# MINORITY STUDENT ACADEMIC COMPARISONS BETWEEN THOSE WITH AND THOSE WITHOUT HIGH SCHOOL NEWSPAPER

### OR YEARBOOK EXPERIENCE

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A research paper submitted for presentation at the Mid-winter Meeting of the Association for Education in Journalism and Mass Communication, Scholastic Journalism Division, St. Petersburg, FL Jan. 10, 2009

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#### ABSTRACT:

In order to better understand the worth of high school publications experiences, this study examines minority high school journalism students as compared with non-journalism minority students. By using data gathered in ACT pre-college standardized tests as well as results of collegiate performance, the authors found that journalism students outperformed non-journalism students in 12 of 15 major academic comparisons. For this study, 5,369 minority students were studied from a national database. Of those, 993 (18.5%) had served on the staff of a high school newspaper or yearbook.

### MINORITY STUDENT ACADEMIC COMPARISONS BETWEEN THOSE WITH AND THOSE WITHOUT HIGH SCHOOL NEWSPAPER OR YEARBOOK EXPERIENCE

Data collected from ACT records nearly 25 years ago in many ways pointed to strong positive correlations among several comparisons of academic achievement between students who had experience on high school newspapers or yearbooks and those who did not have a journalistic experience. This study examines new ACT data in order to replicate some of the comparisons done in the 1980s and to explore, specifically, differences between minority students who have had high school newspaper or yearbook staff experience and those minority students who did not have those experiences.

This current study, funded by the Newspaper Association of America Foundation, in many ways had its impetus in 1983, when a Journalism Education Association (JEA) commission was formed to study the role of journalism in secondary education. Its final report, *High School Journalism Confronts Critical Deadline*, was issued in 1987. In large measure, the Commission was formed by Dorothy McPhillips, JEA president in 1983, in order to establish journalism as a legitimate academic area following the release of then-President Ronald Reagan's report on educational reform called *A Nation at Risk: The Imperative for Educational Reform*.

That report, written by the President's Commission on Excellence in Education, found that half of the newly employed high school English teachers were not qualified to teach those subjects. It recommended: "The teaching of English in high school should equip graduates to (a) comprehend, interpret, evaluate, and use what they read; (b) write well-organized, effective papers; (c) listen effectively and discuss ideas intelligently." Also, in the social studies area, the Commission wrote that the teaching of such subjects should be designed so that students "understand the fundamentals of how our economic system works and how our political system functions; and grasp the difference between free and repressive societies." Further, the group recommended that the "teaching of computer science in high school should equip graduates to (a) understand the computer as an information, computation, and communication device; (b) use the computer in the study of other basics and for personal and work-related purposes." (*A Nation at Risk*, 1983, p. 22)

The JEA Commission, feeling that the Presidential Commission might tend to diminish rather than expand the role of journalistic courses and activities within schools, set out to examine journalism's worth within the high school curriculum – especially in light of the "back to basics" movement that was such a strong component of the educational reform movement that permeated the United States at that time.

Indeed, much like the atmosphere created in the 21<sup>st</sup> Century by the federal No Child Left Behind Act of 2002, the JEA Commission of the mid-1980s reflected many journalism educators' concerns that news media activities in secondary schools might be relegated to second-class citizenship, if not dispensed with altogether. And it was, and is, these educators' contentions that journalism is in itself one of the basic subject matters of high schools. Various state departments of education and legislative bodies, in and around the time of the 1983 *A Nation at Risk* report, were also in the midst of involvement with the educational reform movement, which laid heavy emphasis on standardized testing and back-to-basics. (*Critical Deadline*, 1987).

In looking at journalism activities within the context of the educational reform movement, the JEA Commission made some assumptions that were used for its mid-1980s study and that seem valid today as a new study is being done:

\* "Publications experience, often accompanied by a credit course in journalism, fulfills several elements considered crucial in the language arts program – in many cases more completely, more richly and more understandably for students than many traditional English composition courses and other English writing courses.

\* "Publications experience offers relevance, built-in objectives, a transactional experience, application of various liberal arts theories learned in other disciplines and opportunities for high level decision-making. It brings to life the need for the study of English grammar, usage, spelling, style and syntax.

