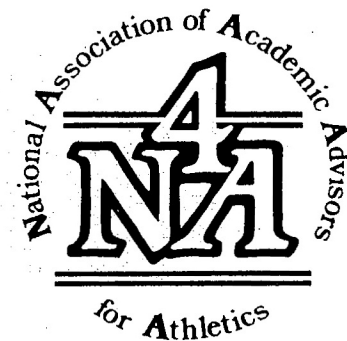


ACADEMIC ATHLETIC JOURNAL

The Official Publication of the
National Association of Academic
Advisors for Athletics



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AUDIENCE

The primary audience is the membership of the N4A, that is, athletic academic counselors. The secondary audience includes other professionals working with student-athletes in the fields of education or counseling at the secondary and post-secondary levels.

PURPOSE

Articles should add new knowledge, challenge existing opinion, and/or explain the implications of research. The arguments should be well grounded in theory or research and clearly related to practice. In essence, the material should be original and stimulating without being extremely technical.

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The articles will be read by at least three anonymous reviewers. Their comments will be sent to the authors along with recommendations for acceptance, rejection, or revision.

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A Comparison of Two Intervention Strategies on the Academic Performance of Student-Athletes

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Dennis O'Brien, Caroline Campbell,
and Ulrich Hollstein**

The University of New Mexico

ABSTRACT

The purpose of this study was to determine the effect of the Model Student Tutor Program (MSTP) when compared with the traditional study table on the academic performance of football players at the University of Wisconsin-LaCrosse as measured by grades acquired in selected courses.

Three hypotheses were developed. The first hypothesis stated that there will be no significant difference in the grades of football players based on the type of intervention for literature-based courses. The second hypothesis stated that there will be no significant difference in the grades of football players, based on the type of intervention for science-based courses. The third hypothesis stated that there will be no significant difference in the grades of football players based on the type of intervention used across course content.

Based on the results of an ANOVA, the first hypothesis was rejected while the second and third hypotheses were retained.

INTRODUCTION

The daily media have chronicled the problems of intercollegiate athletics; horror stories include drug abuse, gambling, illegal payments, corruption, rape, and violence. The primary driving force behind many of these problems surrounding intercollegiate athletics has become the fiscal rewards associated with winning (Cramer, 1986). As a result, college sports programs and college

athletes engage in what Walter, Smith, Hoey, Wilhelm, and Miller (1987) have called a mutually exploitive relationship.

While universities and their governing bodies have been slow to enact reform, recent NCAA and Congressional legislation has attempted to improve the academic integrity of intercollegiate athletics. The NCAA has employed Proposition 48, and Senator Bill Bradley (D-New Jersey) has proposed a bill before Congress requiring schools to report their graduation rates and make them available upon request to prospective athletes ("Bradley bill," September 18, 1989). A number of other strategies have also been suggested, including freshman ineligibility, institutional subsidization of the athletic program, revenue sharing, and numerous academic interventions. Many of these suggestions have merit, and their intent, improving the academic performance of student-athletes, must be hailed.

The traditional study table has been the most popular intervention strategy used to improve academic performance (Harney, Brigham, and Sanders, 1986). One of the reasons for its popularity is the ease with which it can be incorporated into a program with minimal cost or expertise. The intervention consists of required study sessions three to four times a week, each lasting two to three hours. Attendance is mandatory and unexcused absences have adverse consequences (Harney et al. 1986). This strategy has been most common at the Division I level, but little evidence exists as to the efficacy of this strategy (Harney et al. 1986).

The Model Study Tutor Program (MSTP) was developed by Campbell and Hollstein (1989) at the University of New Mexico to utilize the resources already available in their classes to help those students who were having difficulty. The program was first implemented with nutrition and chemistry students but then expanded to a variety of courses. The goal of the program was to provide peer tutors for "at risk" students with both tutors and tutorees coming from the same class. Tutors and tutorees were thus exposed to the same course lectures and materials. This strategy identified good students and poor "at-risk" students early in the semester. The good students were then paired with "at-risk" students and encouraged to study together. Tutor groups usually met twice weekly with study sessions lasting one and a half hours. Tutor groups were ideally one to two tutorees per tutor. Tutors would take attendance at each study session to make sure that tutorees were complying with the program requirements. Class attendance was monitored as well. Tutorees who did not regularly attend class or the tutor sessions were dropped from the program. Tutors could receive a 300-level readings or independent study credit for their involvement in the program. The MSTP had funds available to cover an additional credit fee if the tutor was required to pay that fee.

Funding for the program was provided by the University of New Mexico Foundation. This funding paid for the additional credit fees and an honors luncheon at the end of the semester.

Although teachers were asked to keep records of the program to assess efficacy, little research had been done to determine the effectiveness of the program. The format of the program coupled with its cost effectiveness has made the program attractive. With these thoughts in mind it was felt that the program had potential, was innovative, and should undergo formal assessment as to its effectiveness.

METHOD

Subjects

This study was concerned with the effect of the MSTP and the traditional study table on the grades of football players in selected classes. The subjects for this study consisted of eighty-one football players from a Division III program, the University of Wisconsin-La Crosse, in the fall semester of 1989. Participants registered in Biology 100 were randomly assigned to one of three groups: one group receiving peer tutoring, one group assigned to the traditional study table, and a control group. Participants registered in 100 level English and history were randomly assigned to one of three groups: one group receiving peer tutoring, one group assigned to the traditional study table, and a control group. Neither of the control groups received the academic intervention.

Research Design

This study was a post-test only control group experimental design in which pretest scores were not measured. The subjects were administered the treatment, and their performance was assessed and compared against a control which did not receive the treatment (Gay, 1987).

After determining the class schedules of the football players, student-athletes were randomly assigned to one of six groups. Thirty-six of the eighty-one student-athletes involved in the study were registered for Biology 100 and were randomly assigned to one of the following three groups: the treatment group participating in the MSTP, the treatment group participating in the traditional study table, and the control group. Forty-five of the eighty-one student-athletes involved in the study were registered for 100 level English and history and were randomly assigned to one of the following three groups: the treatment group participating in MSTP, the treatment group participating in the traditional study table, and the control group. No student-athlete was assigned to or participated in more than one group.

The MSTP participants met with the researcher early in the semester to receive information on how the program would be organized. Letters were given to the student-athletes to be delivered to their individual instructors, and a follow-up meeting was held with the teachers to explain the program and solicit their help. Four weeks were allowed to identify those students who were doing well (earning an A or B) and thus could be matched with student-athletes. Peer

tutors were solicited at this time, and a meeting of all tutors and tutees was held to explain the program. Participants met twice weekly with each session lasting one and a half hours. Class attendance was mandatory and was monitored by both the tutor and the research coordinator in conjunction with individual professors. The entire group of tutors and tutees met every two weeks to determine progress, class attendance, and help session attendance and to discuss any difficulties.

Students assigned to the traditional study table started sessions at the same time as the peer tutoring intervention began. This was done to keep total study time equal. It was determined that Tuesday and Thursday evenings were best for the subjects in terms of non-class evenings. Participants were required to work on their assigned course, either science-based or literature-based, during the study session. The study sessions were one and a half hours in length, which matched the amount of time spent each week in peer tutoring. Class attendance was mandatory for this group as well and was monitored by the study table supervisor in conjunction with individual professors.

Student-athlete subjects were dropped from the study for five reasons: (1) quitting school, (2) quitting the football team, (3) dropping the class to be assessed, (4) not having an ACT test on record, and (5) being uncooperative or unwilling to fulfill the requirements of the intervention including study session attendance and class attendance. Subjects were allowed three absences from study session attendance and three absences from class attendance.

