DOCUMENT RESUME

ED 119 603 HE-007 683

TITLE Advising-Attrition Effects-A 12 Month Analysis.
INSTITUTION Drake Univ., Des Moines, Iowa.
PUB DATE 25 Oct 74
NOTE 9p.

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage
DESCRIPTORS *Counseling Programs; *Dropout Prevention; *Dropout Rate; *Dropout Research; *Higher Education; Institutional Research; School Holding Power; Statistical Data; Tables (Data)

ABSTRACT

Is there an effective way to reduce freshman attrition at Duke University? If a group of freshman students preidentified as exit prone is provided with more advising time from a member of the ranked faculty, then the rate of attrition from this exit-prone group will be less than the attrition rate for the rest of the freshman cohort. Is there a difference between the attrition rate of exit-prone students and of the freshman cohort. The group tested was segregated on the basis of low test score performance on the ACT and SAT test, low rank in high school class, and their score on a device reputed to identify exit-prone students. The rate of attrition from the exit-prone group was significantly lower than the withdrawal rate from the cohort group during the academic year. The exit-prone group received regular counseling from advisors who were part of the humanistic advising-training program while the cohort group did not. The overall effect of concentrated advising for exit-prone students appears to be two-fold. It prolongs the enrollment of students who might normally be expected to withdraw during the freshman year. It also improves the return rate at the beginning of the sophomore year for the class as a whole. (Author/KE)

DRAKE UNIVERSITY
Hill Advisory Unit

Advising-Attrition Effects - A 12 Month Analysis

October 25, 1974

Problem: Is there an effective way to reduce freshman attrition at Drake University?

Hypothesis: If a group of freshman students pre-identified as "exit prone" is provided with more advising time from a member of the ranked faculty, then the rate of attrition from this exit prone group will be less than the attrition rate for the rest of the freshman cohort.

Null Hypothesis Tested: There is no difference between the attrition rate of exit prone students and of the freshman cohort.

Population:
Exit prone freshmen = 280 Cohort freshmen = 615

Procedure: In August, 1973, a group of exit prone students was identified prior to the start of the fall term. From the list of admitted students this group was segregated on the basis of low test score performance on the ACT or SAT test, low rank in high school class and score on a device reputed to identify exit prone students. These students were assigned to a faculty advisor by the academic dean in each of the six undergraduate colleges. Each faculty advisor attended a weekly training and review session where mutual problems were discussed. Each advisor attempted to see his advisee at least once every two weeks. The content of the advising contacts covered normal program problems, study habits, and other sources of concern expressed by the student. The advisor attempted to direct the student to other sources of assistance on the campus, if such assistance was needed. An earnest attempt was made to see each advisee within the first five days of his arrival on campus, and once every two weeks thereafter.

The cohort freshmen saw their advisors on a schedule which they established themselves.

Some Previous Research: The effect of advising and/or counseling assistance on grade point average and the retention of students has an interesting research history. Gardner (1970) discovered that people trained in intervention techniques gave enough support to weaker students to raise their grade point average and to reduce attrition. Rossmann (1967, 1968) insists that such changes are superficial and that the only effect of more advising contact with students is better advising. One other study (Morehead & Johnson, 1964) generally supports findings similar to Gardner. This study concludes that advising is more effective with those students having a higher academic potential. Upcraft (1971) feels that peer counselors from the undergraduate colleges can be used effectively as advisors in these efforts.

Johansson and Rossmann (1973) demonstrate that if failures are separate from voluntary withdrawers among the dropouts, then the effects of advising are clearer. Barber & Hall (1965) feel that a time division among withdrawers where those who drop earlier in a term are compared with later drop-outs will be fruitful. Their contention is that the early leavers depart essentially for nonacademic reasons, whereas those who leave later in the term tend to do so for academic reasons. Juola and others (1968) suggest that advisors can use the computer to identify a target population effectively. Abel (1966) demonstrates that students who are certain of their goals, but who perform poorly, persist in academically unproductive areas and will drop out sooner.

Marks (1967), as a result of an experimental study, believes that the best approach to attrition is to ask the student when he arrives to estimate his persistence possibilities. Those who aspire to complete their education at entrance to college are the best risks to complete it.