\* "Publications experience, rather than a co-curricular activity sometimes regarded as a costly frill by administrators, should be viewed as one of the truly important school activities in the preparation of students for college. Within the same framework, publications experience should be considered as an integral and important component of the language arts programs of schools – contrary to connotations by some national and state excellence in education commissions that such activity is not part of the 'back to basics' movement often advocated in their reports." (*Critical Deadline*, 1987) In the JEA Commission's study of more than 20 years ago and in an updated 2008 study, high school journalism students were found to do better in many different areas of academic comparison. We theorize that minority students with high school journalism backgrounds will outperform their non-journalism counterparts in several of the same academic measures as the overall population studied earlier (Dvorak and Choi, 2008).

#### **Review of Literature**

Past research provides a picture of high school journalism that portrays strong correlations between publications students and excellence in both high school and college grades, ACT scores and collegiate performance in the classroom. In some other studies, positive causal relationships were found between groups of students who were subjected to journalistic treatments compared with those in control groups.

A strong positive relationship exists among students who worked on their high school newspapers or yearbooks and the 17 major areas of academic comparison examined in a similar study of a general population of high school students who took the ACT pre-college test as high schoolers. Nine of the areas involved high school and collegiate grades while eight of the areas involved scores on standardized tests taken either in high school or college. The journalism students had statistically significant higher scores in 14 of the 17 comparisons. They also scored higher in one of the standardized test areas – CAAP Critical Thinking – but not significantly so statistically. In only two areas of comparison – ACT Mathematics and ACT Science assessments – did the students with high school publications experience score statistically significantly lower than non-publications students (Dvorak and Choi, 2008).

Blinn (1982) has shown comparisons of advanced placement and senior honors composition classes with journalism students of similar ability. In the study involving senior high school students in 12 Ohio schools, data analysis showed that journalism writers made fewer errors in most of the writing skill criteria than did non-journalism students, and they scored significantly higher than non-journalism students in all four criteria selected as measures of information presentation and selection judgment: information omission, opening sentence, editorializing and errors in fact. Also, Blinn found journalism students made significantly fewer errors in word context, spelling, redundancy, punctuation and agreement.

A 1988 study of college freshmen divided them into four groups, according to American College Testing (ACT) English Assessment scores in order to equalize abilities in language arts competencies. Those with high school newspaper or yearbook experience had higher writing scores than did non-publications students in 13 of 16 test comparisons. All essays were graded by English professors under the guidance of ACT personnel (Dvorak, 1988).

In a separate part of the above study, attitudes about general high school language arts experiences were gathered from first-semester college freshmen who had taken journalism as part of their language arts program. They rated journalism as No. 1 in 16 of 29 general language arts competencies; they selected journalism courses as having fulfilled the general language arts competencies better than either standard (required) English or other English elective courses; they selected journalism courses as better fulfilling the following competencies than did either required English or other elective English courses: writing, editing, gathering/use of sources, and affective domain (Dvorak, 1990).

Olson (1992) examined the effect news writing instruction in college freshman English composition had on students' anxiety toward writing and six sub-hypotheses. While he found no statistical differences between the groups of journalism and nonjournalism students in composition classes at a private Oklahoma college, he discovered that the journalism group showed greater decrease in anxiety, more improvement in their scores on a standardized English test and more improvement in their scores on the writing exercise.

A study of more than 200 collegians at several universities and colleges examined perceived influences of English composition as preparation for the first news writing course for prospective journalism majors (Olson & Dickson, 1995). Generally, the students did not feel that English composition was especially useful as preparation for their journalism classes, other courses or the world of work. Specifically, students were asked to rate 11 skill areas in which they compared their English composition with their journalistic writing classes.

Nine of 11 skill areas were statistically significant in favor of journalism classes: writing concisely, writing precisely, using correct spelling, using correct grammar, writing clearly, writing meaningfully to an audience, writing in an organized manner, writing with detail, and writing interestingly. In two of the 11 skill areas, differences were statistically different in favor of English composition classes: writing creatively and using your opinions (Olson & Dickson, 1995).