The two control groups did not receive the manipulated variable, the learning intervention, but in all other aspects were similar to the experimental groups. Grade acquired in the particular class was the dependent variable and was determined at the end of the 1989 fall semester, making this a posttest-only control group design (Gay, 1987).

Statistical Method

The statistical method used to test the first and second hypotheses was a one-way analysis of variance (ANOVA) (Kennedy et al., and Bush, 1985). The independent variable for the first hypothesis was type of intervention applied to student-athletes in a literature-based course and had three levels (peer group, study table, and control). The independent variable for the second hypothesis was type of intervention applied to student-athletes in a science-based course and had three levels (peer group, study table, and control). The .05 level of significance was used to test for statistical differences. Post hoc Scheffes were performed on significant findings where appropriate.

The statistical method used to test the third hypothesis was a two-way ANOVA with post hoc procedures (Kennedy et al., 1985). The two independent variables were type of intervention and course content. The .05 level of significance was used to determine whether there was a statistical difference

experiment-wise, and a .05 level of significance was used to determine statistical differences for the family of pair-wise comparisons for simple main effects. The basic assumptions of ANOVA were tested before the analysis was made.

ACT composite scores were tested using a one-way ANOVA to determine any significant pre-disposing differences in groups that might call for the use of a different statistical analysis. ACT composite scores were tested across the independent variable intervention in a one-way analysis for both literature- and science-based courses. A two-way ANOVA was also used to test for differences in ACT composite scores across course content and intervention. The two independent variables were type of intervention and course content. The .05 level of significance was used to determine whether there was a statistical difference experiment-wise. A .05 level of significance was used to determine statistical differences for the family of pair-wise comparisons for simple main effects.

ACT English scores were also tested using a one-way ANOVA to determine any significant pre-disposing differences in groups that might call for the use of a different statistical approach. ACT English scores were tested across the independent variable intervention in a one-way analysis for a literature-based course.

ACT science scores were tested as well using a one-way ANOVA to determine any significant pre-disposing differences in groups that might call for the use of a different statistical approach. ACT science scores were tested across the independent variable intervention in a one-way analysis for a science-based course.

The data were entered into a Macintosh SE computer, and the statistical software Statview 512 was used.

RESULTS

ACT composite scores were tested using a one-way ANOVA to determine any significant pre-disposing differences across the independent variable intervention for the literature-based groups. The alpha level was set at .05. The range of scores was from 10 to 28 ($M = 21.143$, and $sd = 4.498$) ($N = 21$). The three means were not significantly different, $F(2, 18) = 1.576$, $p > .05$.

ACT composite scores were tested using a one-way ANOVA to determine any significant pre-disposing differences across the independent variable intervention for the biology groups. The alpha level was set at .05. The range of scores was from 11 to 25 ($M = 19.043$, and $sd = 3.937$) ($N = 23$). The three means were not significantly different, $F(2, 20) = 1.186$, $p > .05$.

A two-way ANOVA was used to test for differences among the scores across course content and intervention on the ACT composite scores of the subjects. The alpha level was set at .05 experiment-wise and .01 comparison-

wise for simple main effects. The range of scores was from 10 to 28 ($M = 20.045$, and $sd = 4.297$) ($N = 44$).

The interaction of intervention x course content was not significant, $F(2, 38) = 2.797$, $p > .05$.

The main effect of intervention was not significant, $F(2, 38) = .071$, $p > .05$. The main effect of course content was not significant, $F(1, 38) = 3.182$, $p > .05$.

A one-way ANOVA was used to test for differences in the mean ACT English scores of the groups receiving the three different interventions and being measured for performance in the literature class. The alpha level was set at .05. The range of scores was from 8 to 24 ($M = 18.143$, $sd = 4.175$) ($N = 21$). The three groups were not significantly different on the ACT English score, $F(2, 18) = 3.435$, $p > .05$.

A one-way ANOVA was used to test for differences in the mean ACT science scores of the groups receiving the three different interventions and being measured for performance in the biology class. The alpha level was set at .05. The range of scores was from 12 to 30 ($M = 21.391$, $sd = 5.203$) ($N = 23$). The three groups were not significantly different on the ACT science score, $F(2, 20) = 3.414$, $p > .05$.

As a result of these findings it was determined that the literature intervention groups were very similar to one another in terms of ability in this area of study. This also appears to be the case for the biology groups. Thus, ANOVA was used to investigate the intervention effects.

Statistical Analysis of Grades

The first hypothesis tested states:

H_01 There will be no significant difference in the grades of football players based on the type of intervention for literature based courses.

A one-way ANOVA was used to test for differences in the mean grades of the groups receiving the three different interventions and being measured for performance in the literature class. The alpha level was set at .05. The range of scores was from 0 to 4 ($M = 2.333$, $sd = 1.155$) ($N = 21$). The three groups were significantly different on the grades acquired in literature courses, $F(2, 20) = 4.333$, $p < .05$. (See Tables 1-4.) As a result of these findings, H_01 was rejected.

Post hoc Scheffes were performed to determine statistical differences for the family of pair-wise comparisons. For the comparison of peer versus study table, a non-significant Scheffe of .036 was obtained. For the comparison of control versus peer, a non-significant Scheffe of 2.893 was obtained. The comparison of control versus study table yielded a significant Scheffe of 3.571, $p < .05$.

Table 1
Course Grades for Literature Groups

Mean	Std. Dev.	Std. Error	Variance	Coef. Var.	Count
2.333	1.155	.252	1.333	49.487	21
Minimum	Maximum	Range	Sum	Sum Sq	# Missing
0	4	4	49	141	0

Table 2
Cell Course Grades for Literature Groups

Group	Count	Mean	Std. Dev.	Std. Error
Peer	7	2.714	1.113	.421
Study Table	7	2.857	.690	.261
Control	7	1.429	1.134	.429

Table 3
ANOVA Table Course Grades for Literature Groups

Source	df	Sum Squares	Mean Square	F-test
Between groups	2	8.667	4.333	4.333*
Within groups	18	18.000	1	$p = .0291$
Total	20	26.667		

*Significant at 5%.

Table 4
Comparison of Course Grades for Literature Groups

Comparison	Mean Diff	Scheffe F-test
Peer vs. Study Table	-.143	.036
Control vs. Peer	1.286	2.893
Control vs. Study Table	1.429	3.571*

*Significant at 5%.

The second hypothesis tested states:

H_02 There will be no significant difference in the grades of football players based on the type of intervention for science based courses.

A one-way ANOVA was used to test for differences in the mean grades of the groups receiving the three different interventions and being measured for performance in the biology 100 class. The alpha level was set at .05. The range of scores was from 0 to 3 ($M = 1.522$, $sd = .947$) ($N = 23$). The three groups were not significantly different, $F(2, 20) = .045$, $p > .05$. (See Tables 5-7.) As a result of these findings, H_02 was retained.

Table 5
Course Grades for Biology Groups

Mean	Std. Dev.	Std. Error	Variance	Coef. Var.	Count
1.522	.947	.198	.897	62.246	23
Minimum	Maximum	Range	Sum	Sum Sq	# Missing
0	3	3	35	73	0

Table 6
Cell Course Grades for Biology Groups

Group	Count	Mean	Std. Dev.	Std. Error
Peer	7	1.571	.976	3.69
Study Table	7	1.429	.787	.297
Control	9	1.556	1.130	.377

Table 7
ANOVA Table Course Grades for Biology Group

Source	df	Sum Squares	Mean Square	F-test
Between groups	2	.088	.044	.045
Within groups	20	19.651	.983	$p = .9561$
Total	22	19.739		

The third hypothesis tested states:

H_03 There will be no significant difference in the grades of football players based on the type of intervention used across course content.