Results:

Frequency of contact. Residence Hall students were asked to identify the number of times they met with their advisor during the fall term. The results reported by these students are displayed in Table I. (To minimize the skewing effect of the dependent advisee who saw his advisor a high number of times, all contacts over seven were classified as seven. (A study of the results confirms the fact that the exit prone students had a higher number of meetings with their advisor than their peers in the cohort group. The difference between the means is significant at the .01 level of confidence.

TABLE I

ANALYSIS OF RESPONSES OF FRESHMAN RESIDENT STUDENTS TO THE FOLLOWING QUESTION

"How many times have you met with your advisor?"

College	Total Number of Freshman Students Reporting	Total Number of Advising Contacts	Avg.	Number in Freshman Cohort	Number of Advising Contacts	Avg.	Number of Exit Prone Students	Number of Advising Contacts	Avg.
BUSINESS	174	435	2.5	133	303	2.3	41	132	3.2
EDUCATION	77	266	3.5	52	118	2.3	25	148	5.9
FINE ARTS	124	525	4.2	87	323	3.7	37	201	5.4
JOURNALISM	68	187	2.8	50	90	1.8	18	97	5.4
LIBERAL ARTS	333	1103	3.3	261	782	3.0	72	321	4.5
PHARMACY	54	121	2.2	43	72	1.7	11	49	4.5
	830	2637	3.2	626	1688	2.7*	204	948	4.6*

*Difference significant at the .01 level

Table II
AN EXAMINATION OF THE DIFFERENCES IN
MEANS ON THE ADVISOR PERCEPTION INVENTORY

	ITEM	November, 1973 EXPERIMENTAL	CONTROL	t	April, 1974 EXPER.	CONTROL	t
1.	My advisor has been readily available for consultation.	4.575	4.049	5.90***	4.468	3.967	2.99**
2.	My advisor has been actively helpful and has been genuinely concerned about my welfare.	4.461	3.854	6.38***	4.283	3.852	2.32*
3.	My advisor has served as a resource person for me.	4.019	3.494	4.87***	4.047	3.717	1.90
4.	The spirit and practice of continuous self-evaluation has grown thru my advisor.	3.701	2.941	6.11***	3.675	3.173	2.53*
5.	My advisor encourages me to express my opinion about Drake.	4.078	3.524	4.24***	3.976	3.480	2.74**
6.	My advisor listens to problems that I encounter.	4.522	3.986	5.89***	4.354	4.052	1.92
7.	My advisor knows when I do not follow his/her conversation.	4.035	3.489	4.28***	3.917	3.792	0.68
8.	Major points of my meetings have been summarized by my advisor.	3.904	3.122	5.46***	3.756	3.468	1.46
9.	My advisor has helped me with personal problems.	3.603	2.889	5.42***	3.475	3.152	1.51
10.	My advisor has taken an interest in me that extends beyond our meetings.	3.755	3.693	0.49	3.769	3.358	1.98*
11.	My advisor and I spend most of our time discussing academic problems.	3.794	3.681	1.03	3.911	3.831	0.55
12.	I believe my advisor has helped make the transition from high school to Drake smoother.	3.846	3.206	4.82***	3.975	3.580	1.87

Table II (cont.)
AN EXAMINATION OF THE DIFFERENCES IN
MEANS ON THE ADVISOR PERCEPTION INVENTORY

	ITEM	November, 1973 EXPERIMENTAL	CONTROL	t	April, 1974 EXPER.	CONTROL	t
13.	I believe my advisor anticipates needs that I have.	3.871	3.441	3.73***	4.024	3.509	2.69**
14.	I would willingly share problems that I encounter with my advisor.	4.071	3.581	4.31***	3.976	3.661	1.67
15.	My advisor has introduced me to various Drake service organizations.	3.438	2.823	5.69***	3.465	3.214	1.36
16.	I enjoy meetings with my advisor	4.235	3.439	6.60***	4.111	4.048	0.39
17.	My advisor has been well-prepared for each meeting.	4.197	3.586	5.29***	4.116	3.574	2.97**

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* $p < .05$
** $p < .01$
*** $p < .001$

TABLE III
RETENTION THROUGH THE
BEGINNING OF THE SOPHOMORE YEAR

	Number of Freshman	No. returning as Sophomores	Retention Rate
1968 Freshmen	1137	707	62%
1969 Freshmen	1133	832	73%
1970 Freshmen	1185	856	72%
1971 Freshmen	1252	897	72%
1972 Freshmen	1062	729	69%
1973 Freshmen	895	678	76%