In another later study, Dvorak (1998) examined high school student performance on Advanced Placement (AP) English Language and Composition Examinations from 1989 through 1997. Specifically, it analyzed students who had taken an intensive journalistic writing course as preparation for the AP examination and compares their performance with those who have prepared for the same test by taking AP English composition or some other advanced high school English course. For seven consecutive years, 1991 to 1997, the journalism students passed at a rate higher than that of the AP English Composition students. During the first two years students took tests as part of the program (1989 and 1990), the global pass rate was higher than the journalism pass rate. In only 1989, the first year of the experimental program, was the global pass rate significantly higher than the journalism pass rate.

In a Florida public school district, 17 teachers were trained in Newspaper in Education methods, and their junior high and senior high school students received newspapers from a local daily three times a week for a total of 55 days (Palmer, Fletcher & Shapley, 1994). Standardized tests in vocabulary and reading by Science Research Associates (SRA) were scored by SRA.

The Florida experiment compared three groups from pretest to posttest:

Newspapers used as part of the instruction in language arts; newspapers available for students but with no formal instruction; and control groups in which no newspapers were delivered. Both middle- and senior-high students using newspapers improved more on all measures of reading and writing than did students taught with traditional materials (Palmer, Fletcher, & Shapley, 1994).

In another experiment, a program to help at-risk Native Alaskan high school students focused on training high school language arts teachers to teach journalism while also using newspaper production as a component in traditional English classes. Those students in the journalism experimental group showed significant gains over the control group in standardized vocabulary tests and in the writing components that were independently graded by language arts specialists (Morgan & Dvorak, 1994).

The worth of young people's experiences with newspapers is also seen in a recent study by the Newspaper Association of America Foundation. Telephone interviews were conducted with 1,506 young adults to find out about their volunteer activities and their involvement in politics and public affairs. The study sought to determine whether these young adults' use of newspapers in the classroom or at home might have affected their civic commitment. According to the study's results, "The findings are clear: Programs that encourage newspaper reading by teens also facilitate civic engagement 10 to 15 years later when the young people have moved beyond high school and/or college and are taking their place in their communities. The impact of newspapers on future civic engagement is more pronounced if the respondents had two or more of the newspaperrelated experiences as teens." (NAAF, 2007) Similar tendencies toward civic participation, leadership and community involvement were observed in earlier studies comparing students with high school journalism experience and those without that experience. (*Critical Deadline*, 1987)

In their 2004 and 2006 studies of more than 100,000 high school students, Dautrich and Yalof found that those who had participated in any school news media (including newspaper, magazine, radio, TV and Internet) were significantly more likely to be extremely or very interested in following news and current events than non-news media students. Further, the authors also found that "student participation in extracurricular school media activities is also valuable in engendering positive orientations toward free expression rights. This is particularly true of student contributions to the school newspaper." (Dautrich & Yalof, 2007)

Despite the relative wealth of research regarding relationships between journalism and non-journalism students in the general high school population, little is known about minority students' academic performance when making the same comparisons.

Minority achievement in high school and its impact on students' futures is a topic that has been discussed and researched by those in a variety of disciplines: anthropology, psychology, sociology and educational pedagogy. Some have studied the difference school funding makes, others the family and home environment, still others the oppositional culture theory concerning peer group ridicule and a fear of being accused of "acting white" (Fordham and Ogbu 201). Researchers have also studied what might counteract these forces that can cause low achievement. Now, with African Americans, Hispanics and American Indians accounting for more than one-third of the children in K- 12 classrooms, concern about the achievement gap is growing (Johnston and Viadero 2). For the purposes of this paper, the researchers looked first at research directly related to minority students in high school journalism, then at the most often-cited theory related to education and race, and finally at what research is beginning to show can help close that achievement gap. Most of the research, however, has been about African Americans with only minimal studies dealing with Hispanic, Asian American or other minorities.