A two-way ANOVA was used to test for differences among the scores across course content and intervention on the grades of student-athletes during the season. The alpha level was set at .05 experiment-wise and .05 for the family of pair-wise comparisons for simple main effects. The range of scores was from 0 to 4 ($M = 1.909$, and $sd = 1.117$) ($N = 44$).

The interaction of intervention x course content was not significant, $F(2, 38) = 2.61$, $p > .05$.

The main effect of intervention x course content was not significant, $F(2, 38) = 2.154$, $p > .05$. The main effect of course content was significant, $F(1, 38) = 7.306$, $p < .05$. (See Tables 8-10.) As a result of these findings, H_03 was retained.

Table 8
Course Grades

Mean	Std. Dev.	Std. Error	Variance	Coef. Var.	Count
1.909	1.117	.168	1.247	58.502	44
Minimum	Maximum	Range	Sum	Sum Sq	# Missing
0	4	4	84	214	0

Table 9
Incidence Table for Course Grades

	Literature	Science	Totals
Peer	7 2.714	7 1.571	14 2.143
Study Table	7 2.857	7 1.429	14 2.143
Control	7 1.429	7 1.556	16 1.500
Totals	21 2.333	23 1.522	44 1.909

Table 10
ANOVA Table Course Grades

Source	df	Sum Squares	Mean Square	F-test	P value
Intervention (A)	2	4.269	2.135	2.154	.1299
Course Content (B)	1	7.239	7.239	7.306*	.0102
AB	2	5.172	2.586	2.610	.0867
Error	38	37.651	.991		

*Significant at 5%.

DISCUSSION

Evaluation of the Hypotheses

As a result of this study, the first null hypothesis ($H:01$)--that there will be no significant difference in the grades of football players based on the type of intervention for a literature-based course--was rejected. There was a significant difference between the study table and control group for literature courses. It may be that the structured discipline of a set study time monitored by someone in a position of authority is conducive to this type of course. Peer tutoring appeared to be effective in helping the performance of football players in literature classes but to a lesser degree. These results may have occurred as a result of better peer tutors in literature as compared to the peer tutors in science. It might also be that the concepts in science were too difficult to be successfully communicated through the use of peer tutoring.

Neither peer tutoring nor study table was significantly effective in improving the performance of football players in science-based classes; therefore $H:02$ was retained. A possible explanation could be the moderately late application of the interventions (during the fifth week) to a course in which the early understanding of material is a critical building block to later performance.

When comparing the type of intervention across course content, no significance was found; therefore $H:03$ was retained. As a result, it could not be shown that study table or peer tutoring would be more effective if one had to choose between interventions regardless of course content.

It was encouraging to find that both interventions experienced success in improving the grades of the literature subjects. This would indicate that either approach is worthy of strong consideration when implementing an academic improvement program targeted for this type of course content.

The positive response to both interventions for literature might be a result of the difference in subject area. The means for all three groups in science-based classes were considerably lower. As might be expected, the mean of all science grades was significantly lower than the mean of all literature grades. The difference in the grades by subject area might account for some of the results obtained.

Evaluation of the Late Start

One inherent weakness of the MSTP is the time needed to identify the good and poor students in each class. The MSTP calls for good students to be identified before they can be matched with "at-risk" student-athletes. In the time necessary for the first evaluation, much of the foundation for success in the particular class has been established. As an example, a number of the study skills suggested in Claude Olney's "Where There's A Will There's An A" (1988) need to take place before the class even starts or very early in the semester. Consequently, one of the main reasons for the inability to find significance with

this intervention may be the late application of the program due to the necessary identification of good students who will be the peer tutors. While the traditional study table does not require this time lapse before application, it was felt that in order to keep the two interventions equal in total study time, subjects receiving the traditional study table should not start until the fifth week of the semester. Even with this late start, the study was able to find significantly higher grades for student-athletes in a study table setting for literature courses. The late start may well have been the reason for the lack of positive findings for the study table in the science-based class. It should be noted that the late start is not an inherent weakness of the traditional study table as an intervention strategy.

Evaluation of the Attendance Requirement

The question of mortality must be raised when looking at the number of subjects at the beginning of the study ($N = 81$) and the ending number of participating subjects ($N = 44$). While dropping subjects from the study for quitting school, quitting football, dropping the class to be assessed, or lacking an ACT score was out of the control of the investigator, the fifth consideration--being unwilling to fulfill the requirements of the intervention--must be addressed.

One factor that may influence attendance is the number of days in the week that subjects are required to be present. It may be that the fewer number of days in the week that student-athletes are expected to attend, the greater the chances are for increased attendance. The more study sessions required per week, the poorer the cooperation. The question then becomes a matter of choosing the optimum number of study sessions both in terms of attendance and total potential study time; this study required two study sessions per week. The optimum number of study sessions per week has yet to be determined both from the perspective of attendance and total study time. The same could be said for the amount of time spent in each study session. While this study chose a one and a half hour study session, total study time (i.e., the magnitude of the treatment) may have been partially responsible for the lack of significantly positive results.

Attempts have been made to examine the problem for academic performance across all college divisions regardless of any differences that exist. However, there can be no question that, in terms of negative incentives, major college and scholarship schools possess a strong motivator in terms of study session attendance, that being the athletic scholarship awarded to the student-athlete. Athletic scholarships can be pulled for specific reasons: one of these might be poor attendance at study sessions. This, however, cannot be done at the Division III level and thus could not be applied to the study in question.

The magnitude of the treatment could also be increased through the introduction of a study skills program in conjunction with either the MSTP or study table intervention. The University of Missouri has gone so far as to implement the Total Person Program (Gregorian, 1989) instituted by health education professor Parris Watts. The goal of this program is to prepare student-

athletes for a total life experience through the development of the intellectual, physical, emotional, social, and spiritual aspects of life. Because the program emphasis was centered as much on post-graduation as on graduation, the goals of the program, by Watts' own admission, may have been too high. More recently the program's emphasis has shifted to the more tangible areas of study skill improvement and strategies to increase graduation rates.

While Division III schools may not have the resources to implement such an involved program, they might consider a short study skills improvement program similar to the Claude Olney "Where There's A Will There's An A" video tape program in conjunction with a study table.

Evaluation of the Program's Flexibility

Another possible explanation for the lack of effect of the MSTP intervention may be the reliability of self-reporting regarding the quality and quantity of the study sessions. While many of the subjects were cooperative regarding the requirements of the intervention, for some it became their perception that the sessions would do them little good. Those who did not follow the requirements of the intervention were dropped from the study. The advantages of flexibility and freedom to choose the desired time and place to study was hoped to encourage greater compliance. However, this may not have been an entirely correct assumption. Consequently, this intervention may be better suited to students with a higher level of motivation. While many student-athletes are motivated to perform in the classroom, for others the regimentation and discipline offered through a closely monitored study table may be the best approach.

