examine what it has learned in a progressive and forthright manner and implement reasonable changes. This may require a commitment to organizational development

and maintenance. Without such a healthy climate, the problems and frustrations uncovered can create tensions, anxieties, and clashes. Communications may be distorted, closed, and not at all comforting. The researcher, then, has a fifth role:

5. The role of research and planning in examining the organizational climate and impacting decision-making to arrive at necessary interventions.

Non-profit organizations, such as colleges, have reputations for being run less efficiently than their profit-making counterparts. The attempt must be made to make the programs and services efficient and to develop systems of accountability. A problem interfering too often with successful marketing is the failure to implement control and monitoring systems. The researcher has a major role to play toward this end.

SUMMARY

Colleges which seek to adopt formal marketing management and planning typically consider the role of research and planning to be concentrated on three aspects of the marketing: (1) openiment and delineation of community needs and interests; (2) segmenting the service markets; and (3) examining responsiveness of the college and its impact upon the markets. Two other roles for research and planning clearly emerge and need to be highlighted by the college which seeks effective marketing planning and management: (4) development of records, control and monitoring systems; and (5) examining the organizational climate. To focus on the type of control information both appropriate and necessary in formal marketing, a schedule of monitoring and control reports is provided. The emphasis for the research and planning is upon using such information to make meaningful decisions and bring actual results in line with desired results.

ERIC CLEARINGHOUSE FOR JUNIOR COLLEGES STUDENT ATTRITION: COMMUNITY COLLEGE RESEARCH

Donna Wells Dzierlenga

Community college researchers are studying student attrition to determine the relationship of student characteristics and goals to withdrawal. Predictions of declining enrollment rates have made retaining students increasingly important. Research findings will enable administrators to make informed assessments of the impact of student attrition and to determine the most effective retention strategy.

The abstracts included here are samples of the documents in the ERIC junior college collection dealing with student attrition research in the community college. Additional documents related to this issue can be found through manual or computerized searches of ERIC's RIE (Resources in Education) and CIJE (Current Index to Journals in Education). Consult the Thesaurus of ERIC Descriptors for appropriate subject headings.

Axtell, Dayton, and Coad, Alison. A Study of a Sample of Merritt College Students: Reasons Precipitating Possible Withdrawal, and Attitude Toward Services and Instruction. Research Report No. 11. Oakland, Calif: Merritt College; and Northern California Community Colleges Research Group, 1979. (ED 186 047; MF--\$0.91, PC--\$6.95 plus postage; 81 pp.)

An in-class survey of a representative sample of 298 students was conducted by Merritt College in March 1979 to determine: (1) the approximate number of students who were considering withdrawal from college; (2) the approximate number who had given withdrawal serious consideration in the past; and (3) the factors which students felt were decisive in keeping them at Merritt.

Open-ended questions solicited reasons why a student was considering or had considered dropping out. In addition, checklists were provided against which students could indicate the items that were important in their decision to remain at school in relation to getting into desired courses, instruction, student services, financial aid, and other factors related to their home or school environment. Major findings indicate that only 8.7% of the respondents were considering dropping out; financial difficulty was the most frequently cited reason for this, followed by the need to get a job and personal commitments or problems. Another 47.3% indicated that they had given serious consideration to leaving at one time. Need to get a job, personal commitments, and intention to transfer were the most common reasons. The survey report presents a discussion of the representatives of the sample and provides 30 tables illustrating responses by age, sex, ethnicity, and educational and occupational background.

Baker, John. Attrition/Retention Study: Fall Quarter 1979. Fremont, Calif.; Ohlone College, 1980. (ED 188 699; MF--\$0.91, PC--\$5.30 plus postage; 61 pp.)