The most direct look at minority participation in student media comes in Christopher Callahan's 1998 study in the Newspaper Research Journal, "Race and participation in high school journalism." Callahan explores racial makeup in high school newspaper staffs in light of the challenges commercial media are having to diversify their newsrooms. Callahan limited his study to Maryland high schools, noting the state "roughly reflects the racial breakdown of the nation" with its 1998 minority population just under 30 percent (Callahan 48). He found 85.6 percent of the 160 high schools that were not special-needs or vocational had student newspapers, but 91.7 percent of the white plurality schools published papers while only 67.5 percent of the black plurality schools did (Callahan 50).

Callahan also noted a higher percentage of whites in leadership positions on those newspaper staffs than minorities. When he asked advisers to note the race of their top six editors according to the most recent edition's masthead, with the 97 respondents he found a white population mean of 69.7 percent with white students holding 80 percent of the top positions, and a black population mean of 22.3 percent but holding only 14.2 percent of the top newspaper positions (Callahan 51).

While no one, including Callahan, has looked at the impact of student media on individual minority students, studies about minority student achievement in general have been plentiful since the 1966 Coleman Report, the first real assessment of educational equality in the United States. Named for principal author James S. Coleman, this more than 700-page report, officially titled "Equality of Educational Opportunity," came about after the Civil Rights Act of 1964 and showed not only were U.S. schools highly segregated, but also students did better in integrated classrooms. This set the stage for research about minority students, their schools and ways to improve their education.

With research spanning four decades, John U. Ogbu, a professor of anthropology at University of California at Berkeley, was instrumental in formulating often-cited approaches to minority achievement. Ogbu asks the important question in a 1987 essay, "Variability in Minority School Performance: A Problem in Search of an Explanation,": "Why do some minorities successfully cross cultural boundaries and/or opportunity barriers and do well in school? Why do some other minorities not succeed...?" (Ogbu 317) He notes lowered expectations from teachers and psychological and social pressures against "acting white" as two important issues (Ogbu 330). This "oppositional culture theory," described in an article he wrote with anthropologist Signithia Fordham in 1986, is designed to explain low minority achievement is a reaction to peer criticism. From a study of eight students in a Washington, D.C., high school, they maintain students don't want their friends to refer to them as "acting white," and applying themselves academically would be one way to do that (Fordham and Ogbu). John B. Diamond, assistant professor and principal contributor to the Harvard Achievement Gap Initiative, disagrees with Ogbu. He says Ogbu's study "spawned a small research industry" in an effort to pinpoint the extent to which African American peer groups devalue educational achievement and ridicule their peers for "acting white" (Diamond 3). Diamond argues there is little support for Ogbu's theory and that, in fact, research shows Black students and families appreciate and value education. He indicates studies by Ron Ferguson at Harvard show "African American students are more likely than whites to report that their friends think it is 'very important' to 'study hard and get good grades"" (Diamond 9).

Educational researcher Theresa Perry also suggests moving beyond previous theories. After examining several approaches to explaining failure, she asks, "...what elements from these models can be used to move us, not toward another model for explaining school failure, but toward a theory for African American school achievement?" (Perry 31). She notes that these students need to have someone "affirm and validate them as intellectual beings and provide a reason for intellectual endeavor," not simply prepare them for the future jobs. "What happens when the child has no institutional experience that consistently provides an answer to that question, 'Literacy for what?"" (Perry 35) Thus Perry also takes a step towards describing what would help minority students succeed.

In "Blueprint for Action," another author includes three more factors to help minority students: high but realistic expectations, self-esteem building, and cooperative learning (Reglin 3). His strategies to set those expectations include: "(1) the use of activity-oriented learning with real problems, (2) the development of higher-level thinking skills to deal with problems and conditions in their lives; (3) acceptance of the students as they are, giving them the necessary experiences to help them become autonomous; and (4) elimination of the debilitating system of competition in the classroom and replacement of the system with one that is essentially cooperative in nature" (Reglin 3). The authors surmise that high school newspaper or yearbook staff experiences fulfill these four expectations.

Reglin's explanation also indicates that building self-esteem is a plus. "When African American male students feel better about themselves, they do better in school" (Reglin 4). They also succeed in school when they participate in cooperative learning. "Cooperative learning is helpful in learning academic content, developing cognitive skills, developing social skills, and enhancing character education" (Reglin 5). However, he cites Scott Willis' research, which shows, in 1992 only about 10 percent of all teachers are using cooperative learning.