Some educators may find this "hand holding" distasteful. Still others may feel that in so doing we do nothing to encourage individuality, responsibility, and the development of initiative, all of which are skills needed to be successful once student-athletes are done with college and face mainstream society. Harney (1986) suggested that while it should be sufficient to inform students of such key behaviors as getting to class, doing homework, and taking tests, the evidence is clear that this is not the case. Some educators feel that student-athletes may respond better to discipline based on their experience in organized sport (Sparent, 1988). The application of this same discipline, through the use of a monitored study table, may be the most effective means at our disposal for improving the academic performance of student-athletes.

Evaluation of the Number of Subjects

Finally, the lack of significance for each of the interventions might be accounted for by the low number of subjects. This was in part a result of efforts to control for confounding variables by limiting the course content to specific courses and thus keeping differences in courses and professors to a minimum. The study was conducted during the fall semester when student-athletes were in

their competitive season. In so doing, in-season versus out-of-season performance considerations did not have to be taken into account.

Summary

This study attempted to examine and improve the academic performance of student-athletes regardless of college division. While it has been pointed out that one important difference cannot be overlooked, that being the athletic scholarship and its built-in motivation, in most aspects student-athletes across divisions do not differ greatly. The most obvious similarity that the scholarship student-athlete and the non-scholarship student-athlete share is the extreme time demands placed on them during the season as well as the off-season. From practice time, coaches' meetings, and physical therapy treatments to travel, weight training and film sessions, little time is left over for classes and study time. Each special interest group vies for the student-athletes' time, including head coaches, position coaches, athletic trainers, weight coaches, and academic support staff.

Recently the administrative strategy for improving the academic performance of student-athletes has taken the form of Proposition 48. The central theme of this legislation focuses on limiting enrollment to a higher quality student. This strategy has initiated heated debate as to the potential for discrimination. Walter, et. al., (1987) suggested that educators and administrators in search of alternative strategies may find more success by "focusing on the educational process as it occurs on the college campus." Future research aimed at this educational process will hopefully have a strong impact on the academic performance of student-athletes and do much to improve intercollegiate athletic credibility in our society.

CONCLUSIONS

Within the limitations of the single institution studied and the focus on football student-athletes only, the following conclusions appear justified:

1. The performance of student-athletes in literature-based classes was helped by both the study table and the MSTP interventions.
2. The performance of student-athletes in science-based classes was not helped by either the study table or the MSTP interventions.
3. It could not be shown that study table or peer tutoring would be more effective if one had to choose between interventions regardless of course content.
4. The intervention to be used should be determined based on the course content to be improved.

RECOMMENDATIONS

While the results of this study did not produce conclusive positive results as to the efficacy of both interventions for the two disciplines, a number of considerations have been developed for future research as institutions pursue better academic performance from their student-athletes.

Programmatic Recommendations

The study in question might be strengthened through the following recommendations:

1. The determination of the optimum total study time per session and optimum days per week.
2. The inclusion of a study skills program in conjunction with the study sessions.
3. The inclusion of peer tutoring within a study session environment where regular attendance can be checked and validated.
4. The early determination of good students (through the use of ACT tests or some previous performance) to facilitate the early start of the intervention.
5. The use of grade point averages as the dependent variable, thereby increasing the number of subjects.

Recommendations for Further Study

Future research within this topic area might examine the following:

1. Replication of this study at other Division III and Division I schools.
2. Replications of this study with other sports, especially for those sports whose student-athletes have a traditionally poor academic performance.
3. Replication of this study with female student-athletes.
4. A description of the different academic performance programs being offered throughout the country and an investigation of their effectiveness in improving grade point averages and graduation rates.
5. A description of the budget and personnel directly related to student-athlete academic performance programs.
6. Further examination of the impact of Proposition 48 on academic performance and graduation rate data.
7. The investigation of other interventions that might be more effective in improving science grades.

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Transfer Student-Athletes: Prominent But Vulnerable

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ABSTRACT

Transfer students play a prominent role in Division I athletics, but the effects of transferring can often be detrimental to their academic performance. Providing a formal orientation course especially designed for new transfer student-athletes can be an effective means of helping them bridge the intercollegiate experience.

TRANSFER STUDENT-ATHLETES

Transfer student-athletes currently play a major role in collegiate athletics, and indications are that their numbers will continue to grow in the foreseeable future. While the National College Athletic Association (NCAA) provides no specific data on transfer student-athletes, a review of 192 of the nation's 293 Division I basketball teams shows that almost 29 percent of new players are transfers and that a majority of major conferences have more than 33 percent of new players coming from the transfer ranks (*1989-90 College Basketball Yearbook*). The review also shows that transfers from two-year colleges comprise 74 percent of all transfer players and 21 percent of all new players, while students transferring from other four-year institutions represent 26 percent of all transfer players and 7.5 percent of new players (see table below).

Number and Percentage of New Basketball Players in Major Division I Conferences for 1989-90

Conference	Total New Players	Two-Year College Transfers		Four-Year College Transfers		Total New Freshmen		Total New Transfers	
	N	N	%	N	%	N	%	N	%
American South	41	14	34	6	15	21	51	20	49
Atlantic Coast	31	1	3	1	3	29	94	2	6
Atlantic Ten	48	11	23	8	17	29	60	19	40
Big East	36	1	3	2	6	33	91	3	9
Big Eight	47	14	30	4	9	29	62	18	38
Big Sky	56	25	45	6	11	25	45	31	55
Big Ten	48	3	6	0	0	45	94	3	6
Big West	67	25	37	4	6	38	57	29	43
Colonial Athletic	48	6	13	7	15	35	74	13	26
Ivy League	38	0	0	1	3	37	97	1	3
Metro	44	7	16	4	9	33	75	11	25
Mid-American	36	7	19	2	6	27	75	9	25
Mid-Western	43	3	7	4	9	35	84	7	16
Missouri Valley	37	11	30	2	5	24	65	13	35
Ohio Valley	40	11	28	2	5	27	68	13	33
Pacific Ten	53	8	15	3	6	42	79	11	21
Southeastern	45	5	11	1	2	39	87	6	13
Southwest	47	15	32	3	6	29	62	18	38
Sun Belt	52	12	23	8	15	32	61	20	39
Western Athletic	48	13	27	7	15	28	58	20	42
West Coast	45	13	29	4	9	28	62	17	38
Totals	961	205	21	72	7.5	684	71.5	277	28.5

FACTORS CONTRIBUTING TO THE PROMINENCE OF TRANSFER STUDENT-ATHLETES

The frequent use of transfer student-athletes is a result of many factors, some not directly associated with athletic circumstances. For instance, it is not surprising that the growth in the number of transfer students over the past 25 years largely parallels the expansion of two-year colleges. In 1966 there were 837 two-year colleges in America, enrolling 1.4 million students and nearly 36 percent of all entering freshmen. Today there are over 1200 two-year colleges enrolling nearly 5 million students and 51 percent of all entering freshmen (El-Khawas, Carter, and Ottinger, 1988). No doubt, the 357 percent increase in two-year college enrollment has added to the pool of athletes attending the 475 National Junior College Athletic Association colleges and to the scores of community colleges which participate in their own state or regional athletic associations.

Of course, the growth in the number of transfer student-athletes is also attributable to circumstances within intercollegiate sports. Certainly, the recent reduction in athletic scholarships--particularly freshman scholarships--prevents many athletes from attending four-year institutions, as does the passage of Proposition 42, restricting access to four-year institutions for student-athletes not meeting academic performance standards. These factors have forced more high school athletes to begin their initial college experiences at two-year colleges.