In response to declines in enrollment and average daily attendance since 1975, Ohlone College conducted a study of student attrition which involved: (1) a telephone survey of the 2,593 students who enrolled in Fall 1979 and dropped out or withdrew from classes before the end of the quarter; (2) a mailed survey of the 15 members of the California Community and Junior College Research and Development Commission soliciting suggestions for lowering student attrition; and (3) a follow-up survey of 50 students who had participated in the initial survey asking them to evaluate the interview process. Specifically, the study sought to assess the demographic make-up of the students who withdrew, to determine their reasons for leaving, and to identify possible ways of increasing retention. Major findings of the telephone survey, based on a 48% response rate, reveal that most dropouts were white, female, high school graduates attending selected courses in the evening on a part-time basis. Conflict between work

and study was the most common reason for leaving, however, 20% of the respondents indicated that they had achieved their educational goals. The study report presents a review of the literature on student attrition, summarizes the responses from each of the three participant groups, and presents recommendations for addressing the attrition problem.

Bakshis, Robert. As Assessment of Triton College Student Retention: Fall 1978-Spring 1979. Vol. XIV, Number 20. River Grove, Ill.: Triton College, 1979. (ED 178 106; MF--\$0.91, PC--\$5.30 plus postage; 73pp.)

A survey of two random samples of 500 students drawn from lists of returning and non-returning students at Triton College was conducted to study student retention between Fall 1978 and Spring 1979. Data, gathered from 248 returning and 159 non-returning respondents, were analyzed in terms of: (1) student educational intent, (2) reasons for termination, (3) employment characteristics, and (4) other considerations, including number of credit hours completed, relationship between average. Results indicated that non-returning students had different educational objectives and requirements than returning students and were less satisfied that their individual goals had been met. Reasons for not returning included, among men, "conflicting job hours" and, among women, "completed needed courses" and "other personal/family reasons." Non-returning students gave high ratings to instructional quality, yet gave "neutral" ratings to counseling, course advisement, tutoring, and veterans' services. Of the non-returning students, 75% were employed full-time, compared to only 46% of returning students. Miscellaneous findings indicated that returning students tended to complete more courses and expect more indirect benefits from their college experience than non-returning students.

Corbitt, Gail. First Year of ARAP-SIS: A Summary of the Results from a Comprehensive Student Follow-Up System. Littleton, Colo.: Arapahoe Community College, 1979. (ED 176 811; MF--\$0.91, PC--\$2.00 plus postage; 22 pp.)

ARAP-SIS, Arapahoe Community College's (ACC's) student follow-up system, consists of seven subsystems. Between 1976 and 1978, five of these were implemented. Data from the goals and intent subsystem revealed that 60% of the students who declared a goal intended to receive an associate degree in an academic field, though many were occupational majors. The course withdrawal subsystem focused on reasons for withdrawal and potential benefits from counseling. While the college withdrawal subsystem looked at students' major, reasons for withdrawal, use of student services, and intention to return to ACC. In both studies, the most frequently cited reason for withdrawal was conflicting job hours. Another subsystem considered students who enrolled for courses but did not show up during the first two weeks. Discounting the many students who actually desired to be reinstated, 26% of the "no shows" or "walk-ins" did not attend because of conflicting job hours and 29% because of personal or family reasons. The graduate follow-up subsystem investigated selected student characteristics, career and educational objectives and present status, employment background, transfer problems, relatedness of ACC training to job, interest in returning to ACC, satisfaction with college services and preparation, job prospects, and salaries. Summarized findings are provided and tables present selected data for each subsystem.

Guber, Robert. West Los Angeles College Student Follow-Up Study Project Report. Culver City, Calif.: West Los Angeles College, 1979. (ED 175 489; MF--\$0.91, PC--\$6.95 plus postage; 78 pp.)