Once researchers went beyond theories to explain the minority "failure" and began focusing on minority success, they also analyzed elements that contributed to that success. The classroom environment and activities they describe are apparent in journalism courses and in student media production. Perry suggests schools must value minority students as intellectuals and show them the purpose of education beyond simply training for the job market, evident when they learn about civic engagement, the use of their voices in a democracy and any number of values journalism imparts. Reglin, too, describes a typical student newspaper or yearbook environment when he indicates African American males succeed when they have activities that solve "real problems" through teamwork, not competition. In doing so, they also feel better about themselves. Thus, strategies that seem to help minority students achieve are the very strategies intrinsic in journalism classrooms and student media productions.

Based on these various previous studies, the following research questions evolve:

**RQ1**: Are there significant first-year college cumulative grade point average differences between those minority students who had high school newspaper or yearbook staff experiences and those minority students who had no publications experience?

**RQ2**: Are there significant first-year college English course grade differences between those minorities who had high school newspaper or yearbook staff experience and those who had no publications experience?

**RQ3**: Are there significant ACT composite score differences between those minorities who had high school newspaper or yearbook staff experiences and those who had no publications experience?

**RQ4**: Are there significant ACT Assessment individual score differences between those minority students who had high school newspaper or yearbook staff experiences and those who had no publications experience?

**RQ5**: Are there significant high school grade differences between those minority students who had newspaper or yearbook staff experiences and those who had no publications experience?

**RQ6**: Are there significant achievement differences among sophomore college minority students who had newspaper or yearbook staff experience while in high school

and those who had no journalism experience as measured by Collegiate Assessment of Academic Proficiency (CAAP) data? The CAAP test used in the comparison is the Writing Composite score. Because of the small number of minority students who took the CAAP tests as sophomores in college, the Writing Composite score (n=242) was the only one used in this study.

**RQ7**. What types of relationships are there between minority students with journalistic publications experience in high school and those without journalism in other areas for which ACT has provided data: interest inventory and out-of-class accomplishments?

#### Method

In fall 2007 the researchers worked with ACT personnel in Iowa City, Iowa, who randomly selected 30,223 students from a larger file of students for whom data had been collected during the past five years. This larger file is called the College Outcomes Database. No names, Social Security numbers or other personal identifiers were included. The database was approved for use by the researchers' university's Human Subjects Committee before any analyses were performed for this paper. The database did not include home cities, towns or states; however, the researchers were able to determine that the students involved are now attending, or have attended, colleges and universities in all 50 states, Washington, D.C., Canada and some other foreign countries. Six states accounted for nearly 60 percent of the total: They are Iowa, Louisiana, Minnesota, Oklahoma, Utah and Wisconsin. For this study, 5,369 minority students were studied. Of those, 993 (18.5%) had served on the staff of a high school newspaper or yearbook.

Minority students for purposes of this study, and using categories assigned by ACT, include: African American/Black (non-Hispanic); American Indian, Alaska Native; Mexican American/Chicano; Asian American, Pacific Islander; Puerto Rican, Cuban, Other Hispanic Origin; and Multiracial.

Various analyses were done using, especially, independent variable #143 from the ACT Student Profile Section that was completed when the student took the ACT Assessment as a high school junior or senior. In cases where the student took the test more than once, the latest score was used. Item #143 was listed in the "Out of Class Accomplishments" section, and students had to respond "yes, applies to me" or "no, does not apply to me" on the following question: "Worked on the staff of a school paper or yearbook."

Main academic variables examined were freshman college grade point average, first college English course (often English Composition), ACT Composite score, ACT English score, ACT Mathematics score, ACT Reading score, and ACT Science score. Further, the researchers looked at final high school grade point average, and grades in the latest high school courses taken in English, mathematics, social science, science, foreign language, and art.

The researchers also examined a subset (n=242) of the main database of students who had also taken the CAAP tests while sophomores in college and compared their writing essay scores using Item #143 from the ACT Student Profile Section as the

independent variable. This allowed them to compare those students' college standardized scores while seeing whether or not the students had experience with a high school newspaper or yearbook.