In addition, heavy sanctioning of Division I institutions is contributing to transfer possibilities. With a majority of the 106 largest sports programs experiencing at least one sanction and with 30 percent of the 293 colleges in Division I being cited for infractions during the 1980's (Chronicle of Higher Education, January 3, 1990), a number of student-athletes are electing to transfer from institutions frequently plagued by infractions.

However, perhaps the most powerful factor affecting transfer student-athletes is the phenomenal rise in media revenues, resulting in more colleges joining Division I play (95 teams joined Division I basketball during the 1980's). A case in point is that there were at least 1425 more players in Division I in 1990 than in 1980. While this growth may deplete the pool of quality freshman players, it clearly provides more opportunities for transfer student-athletes to secure spots on teams at four-year institutions.

Higher revenues have not only increased the number of teams and participants, but they are often accompanied by increasing pressure to succeed athletically. One result of these pressures is a high turnover rate among head coaches. For example, following the 1988-89 season, 19.5 percent of the head coaches in Division I basketball either quit, retired, or were released (1989-90 College Basketball Yearbook). Such attrition requires some teams to depend more on transfers during times of organizational transition.

Lucrative playoff returns also invite institutions to seek immediate solutions to guarantee athletic success; therefore, many coaches elect to utilize more physically mature and experienced two-year college student-athletes to bolster sagging programs. This approach is particularly valued at western rural area institutions where a limited number of quality freshman players live in sparsely populated areas of the West.

TRANSFER STUDENTS AND ACADEMIC PERFORMANCE

The use of transfer student-athletes in salvaging, resurrecting, or maintaining quality sports programs places a heavy burden upon institutions to provide a solid academic footing for these student-athletes. Establishing such an academic foundation for transfers is a formidable task in light of findings which suggest that transfer students as a group are at an academic disadvantage during the transition to their new institutions. Research shows that transfers often feel isolated and do not frequently interact with institutional personnel (Johnson, 1987). In addition, transfers commonly experience a severe drop in grade point

average during their first year on new campuses (Lenning, 1977; Payne, Ridenour, and Wood, 1988; Sheldon, 1982). Additional studies indicate that transfer student attrition rates are double those of native students (Johnson, 1987). And finally, reports show that transfers infrequently utilize institutional support services which are designed to help them (Stumpf and Brown, 1988).

A FORMAL ORIENTATION COURSE FOR TRANSFER STUDENTS

The plight of transfer student-athletes led Oregon State University to develop an extended orientation course specifically designed for the transfer student. Similar orientation courses patterned after the nationally acclaimed University 101 Program at the University of South Carolina have often been cited as effective in addressing the adjustment problems of entering freshmen (Upcraft and Gardner, 1989; Boyer, 1987). Moreover, studies have shown that participation in such courses has a positive effect upon freshman academic performance, retention rates, and involvement with the campus and faculty (Rivers, 1985; Sheldon, 1982; Wilkie and Kuckuck, 1989; Lawson, 1983; Donnangelo, 1985; Jones, 1984). The effects of such extended orientation courses have resulted in an increasing number of campuses utilizing the concept to assist freshmen (El-Khawas, 1984). However, similar courses designed specifically for transfer students are rare, while courses designed for transfer student-athletes are rarer still.

Thus, in an effort to help transfer students with their adjustment to a new campus, Oregon State University offers a two-credit course entitled "Transfer Student Orientation." The course is a 12-week experience and has the added feature of specialized sections to address the needs of selected transfer student populations, including student-athletes. The transfer student-athletes' section is taught by a staff member from the Department of Intercollegiate Athletics. Student participation in this section is voluntary but is recommended by coaches, staff, and campus academic advisors.

Objectives of the transfer student-athlete course include the following:

- (1) Sharpening the academic, social, and cultural survival skills of transfer student-athletes so that they may become more effective and efficient learners.
- (2) Helping transfer student-athletes understand departmental, university, and NCAA policies and procedures.
- (3) Providing transfer student-athletes with an opportunity to interact with faculty, staff, and community members in a more personal and informal manner.
- (4) Increasing transfer student-athletes' appreciation for and involvement with the cultural and co-curricular life of the campus.

- (5) Providing transfer student-athletes with a supportive atmosphere in which to foster greater feelings of community, friendliness, and a positive sense of the campus climate.
- (6) Helping transfer student-athletes to develop more positive attitudes about the learning process.
- (7) Enhancing transfer student-athletes' academic performance.
- (8) Strengthening transfer student-athletes' commitment to the university.

Course content centers upon the following broad themes and topics:

Theme One - University/Community Awareness

Topics: University rules and regulations
 NCAA and Pac-10 Conference rules and regulations
 Campus tours and guest speakers
 Campus academic and athletic department services and resources
 Establishment of a positive attitude toward campus among student-athletes
 Knowledge of the local community's habits and facilities

Theme Two - Personal/Academic Awareness

Topics: Methods and procedures for goal setting and career preparation
 Understanding personal values/motivational techniques
 Internship experiences
 Career awareness activities

Theme Three - Coping Skills

Topics: Knowledge of personal study habits and attitudes
 Study skill development and time management
 Test taking and preparation skills
 Development of communicative skills
 Understanding and relating to university faculty and staff
 Dealing with the media

SUMMARY

Preliminary research on the transfer course concept has shown that participants are more academically and socially integrated into the campus environment and that they experience more academic success than transfer students who do not participate in the course (Rice and Thomas, 1990). The orientation course format is proving to be an effective means for helping the increasingly important but often vulnerable group of transfer student-athletes.

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Assisting Freshman Student-Athletes With Educational Planning and Career Development

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ABSTRACT

In many academic support centers, a primary focus is on helping student-athletes adjust to the collegiate environment and the increased demands of being a student and an athlete. This paper will discuss the primary issues facing student-athletes with the interrelated career development issues, a description of a freshman academic and career exploration class, the results of the Survey of Career Development, and a discussion of intervention strategies and referral agencies.

PRIMARY ISSUES FACING STUDENT-ATHLETES

In the current research, several primary issues have been identified which affect the development of student-athletes in the collegiate setting. The academic issues cited include weak academic preparation and study habits (Gurney and Stuart, 1987; Kennedy and Dimick, 1987; Stuart, 1985), poor attitude toward learning (Sowa and Gressard, 1983), little relevance in education related to athletic careers (Sowa and Gressard, 1983), and academically at-risk students (Gordon, 1986). Several authors included issues related to the multiple demands placed on student-athletes (Gurney and Stuart, 1987); Whitmer, Bostic, Phillips, and Waters, 1981), numerous demands on time (Sowa and Gressard, 1983), and dual roles (Gordon, 1986). Witmer, Bostic, Phillips, and Waters (1981) cited social issues through rigidly controlled social life and regulated social relationships as causing problems of segregation from the total educational structure. Gordon (1986) added that student-athletes have a unique status on campus and lack interpersonal relationships.

While student-athletes may closely identify with their sports (Petipas and Champagne, 1988), they also lack self-confidence (Lanning, 1982) and self-identity (Witmer, Bostic, Phillips, and Waters, 1981) and become very preoccupied with their sports (Blann, 1985). Petipas and Champagne (1988) cautioned that student-athletes are not rewarded for questioning, which causes conflict. Other areas of concern surround the lack of adequate life skills (Petipas and Champagne, 1988); personal development in educational skills, educational and career planning, and career mobility (Kennedy and Dimick, 1987); decision-making skills (Sowa and Gressard, 1983); and long-range goals (Nelson, 1982).