A follow-up study was conducted among new students at West Los Angeles College (WLAC) to identify student characteristics, educational goals, and objectives; and to relate these characteristics to student attrition. Subjects for the study were 483 first-time freshmen enrolled at WLAC in Fall 1977. This initial sample was surveyed again one year later and classified as either returning or non-returning students. Findings indicated that, of new students at WLAC, 56% attended for practical reasons, 32% because of the educational

programs offered, and 23% reported that their primary reason for attendance was personal interest and growth. Of the original sample, 71% did not return the following fall; 40% of the original sample registered but never completed any academic units. Retention was highest among those students stating personal interest as their reason for college attendance. The non-returning students tended to be older individuals with limited or specific objectives who planned to take selected courses rather than enter degree-oriented programs. The survey instruments used in the study are appended and partial results are presented in tables.

Gold, Ben K. Persistence Rates in Day Classes: Fall, 1978. Calif.: Los Angeles City College, 1979. (ED 172 843; MF--\$0.91, PC--\$3.65 plus postage; 30 pp.)

In order to investigate patterns of persistence in courses taken by day students at Los Angeles City College, class enrollment data were gathered at the end of the third week of the Fall 1978 semester, at the first and second census weeks, and on the last day of the semester. Additionally, the number of students receiving final grades other than W (withdrawal from class) was determined. Persistence rates were calculated as a percentage of third week enrollment. The study revealed an overall persistence rate of 61.3%, or conversely, that 38.7% of the students enrolled in day classes failed to complete the class with a grade other than W. Individual class dropout rate ranged from 0 to over 80%. The persistence rate of 61.3% is significantly below the Fall 1971 figure of 69.9%. Of 32 departments, 28 showed a lower persistence rate in 1978 than in 1971. Highest rates of persistence generally were experienced in two-year occupational subject fields, especially those related to health. The study report presents persistence rates for all courses alphabetically, then by combining courses into 90 subject fields and 32 departments. In addition, final persistence rates were rank ordered by department and compared with Fall 1971 data.

Hall, Toni, and Reed, Jim. Nonreturning Students Data Summary--1976-77. Tex-SIS Follow-up; Postsecondary

Student Follow-up Management Information System. Monograph 10. Austin: Texas Education Agency, Department of Occupational Education and Technology, 1979. (ED 178 123; MF--\$0.91, PC--\$3.65 plus postage; 50 pp.)

A total of 2,782 nonreturning occupational and transfer students responded to a series of surveys conducted by 13 Texas community colleges during fall 1977 as part of the Tex-SIS (Student Information System) Follow-up System. Information on college majors, educational goals, reasons for not re-enrolling, satisfaction with college experience, instructional and student services ratings, employment or educational status, relevancy of college courses, and credit hours transferred was collected. Of respondents, 59% had been occupational/technical majors and 24% had been university transfer/academic majors; 24% fully and 56% partially completed their goals. Among occupational students, the most important reasons for not re-enrolling were conflicting job hours (18%), completion of needed courses (15%), and financial problems (11%). Among transfer students, 33% transferred to another college, 20% completed needed courses, and 7% cited conflicting job hours as their reason for not re-enrolling. For all majors, 83% were satisfied or very satisfied with their educational experience.

Highlights of the study are graphically presented in the report and summarized data are provided in a manner to facilitate the comparison of information from individual colleges with statewide results. Blank forms are provided and the survey instrument is included.

MisSIS--Course Withdrawal Analysis, Fall 1979 (and)
MisSIS Analysis--College Withdrawal, Fall 1979. Institutional Research Reports No. 79/80-10 (and) 79/80-11. Perkinston: Mississippi Gulf Coast Junior College, 1980. (ED 191 536; MF--\$0.91, PC--\$2.00 plus postage; 23 pp.)