Aside from academic performance, the researchers also used Item #143 as the independent variable as they examined other demographic and out-of-class accomplishments data that were on the ACT Assessment.

By way of further background, the ACT exam is universally accepted for college admission and is administered annually to more than one million high school students. In 2007, 1.3 million students took the exam, which is administered in all 50 states and the District of Columbia. In 25 states more than 50 percent of high school graduates take the ACT. By contrast, in 23 other states more than 50 percent of high school graduates take another college entrance exam, and this is most commonly the Scholastic Aptitude Test (SAT). (ACT News, 2008)

"The ACT Assessment is more than a test and is curriculum-based. It is not an aptitude or an IQ test. Instead, the questions on the ACT are directly related to what students have learned in high school courses in English, mathematics and science. Reading skills are tested as well. Also, the test provides test-takers with a unique interest inventory that provides valuable information for career and educational planning and a student profile section that provides a comprehensive profile of a student's work in high school and her or his plans for college and beyond." (ACT News, 2008)

Without the new ACT Writing test, which was not available for this analysis, the ACT exams take just over four hours to complete, including instructions and breaks.

Actual testing time is 2 hours and 55 minutes, broken down as follows: English: 45 minutes; math, 60 minutes; reading, 35 minutes; and science, 35 minutes. (ACT News, 2008)

The CAAP tests are used to help institutions measure student progress in acquiring core academic skills and are usually taken in sophomore year of college. Institutions concerned with program evaluation use CAAP to provide evidence that general education objectives are being met, to document change in students' performance levels from one educational point to another, and to provide differential performance comparisons in general education instructional programs within an institution. On an individual basis, colleges and universities use CAAP to indicate a student's readiness for further education, identify interventions needed for subsequent student success, and assure some specified level of skill mastery prior to graduation or program completion. (*CAAP Technical Handbook*, 2007)

"The CAAP Writing (Essay) Test involves two 20-minute writing tasks involving a specific hypothetical situation and audience. The writer must take a stand on the hypothetical situation and explain to the audience why the position taken is the better (or best) alternative. Scoring is done on a 6-point modified holistic scale in which two trained readers read each of the two essays. Raters independently score their assigned essay on a scale in which 1 is lowest and 6 is highest." (*CAAP Technical Handbook*, 2007, p. 8)

For many of the analyses, standard two-tailed *t tests* were used to compare means of two different groups. For other analyses, *chi square* tests were used.

#### Results

For **RQ1**, minority students with high school newspaper or yearbook staff had higher overall grade point averages in their first year of college (2.56 compared with nonjournalism students' 2.52), but the difference was not significant (p<.21).

With regard to **RQ2**, minority students with high school journalism backgrounds had significantly higher collegiate first English course grades (often English Composition or some other writing course) than did non-journalism first-year college students (2.80 compared with 2.70; p<.02).

**RQ3** asks about ACT Composite Score differences. Minority journalism students score just a bit higher in this category than their non-journalism counterparts (19.58 compared with 19.54), but this difference is not significant (p<.77).

Regarding the other major components of the ACT exam (**RQ4**), minority students with high school journalism backgrounds scored significantly higher in two of the areas, scored significantly lower in one of the areas, and were lower in another area. In both ACT English (19.80 vs. 19.46; p<.04) and ACT Reading (19.93 vs. 19.44, p<.01) the minority students with high school journalism staff experiences scored significantly better than non-journalism minority students. However, they were significantly lower in the ACT Mathematics portion of the exam (18.68 compared with 19.16, p<.001) and they scored lower in the ACT Science component (19.40 compared with 19.61, p<.11).

In terms of high school grades (**RQ5**), minority journalism students had significantly better grades in six of seven areas of academic comparison. In the other,

they got the same grades as their non-journalism counterparts (Mathematics, where both groups averaged 3.03).

Minority high school journalism students with newspaper or yearbook staff experience earned significantly better grades than their non-journalism counterparts in English (3.23 vs. 3.14, p<.001), Social Studies (3.47 vs. 3.36, p.<001), Science (3.25 vs. 3.16, p<.001), Foreign Language (3.36 vs. 3.26, p<.001), and Art (3.82 vs. 3.78, p<.04). In the overall high school grade point average, minority journalism students also had significantly higher grades (3.23 vs. 3.14, p<.001).