CAREER DEVELOPMENT ISSUES FACING STUDENT-ATHLETES

The specific career development issues which affect student-athletes are reviewed as they provide the background for an academic and career exploration course for freshmen. These issues are somewhat causally interrelated to those general issues previously mentioned. One author stated that athletic participation at a high level of competition detrimentally affects athletes' ability to formulate mature educational and career plans (Blann, 1985), while Chartrand and Lent (1987) believe that commitment to the sport restricts the individual from considering other alternatives concerning career decisions.

Kennedy and Dimick (1987) found male basketball and football players to be lower in career maturity than non-athletes, while Lee (1983) found that student-athletes lack reality in relation to their career plans. Cooker and Caffy (1984) found similar results, noting the unrealistic goal of becoming a wealthy professional athlete while, in reality, less than two percent of college football players become professional players. Stuart (1985) found that student-athletes have a limited vocational outlook, while Nelson (1982) stated that college athletes lack realistic long-range goals. Career exploitation of student-athletes was reported by Lanning (1982) in the areas of sales and marketing. It was assumed student-athletes would be interested in and qualified for this career area while, in reality, the occupational field was in conflict with the individual's personality. Because some student-athletes come to college with inadequate academic preparation and attitude, tremendous time demands and responsibilities, poor self-identity, and a lack of goal setting and decision making skills, they need services to support and insure their success in post-secondary education.

ACADEMIC AND CAREER EXPLORATION: A COURSE FOR FRESHMAN STUDENT-ATHLETES

Several publications recommend that student-athletes participate in career development programs, classes, and career counseling to help them become involved in the career planning process early in their college careers (Blann, 1985; Gordon and Grites, 1984; Nelson, 1982). Several authors recommended that the courses use a developmental approach (Gordon, 1986; Petipas and Champagne, 1988; Walsh, 1985).

As a part of the Freshman Enrichment Program at Penn State University, all freshman student-athletes were enrolled in the Academic and Career Exploration course in spring semester 1988. The course met twice a week throughout the 15-week semester. Six goals for the course were identified: (1) to understand the importance of continual involvement in the academic and career planning process; (2) to increase self-awareness through the identification of skills, values, and interests; (3) to identify and use sources of information while exploring academic and occupational options; (4) to understand the decision making process and apply it to academic and career decisions; (5) to process information into realistic academic and career goals; and (6) to understand how the responsibilities of being a student-athlete relate to the demands and responsibilities of the work place following graduation.

The primary topics covered in the class included the following: (1) self-information (skills, values, and interests); (2) educational planning; (3) academic and occupational information; (4) a decision making model; (5) goal setting; and (6) resume preparation. These topics were covered through lectures, small group discussions, the use of DISCOVER (a computer-assisted guidance system), panel presentations, guest speakers, and homework assignments. Feedback on the course was received through evaluations completed at the end of the semester.

THE SURVEY OF CAREER DEVELOPMENT

The Survey of Career Development (SCD) was designed in 1978 by Dr. Jack Rayman with some assistance from Dr. Donald Super. It was designed specifically for use with the DISCOVER system to assess the career development growth of individuals while evaluating the use of DISCOVER. The SCD is a practical tool which is taken through the paper-and-pencil method and self-scored. Pertinent information can be obtained from the instrument to aid the counselor in designing effective counseling interventions. The self-scoring is completed by tallying the raw scores for each of the five subscales. If a user's raw score subscale total is less than 21, intervention strategies are recommended in that specific topic area.

Several studies using the SCD as an outcome measure found positive results indicating that the SCD helped to identify areas requiring intervention and also distinguished between identity issues and informational deficits (Garis, 1982; Garis and Harris-Bowlesby, 1984; Rayman and Super, 1978; Yonkovig, 1986). Rayman and Super contend that the SCD provides a more thorough understanding of the potential need for intervention since the subscale scores are discriminant in determining the specific area of weakness related to the subject's values, interests and competencies, decision-making skills, occupational information, and career planning.

The areas of interest on the Survey of Career Development are divided into five scales with six questions in each subscale, for a total of 30 statements: (1) Statements About Myself I (Clarification of Values); (2) Statements About

Myself II (Understanding Interests and Competence); (3) Statements About Occupations (Knowledge of Career Information); (4) Statements About Decision Making (Knowledge of Effective Career Decision Making Skills); and (5) Statements About My Career Planning (Understanding How to Achieve Goals). The user responds to each of the items with a number from 1 to 5, with 1 ("I have not yet thought much about this") indicating low development and 5 ("I have already done this") indicating a high level of development. A total score of 105 or less indicates career development deficiencies. A user's score which totals less than 21 in any of the five subgroups indicates a need for intervention and assistance in that specific area.

Administration

The Survey of Career Development was administered to all freshman student-athletes involved in the Freshman Enrichment Program in the academic year 1988-89. It was administered in health education classes at the beginning of the fall semester and again in the Academic and Career Exploration course at the end of the spring semester. The analysis was conducted only on the surveys completed by an individual in both the fall and spring semesters, forming a matched sample of 127 freshman student-athletes. A gender breakdown included 62 females and 65 males.

Results

A *t*-test (*t* (127) = 6.70, *p* < .0001) was conducted to determine if there was a significant difference between the 1988 fall semester and 1989 spring semester responses provided by 127 freshman student-athletes. The comparison indicated significant growth in career development from the fall semester to the spring semester. (See Table 1.) Pre-test and post-test comparisons made between gender groups, low priority and high priority teams, low financial aid and high financial aid, mother's education, father's education, and predicted low and high non-science GPA showed no significant difference in their survey scores. Due to previous research findings (Blann, 1985; Chartrand and Lent, 1987; Kennedy and Dimick, 1987; Lee, 1983; Stuart, 1985), significant differences were expected between gender groups, low and high priority teams, and low financial aid and high financial aid teams.

Table 1

Means and Standard Deviations of the Survey of Career Development
Raw Test Scores of Sport Independent Variables

Variables	Mean	SD
Gender		
Male (n=65)	2.346	.595
Female (n=62)	2.213	.508
Priority		
Low (n=91)	2.275	.505
High (n=36)	2.285	.671

Table 1 Concluded

Variables	Mean	SD
Financial Aid		
Low (n=70)	2.332	.571
High (n=57)	2.212	.531
Father's Education		
High School or Lower (n=30)	2.327	.576
College or Higher (n=97)	2.119	.448
Mother's Education		
High School or Lower (n=45)	2.124	.446
College or Higher (n=82)	2.363	.591
Predicted Non-Science GPA		
Lower than 2.5 (n=77)	2.316	.533
Higher than 2.5 (n=50)	2.221	.586

Comparisons were then made using the five survey subgroups, individual survey items, and total scores to determine the amount of growth from fall semester to spring semester. The scores for each subgroup are found in Table 2. Significant differences were found in these three comparisons. Subgroup scores of 21 or lower indicate a need for intervention and assistance in that specific area.