Student's Perception of Advisory Contacts. In November of 1973, a sample of freshmen students living in residence halls was sent a questionnaire plumbing opinion about advisory contacts for the fall. A similar survey was made in May of 1974. The display in Table II represents returns for 181 exit prone students and 100 students from the cohort group taken in November. The May contact resulted in a sample of 105 from the exit prone group and 65 from the cohort group. If the samples drawn are sufficiently representative, then the results clearly indicated greater satisfaction with the efforts of the advisors of the exit prone students. The higher mean scores for the exit prone students in Table II indicate a greater degree of satisfaction on each of the items listed. In the fall sampling, 15 items were found to be significantly different. In the spring sampling, seven items were significantly different.

A Look at Retention. One facet of retention can be expressed in the percent of students returning after their freshman year to begin their sophomore year. Table III contains data that shows the number of entering freshman, the number that return as sophomores, and the retention rate for each of six academic years. The year with 1973 freshmen contains the data

of which the academic advising project was a part. In addition to the retention rate (77%) for this group being higher than each of the previous five years, this rate is significantly ($p < .05$) higher than each previous year's rate, using a standard statistical test for the difference between two independent proportions.

A second dimension which merits study for retention effects is the rate of attrition throughout the academic year. The 1973-74 attrition statistics are shown in Table IV. Thirty exit-prone freshmen withdrew during the academic year (prior to May, 1974) while 106 cohort freshmen left. Again comparing these two proportions by the standard statistical test for differences between two independent proportions the results show the exit prone withdrawal rate to be significantly less than the cohort rate ($p < .05$).

TABLE IV

ATTRITION FROM THE 1973-74 FRESHMAN CLASS

	Fall Withdrawals	Spring Non-returnees	Spring Withdrawals	Total Academic Year Withdrawals	Losses over the Summer	Total Loss	Total Enrolled
Exit Prone	13	12	5	30	55	85	280
Cohort	26	58	22	106	26	132	615
Total	39	70	27	136	81	217	895

Academic Performance (First semester). Astin in his book, Predicting Academic Performance in College, developed extensive bivariate predicting tables for freshmen grade point averages from the variables of ACT composite score and high school GPA. When regular freshmen were dichotomized by sex within each college, their average predicted first semester GPA was significantly higher than the exit prone freshmen, in every instance.

In studying the obtained GPA's for the first semester in college four groups of exit prone men and two groups of exit prone women performed at a level comparable to their cohort group. By performing at a level comparable, we mean that the difference between the average GPA's earned by each group during the first semester was not statistically significant.

Conclusion. In view of the 30% loss from the experimental group contrasted with the 21% loss from the control group, the null hypothesis of equality is not a tenable hypothesis. Neither is the directional hypothesis postulated on page one tenable. The group not receiving the experi-

mental treatment (advising) had a better return rate at the one year evaluation point, although the interim evaluation points through the first year favored the experimental group.

Discussion. The rate of attrition from the exit-prone group was significantly lower than the withdrawal rate from the cohort group during the academic year. The exit-prone group received regular counseling from advisors who were part of the humanistic advising training program while the cohort group did not. The results are of more practical significance when you recall that the exit-prone group was comprised primarily of individuals with low entry exam scores and low high school grades; a group identified as high risks by most researchers. The overall effect of concentrated advising for exit-prone students appears to be twofold. It prolongs the enrollment of students who might normally be expected to withdraw during the freshman year. It also improves the return rate at the beginning of the sophomore year for the class as a whole.

Applying the 69% five year return rate average, Drake would have expected to enroll 617 students in the fall of 1974 from the original freshman pool of 895. This apparent saving of 60 students who might otherwise have exited will require continued analysis. For example, if this saving results in 60 more students graduating from Drake in the Spring of 1977, then the effect will be long-term. If it results in approximately the same graduation rate, then the effect will have been a transitory one.

In any case, there is one other cause for optimism. Eklund (1964) maintains that the likelihood of a dropout returning to higher education improves in proportion to the amount of time that the student spent in continuous enrollment before his first withdrawal. It seems reasonable to expect, therefore, that over a prolonged period of time, more of these "exit prone" students will graduate from some four year program.

Future directions. The impact of improved advising will be studied at Drake this year on a cross sectional model. Students in the experimental group have been selected from the entire range of student talent and have been paired with a control group of similar size..

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