For those minority students for whom we had records, the ones with high school journalism backgrounds who had gone on to sophomore year of college (**RQ6**), the journalism students outperformed the non-journalism students on the CAAP Writing (Essay) Test Score with 74<sup>th</sup> percentile scores compared with  $61^{st}$  percentile scores (p<.01) for the non-journalism minority students.

Regarding **RQ7**, out-of-class accomplishments and interest inventory, which are gathered as part of the ACT Examination, we found the following areas to be significantly higher for minority students as compared with non-journalism minority students (significant at the p<.05 level and beyond):

• Almost 54 percent (compared with 47 percent) were enrolled in Advanced Placement or English Honors high school language arts classes;

• Almost 9 percent of minority journalism students claim they are headed toward journalism/mass communication majors in college. That's about two-and-a-half times

more than minority students who did not have newspaper or yearbook experience in high school.

Other areas in which journalism minority students were significantly more involved in various high school activities than non-journalism minority students: vocal music, student government, debate, departmental clubs (science, math, and the like), dramatics/theater, religious organizations, racial or ethnic organizations, varsity athletics, political organizations, radio-TV, social clubs, special interest groups (ski and sailing clubs, drill teams, and the like), and school or community service organizations.

#### Discussion

In 15 major areas of high school and college academic comparison, minority students with high school journalism experience did better in 12 of them (10 significantly so). The 12 areas are freshman collegiate grade point average, first college English course (often English Composition), ACT Composite score, ACT English score, ACT Reading score, overall high school grade point average, HS English grades, HS social studies grades, HS science grades, HS foreign language grades, HS art grades, and CAAP Writing (Essay) score. The two areas in which the higher scores were not significant were the overall freshman college grade point average and the ACT Composite score.

Minority journalism students and non-journalism students had the same grades in HS mathematics, and they were significantly lower in both ACT Mathematics scores and in ACT Science scores. An apparent anomaly exists when comparing minority journalism students' high school grades in math and science courses, which were either significantly higher or the same as non-journalism students' grades – even though the ACT tests in those areas were lower. However, this could be because minority journalism students didn't take as demanding final courses in those areas as did the non-journalism students, or it could be because they are high achievers and worked hard to overcome their natural deficiencies in math and science. By their own admission on the Student Profile section of the ACT exam, journalism students expressed a lack of math aptitude and a need for help in that area as they entered college.

While these overall positive results might be encouraging for those who attempt to justify school publications' place within the curriculum, they do not show causation. Other studies have done that (e.g., Blinn, 1982; Dvorak, 1998; Morgan & Dvorak, 1994; and Palmer, Fletcher & Shapley, 1994). However, if nothing else, it can be concluded that high school newspaper or yearbook staff involvement is an excellent outlet for talented, active and involved minority high school students. It also gives them a chance to apply their natural leadership abilities while also exercising their critical thinking and writing skills. Indeed, journalism activities have been shown to serve as excellent language arts outlets.

In future studies, the role of a high school journalism class per se ought to be examined. In this study, the main independent variable included those students who were on the staff of a school newspaper or yearbook without examining whether such staff membership was connected with an academic course in journalism or as a stand-alone curricular or extracurricular activity. Thus, a good deal is known about those students' achievements, but little is known about the effects of an actual class in Journalism that might accompany being a staff member on a journalistic publication. Also, it might be good to differentiate between being on a newspaper staff and being on a yearbook staff. While many of the activities and functions associated with both of these journalistic endeavors are similar, they have unique audiences, demands and specifications that would be good to examine separately.

Also, this study involved those students who took pre-college standardized tests and actually finished at least one year of college. For the CAAP Writing Essay comparisons, they involved students who completed two years of college. Another study might look at the effects of high school journalism experiences as they pertain to noncollege-bound minority students.

Based on this solid statistical evidence, it can be concluded that high school journalism staff experiences are definitive educational benefits in minority students' educational backgrounds that not only carry over into higher education and future life but also make a difference while in high school for distinction and success.

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