Table 2

Pre- and Post-Test Mean Scores for Each Question and the Total Score
of the Five Subscales of the Survey of Career Development

Subscale	Question	Pre-	Post-
1: About Myself I	01	4.504	4.496
	02	4.276	4.205
	03	4.173	4.118
	04	3.260	3.787
	05	3.756	3.906
	06	3.740	3.913
	GR1	23.709	24.425
2: About Myself II	07	4.134	4.102
	08	3.748	3.874
	09	3.197	3.638
	10	3.165	3.583
	11	3.268	3.591
	12	4.244	4.205
	GR2	21.756	22.993*

Table 2 Concluded

Subscale	Question	Pre-	Post-
3: About Occupations	13	2.906	3.457
	14	2.677	3.449
	15	2.984	3.535
	16	2.992	3.402
	17	2.449	2.937
	18	2.575	3.268
	GR3	16.583	20.048**
4: About Decision Making	19	3.835	4.110
	20	3.717	4.165
	21	3.480	4.024
	22	3.402	3.929
	23	3.079	3.724
	24	3.535	3.827
	GR4	21.048	23.779**
5: About Career Planning	25	3.087	3.551
	26	3.205	3.543
	27	2.953	3.449
	28	2.866	3.441
	29	2.709	3.150
	30	2.173	2.858
	GR5	16.993	19.992**

* $p > .05$ ** $p < .001$

For freshmen taking the Survey of Career Development, higher scores would be expected in subgroup 1 (Statements About Myself--Clarification of Values); in subgroup 2 (Statements About Myself--Understanding Interests and Competence); and perhaps in subgroup 3 (Statements About Occupations). The two remaining subgroups, 4 (Statements About Decision Making) and 5 (Statements About Your Career Planning), would be expected to be slightly lower.

In comparing the pre-test results to the post-test results by matched t -tests, it was found that freshman student-athletes experienced significant growth in subgroup 2 (Statements About Myself--Understanding Interests and Competence) ($t(127) = 3.00$, $p < .01$); in subgroup 3 (Statements About Occupations) ($t(127) = 7.01$, $p < .001$); in subgroup 4 (Statements About Decision Making) ($t(127) = 4.88$, $p < .001$); and in subgroup 5 (Statements About Career Planning) ($t(127) = 6.54$, $p < .001$). Significant growth was not found in subgroup 1 (Statements About Myself--Clarification of Values) ($t(127) = 1.56$, $p > .05$).

Results reported in Table 2 show intervention strategies are necessary in topics covered in subgroup 3 (Statements About Occupations) ($M_1 = 16.583$, $M_2 = 20.048$) and in subgroup 5 (Statements About Career Planning) ($M_1 = 16.993$, $M_2 = 19.992$). These results are not surprising when a freshman student population is surveyed. It is interesting to note their growth and confidence in decision making, as indicated in subgroup 4 (Statements About Decision Making) ($M_1 = 21.048$, $M_2 = 23.779$). The results in subgroup 1 (Clarification of Values) ($M_1 = 23.709$, $M_2 = 24.425$) and subgroup 2 (Understanding Interests and Competence) ($M_1 = 21.756$, $M_2 = 22.993$) are both acceptable and expected with this student population.

It was found that the responses in 22 of the 30 statements showed higher scores from pre-test to post-test, while the other eight statements were not different. These eight statements are found in the first two scales. Five of these statements deal with the identification of work values, while the other three deal with interests, abilities, and activities.

The final significant comparison ($t(127) = 6.34$, $p < .001$) was found between the pre-test total scores and the post-test total scores. A score of 105 or lower shows that assistance or intervention is necessary. The total mean score for the pre-test was 100.09, while the total mean score for the post-test was 111.24. The growth experienced throughout the freshman year increased the mean average to an acceptable level for all freshman student-athletes.

Discussion

The primary factor that needs to be considered is the motivation level of the individual. The survey scores indicate the student-athlete's current areas of need, while the motivation to resolve or make decisions needs to be discussed. The counselors in the Academic Support Center for Student-Athletes were provided with individual profiles which contained demographic information, pre-admission academic information, and the results of the Survey of Career Development. This feedback informed the academic counselors about freshman student-athletes in need of additional attention in a specific career development area. The next counseling appointment might then focus on the low-scoring survey subgroup and on ways to help the individual.

Areas of assistance include counseling, advising, information gathering, decision making, and goal setting. Resources across the campus and community include college advising centers, the career development and placement center, libraries, faculty, working professionals, and alumni.

Intervention

Specific intervention strategies include using SIGI-PLUS, with its modules to aid in self-assessment (skills, interests, and values), gathering occupational information, developing job search strategies, reviewing the decision making process, and identifying short- and long-term goals. Counseling can be easily facilitated through the use of SIGI-PLUS or another computer-assisted guidance system.

Following the initial career development assessment, the academic counselors can make referrals to counseling groups, programs, or other campus services. They can also help student-athletes develop their academic and career planning throughout their college careers. This approach helps student-athletes understand that such planning is a lifelong process which needs continual attention and evaluation.

IMPLICATIONS

This research found significant growth in career development from the fall semester to the spring semester for freshman student-athletes enrolled in an academic and career development course. Specific areas of growth were found in the areas of self-information and decision making. The Survey of Career Development can be used as a practical assessment tool for academic counselors assisting student-athletes with academic and career planning.

Interesting information was gathered in this initial research concerning the career development of freshman student-athletes at Penn State. It would be worthwhile to conduct longitudinal research with this group of student-athletes and to compare their survey results to those of non-athletes.

The issue of student-athletes' lack of involvement and motivation in career planning and development presents developmental concerns to academic counselors. It is important that counselors develop an understanding of these issues and assist student-athletes in realizing the importance of continual processing of information, decision making, and identification of goals. The education gained through academics, athletics, and personal development on the collegiate level provides tremendous preparation for student-athletes to continue to achieve their identified goals throughout their lifetimes.

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A Model of Career Development for Student-Athletes

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ABSTRACT

This article outlines a comprehensive career development model for student-athletes that is currently being utilized at a major research university in the Midwest. The model consists of six components: (1) Introduction and Orientation; (2) Self-Assessment; (3) Decision Making; (4) Educational, Occupational, and Community Information; (5) Preparation for Work, Leisure, and Retirement; and (6) Research and Evaluation. Implications for personal, academic, and career counseling professionals and educational institutions are also discussed.

CAREER DEVELOPMENT FOR STUDENT-ATHLETES

Student-athletes are receiving greater attention as issues and concerns related to their personal, academic, and career development become more prominent. Our society is challenging educational institutions at all levels to become more accountable to the academic interests of athletes. Some institutions have begun to design programs that attempt to address the special needs of this population. At Purdue University, the athletic department is beginning to explore comprehensive career development programming as a mechanism for facilitating the success of student-athletes.

STRATEGIES: A Model of Career Development for Student-Athletes (Coleman and Barker, 1990) was designed to meet the personal, academic, and career concerns of student-athletes at Purdue University.

REVIEW OF THE LITERATURE

Literature on the personal and career development of student-athletes does exist. Chartrand and Leng (1987) discussed the growing concern among academic administrators and student affairs professionals for the academic and personal development of student-athletes. Sparent (1985) indicated the need for developing an understanding of the links between the students' academic world and their athletic work. That academic counselors are assuming greater responsibility in the career development of student-athletes was discussed by Maud and Fletcher (1986).

Phelps (1982) discussed the growing criticism of procedures that result in student-athletes being dumped into society with no marketable skills and recommended extensive vocational counseling.

Research by Kennedy and Dimick (1987) suggested that student-athletes have lower career maturity than the general student population. Petitpas and Champagne (1988) also state this may be because the students' sports provide them with strong enough identities that they may not engage in the exploratory behavior necessary for career and personal development.

However, as long ago as 1976, McFarland found that student-athletes showed significant academic improvement after a career counseling program. Nelson (1982) had similar results.

There is not much literature on programs that help student-athletes with their academic and career concerns. A guide was developed by Schwartz (1988) to help student-athletes relate their skills to the world of work, and Petitpas and Schwartz (1990) have designed a model to help student-athletes identify their transferable skills.