As a contribution to the statewide Mississippi Student Information System (MisSIS), Mississippi Gulf Coast Junior College (MGCJC) conducted two surveys to determine: (1) the reasons students cited for withdrawing from courses during Fall 1979, and (2) the reasons students

cited for withdrawing from college during that semester. Survey participants included 590 students who dropped courses and all 253 students who withdrew from the college. Major findings indicate a variety of reasons for course withdrawal: too heavy a course load (21.4%), grade problems (20%), conflicting job hours (10.8%), attendance problems (10.1%), dissatisfaction with the instructor (9.2%), dissatisfaction with the course content (6.4%), and miscellaneous job, transportation, or personal problems (11.5%). The majority of those who dropped a course did not feel that consultation with a counselor would be beneficial. Major reasons for college withdrawal included personal problems (15.5%), change of residence (12.6%), attendance problems (11%), and conflicting job hours (10.4%). About half of the college dropouts were employed and the majority (83.9%) expressed satisfaction with their education. While attending MGCJC, 47.7% of the respondents to the college withdrawal survey utilized counseling services, and 18.8% received tutorial assistance. The survey reports present findings for course withdrawal by discipline and for college withdrawal by major.

Welch, Marie Whalen. A Study of Student Attrition and Retention in Postsecondary Occupational Education Programs at Two-Year Public and Independent Degree-Granting Institutions in New York State. Albany: Bureau of Occupational Education Research, New York State Education Department, 1980. (ED 191 537; MF--\$0.91, PC--\$3.65 plus postage, 36 pp)

Progress to date is summarized for a four-phase research project conducted by the New York State Education Department to identify the factors which affect a student's decisions to complete, postpone, or discontinue his/her occupational education at a two-year, postsecondary institution. After introductory material which examines the need for attrition research and then reviews the literature concerning attrition at two-year institutions, the report discusses the outcomes of Phase I of the project, which consisted of an analysis of attrition and retention data currently available at the New York Education Department. Included in this section is a comparison of the total number of completers and

leavers by occupational program area among students at various state two-year institutions during 1978-79, as well as a summary of the major reasons students reported for dropping out. Next, the report analyzes findings for Phase II, during which data were collected from the State University of New York, the City University of New York, and the Commission on Independent Colleges and Universities. Areas of investigation included causes of attrition, the use of exit interviews, and retention methods and their success. Finally, the report examines methodology to be used during Phases III and IV in collecting relevant data directly from the two-year colleges and in surveying the students. Data tables and a bibliography are included.

ERIC materials are received from colleges, universities, research institutions, state agencies, and other education-related organizations and groups located throughout the country. The Clearinghouse invites reports dealing with student attrition research as well as reports on other aspects of community/junior college education. Please send two copies of each document you would like to have considered for the ERIC collection to our Documents Coordinator.

We call your attention to two publications related to current concerns of two-year college educators.

Single copies are available at no charge from the Clearinghouse for Junior Colleges, 96 Powell Library, University of California, Los Angeles, California 90024.

Appraising Managerial Performance. Robert G. Lahti.
January 1981.

Why Students Drop Courses. Jack Friedlander.
January 1981.

AUTHORS

MANTHA MEHALLIS - Director of Research and Planning, Broward Community College, Ft. Lauderdale, Florida 33301

LINDA R. GREER - Director of Institutional Research, Clayton Junior College, Morrow Georgia 30260

ALAN S. KRECH - Coordinator of Research South Carolina Commission on Higher Education, Columbia, SC 29201

FONTELLE GILBERT - Formerly, Research Specialist with AACJC. Currently, Consultant conducting Stress Management Workshops

ELAINE TATHAM - Director of Institutional Research, Johnson County Community College Overland Park, Kansas 66210

TIMOTHY LIGHTFIELD - Vice President for Academics and Planning, Florida Junior College at Jacksonville, Jacksonville, Florida 32202

DONNA W. DZIERLENGA - User Services Specialist, ERIC Clearinghouse for Community Colleges UCLA - 96 Powell Library Building Los Angeles, California 90024

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Treasurer** John Losak, Miami-Dade Community College, Miami, FL 33176

Past President Mantha Mehallis, Broward Community College, Ft. Lauderdale, FL 33301

Representative to AACJC Board Joseph Cosand
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