Gurney, Robinson, and Fygetakis (1983) conducted a survey of National Collegiate Athletic Association (NCAA) Division I schools and found that staffing and academic support services for student-athletes, when they existed, often used untrained staff and inadequate programs.

While the literature reflects a growing awareness of the uniqueness of career programs for student-athletes, it is also clear that much remains to be developed and researched. With the reforms and changes in policy established by the NCAA at its 1991 annual meeting, more comprehensive programs for student-athletes are imperative.

BARRIERS TO THE CAREER DEVELOPMENT OF STUDENT-ATHLETES

Student-athletes often encounter barriers to their career development. Barriers may include low self-esteem, inappropriate decision making skills, and lack of information. Coleman (1989) has identified several barriers and categorized them as internal or external. Internal barriers are related to the self,

while external barriers tend to focus on the environment. Some internal and external barriers are highlighted below.

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| Internal barriers: | Low self-esteem
Lack of confidence
Fear of failure and/or success
Level of career maturity
Inappropriate decision making skills
Lack of marketable skills
Lack of previous work experience
Lack of information |
| External barriers: | Few role models
Lack of mentors
Stereotypes
Racism and discrimination
Family expectations
Societal expectations
Socioeconomic status
Inadequate educational preparation
Lack of career/vocational guidance
Ethnic background of counselor
Conceptualization of work ethic
Peer pressure to adapt to a particular norm |

It is important for counselors and other professionals who work with student-athletes to determine to what extent these barriers are adversely impacting on the career development of student-athletes. By making appropriate interventions, professionals will be better able to facilitate the career development of student-athletes.

STRATEGIES

STRATEGIES: A Model of Career Development for Student-Athletes (Coleman and Barker, 1990) was initially implemented with the men's basketball team at Purdue University. Methodologies and techniques utilized for implementation include individual and group counseling, workshops and seminars, and frequent consultation with the coaching staff. Long-term goals are to implement the career development program for each of the sixteen varsity sports at Purdue.

The model program at Purdue includes six components: (1) Introduction/Orientation; (2) Self-Assessment; (3) Decision Making; (4) Educational, Occupational, and Community Information; (5) Preparation for Work, Leisure, and Retirement; and (6) Research and Evaluation. Each component is discussed in detail below.

Introduction and Orientation

The purpose of this component is to introduce the concept and process of career development and to provide a working definition. Career development is defined as an ongoing, lifelong process, beginning at birth and continuing throughout life. It focuses on the acquisition of information and skills about self and the world of work. Career development is different from the traditional definition of career education/vocational guidance in that the goal of career development is to facilitate the self-actualization of the individual, rather than to respond directly to labor market demands. Career development is an integral component of academic, athletic, and personal endeavors.

Self-Assessment

In this component, the foundation of the career development process, one carefully examines four personal variables (values, interests, abilities, and personality) as they relate to career development. Values are significant in that when one chooses a career, one is choosing a value system and a lifestyle. Not only are vocational interests explored, but also avocational interests, i.e., what does one like to do for fun? Abilities, achievements, and accomplishments are important, along with the type of personality.

Academic assessment with respect to intelligence, learning styles, academic deficiencies, and cultural influences is determined in relationship to the aforementioned personal factors. From the academic and personal information, an individual learning plan is designed and correlated with athletic performance.

All of this information should assist an individual in responding appropriately to the question, "Who am I?" Coleman (1989) believes that self-assessment is the most critical element in the career development process.

Decision Making

Decision making is also a critical component and is a skill that can be learned. Principles, strategies, and styles are explored, with particular emphasis being placed on the student-athlete's strategies and styles. The authors do not suggest that one strategy or style is better than another, but that any given strategy or style may afford one the opportunity to make positive, satisfying, and appropriate decisions. For example, individuals may utilize one strategy for career decisions, another strategy for decisions related to the family, and yet a third for decisions involving their athletic performance.

Educational, Occupational, and Community Information

Educational, occupational, and community information relates to the identification of occupational and professional opportunities for the 1990's and the 21st century and includes the educational requirements to pursue those opportunities. Resources such as educational institutions, business and industry,

fraternal and athletic organizations, alumni, and community agencies are highlighted for their contributions to the career development process.

Preparation for Work, Leisure, and Retirement

This component focuses on the nuts and bolts of the job search, such as resume preparation, interviewing, and job maintenance skills. As leisure becomes more prominent in one's life, a discussion of the importance of recreational activities is included. With an increased life span and with retirement assuming a different role in one's life, it is apparent that one can also prepare for that life stage. Student-athletes must understand that their athletic skills and talents are transferable to other career and recreational opportunities.

Research and Evaluation

Research and evaluation are essential components of the career development model for student-athletes. The authors examine the self-esteem, vocational maturity, and decision making skills of student-athletes, utilizing a pre-/post-test methodology (i.e., pre-season versus post-season). The Tennessee Self-Concept Scale (Roid and Fitts, 1988) is used to measure self-esteem; the Attitude Scale of the Career Maturity Inventory (Crites, 1973) measures vocational maturity; the Problem Solving Inventory (Heppner, 1988) examines the student-athletes' decision making skills.

DISCUSSION

There are significant implications for personal, academic, and career counselors who want to affect the success of student-athletes. Implications related to counseling, training, research, program development, and policy are discussed below.

Counseling

It is apparent that student-athletes require personal, academic, and career counseling in order to facilitate their success in higher education and in the work force following their graduation from college or the conclusion of their academic careers. Colleges and universities must take the initiative and responsibility for establishing and implementing programs that provide the necessary support systems for this special population.

Training

The authors strongly recommend that individuals who plan to provide services for student-athletes receive specialized training in order to work with this population. Since student-athletes have special issues, needs, and concerns, traditional training in counseling and related areas may not be sufficient. Of particular interest is training in multicultural relations and cross-cultural

communication, since an increasing number of student-athletes come from diverse, multicultural backgrounds. Counselor-educators should consider the expansion of curricula to include the study and examination of special populations, especially the student-athletes.

Research

Opportunities for research are abundant, and there is considerable need for research related to student-athletes. While literature does exist, there is a dearth of research related to the concerns of student-athletes and their success in elementary, secondary, and post-secondary education. New paradigms and models must be created and designed in order to facilitate and incorporate a better understanding of student-athletes. Developmental problems, the effects of academic and psychological support services, and the intensity of cross-cultural training are but a few of the topics requiring further investigation.

Program Development

The literature indicates that programs related to the issues, needs, and concerns of student-athletes can have a significant impact on their personal, academic, and career development. However, there is still a tremendous void in this area; counseling and development professionals should critically examine their roles in designing personal, academic, and career counseling programs for student-athletes.

Policy

As the NCAA, colleges, and universities across the nation become more involved in establishing legislation, policy, and guidelines for student-athletes, professionals who work with this population must take an active role in advocating specific policies for this special group. Counseling and development personnel possess the knowledge, skills, and talents to influence the policies that will affect student-athletes.

Academia and athletics are facing new challenges for the 1990's and the 21st century as the public is demanding more accountability from educational institutions. Consequently, there is a growing institutional response to the special needs of student-athletes and an acceptance of the concept that solely addressing academics is inappropriate. Holistic approaches and comprehensive models like STRATEGIES allow student-athletes to build on those skills that have contributed to present successes while addressing those areas that are problematic. Accordingly, the task of improving the quality of personal, academic, and career services for student-athletes is an institutional responsibility.

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