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# Are Journalists Qualified to Write about Health and Science?

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This article examines the preparation of journalists to report on health and science issues. It traces the historical linkage between the news media and health and science and reports the results of a survey of college professors who teach reporting courses at 86 departments and schools of journalism and mass communication. The article, also intended to help explain the journalistic method to scientists, concludes that many young journalists are qualified to cover simple stories about health and science and other topics when they leave college and acquire the skills to report on more complex issues through on-the-job training and specialized journalism programs.

Are journalists qualified to write about health and science? Journalists often ask leading questions about serious topics, some times for comic relief, to prompt reader interest in their work[a]. If this question were on the cover of Rolling Stone, it might prompt an immediate purchase. If it were the substance of a good book, it would be called a page-turner. It is a time-honored journalistic device used to win readers by any means necessary. The device is used here for the same reason and to frame answers from a journalistic point of view within a scientific context, *The Journal of the Mississippi Academy of Sciences.*

Qualifications of journalists to cover health and science and other important, complex issues are intensely debated within the journalism community. Interest in the present article evolved over two years after the author read a report titled: "Are Journalists Too Ignorant To Cover Important News Issues Correctly?" (Giles and Cox, 1997). The report began: "As communities and newspapers begin to feel the effects of the most significant shift in political power and the role of the federal government since the New Deal, thoughtful media observers can't avoid asking a discomforting question. Are today's journalists too ignorant to cover the news correctly? Can they really write with authority about stories as complicated as the implementation of the 1996 welfare reform programs or congressional efforts to privatize Social Security and alter Medicare?"

Journalists are event oriented, and some issues can't be reported as simply as "Something happened yesterday, and it will affect so many people somewhere (the familiar who-what-when-where). Edward R. Murrow, the historical model of what a television journalist should become, said, "It is much easier to report a battle or a bombing than it is to do an honest and intelligible job on the Marshall Plan, the Taft-Hartley Law or the Atlantic Pact." (Emery, 1996)

Such questions and observations, particularly from within the journalism family, raise serious doubts about the quality of journalism education and the practices of the Fourth Estate. They certainly invite further analyses, and this article is one such analysis. It is intended to allay fears in the scientific community about dealing with journalists who dabble in health and science issues. As such, it is intended also to help scientists understand journalism education and the journalistic method. In doing so, this article will explore the historical linkage between American journalism and health and science and summarize a survey of journalism professors about the qualifications of their graduates.

## HISTORICAL LINKAGE

From its early days, the American press has run on news—people, events, and other developments with impact, conflict, novelty, prominence, and timeliness (Brooks et al., 1996). Even *Publick Occurrences: Both Foreign and Domestick*, generally regarded as America's first newspaper, seemed to practice this brand of journalism as far back as 1690. However, there was only one issue of *Publick Occurrences* because it was banned after the first issue, having been published without authority at a time when

[a]For example, *USA Today* asked in a lead paragraph: "Can a savvy Internet strategy help save the scandal-torn, cash-poor Salt Lake Olympic Games from financial failure?" (Horovitz, 1999)

British authority was required for publication (Folkerts and Teeter, 1998).

That one issue of *Publick Occurrences* contained items involving Indian raids and conflicts between the French and British and, some say bad taste (but prominence and conflict in journalism) by reporting an immoral affair between the French king and his son's wife (Sloan and Startt, 1996; Emery, 1996). America's first newspaper also carried a report of the smallpox epidemic in Boston, an early indication of the importance (newsworthiness) of science and medicine to journalism.

The first several newspapers that succeeded *Publick Occurrences* generally followed a safe policy of adhering to the wishes of authorities in government and religion until 1721 (Emery, 1996), when James Franklin, Benjamin's older brother, established *The New England Courant*. It was the first of the crusading newspapers, challenging social structure and printing without authority. James Franklin and his editor, an Anglican minister, clashed with Increase Mather and his son, Cotton Mather, the powerful Puritan leaders.

Cotton Mather correctly advocated inoculation for smallpox over the opposition of many Boston doctors who did not consider the experiment scientific. The inoculation experiment used blood from smallpox survivors to prevent spread of the disease (Folkerts and Teeter, 1998). The first issue of *The Courant* attacked Mather over inoculation, and it is speculated that the paper did so not because of any strongly held beliefs about science but because Mather favored it (Sloan and Startt, 1996). Newspapers have not always behaved as a marketplace of ideas (Sloan and Startt, 1996).

Nevertheless, the inoculation issue caused a newspaper war over medical science. The Reverend Thomas Walter, grandson of Increase Mather, published a single sheet, *The Little-Compton Scourge* or *The Anti-Courant*. *The Courant* responded by accusing Walter of drunkenness and continued its attack on inoculation. Other Bostonians who supported the Mathers and inoculation patronized the *Boston Gazette*. Each paper ran articles trying to refute the other's (Folkerts and Teeter, 1998). This was freedom of the press, although not professional journalism or fair journalism.

Coverage of the inoculation issue typified news coverage through most of the 18th and 19th centuries. The local newspaper published nice things about the party in power when the party in power was the paper's party and things not so nice when citizens of a different party were in power. Those with opposing views supported another paper or party. Fairness and detachment in journalism would come later.

Journalists with scientific expertise were rare before this century. Not many journalists before the 20th century went to college, and many who worked as news employees started as printers, apprentices to printers, and postmasters or were trained in other professions. The first journalism school was not created until 1908 at the University of Missouri, although several universities offered a few courses, mostly in printing, before 1908.

Being muckrakers (crusading journalists) at the turn of the last century usually meant looking for abuses, or corpses in news lingo. For example, *Collier's* magazine exposed problems in the patent medicine industry that led to the Pure Food and Drug Act in 1907 (Sloan and Startt, 1996).

Modern journalism is based on late-19th century notions of Joseph Pulitzer. In a statement of policies for his St. Louis newspaper, *The Post-Dispatch*, Pulitzer said his paper would show allegiance to the people over political parties, print the truth, follow no causes but conclusions, criticize the administration rather than support it, oppose all frauds and shams, and advocate principles and ideas (Emery, 1996).

An industry largely dependent on government support and friends in power through most of its history at that point was coming of age as a free and independent force. During the Industrial Revolution, newspapers and magazines emerged as mass media, and independence meant they were mostly beholden to advertisers and subscribers, much as they are today.

In 1898, Pulitzer's *New York World* and William Randolph Hearst's *New York Journal* were so independent and free that many believe they waged a circulation fight that led to America and Spain going to war. By 1945, an independent press was deemed responsible enough to keep state secrets and not report about the atomic bomb before the government was ready. *New York Times* reporter William L. Laurence rode in one of the planes that dropped the second bomb on Japan and wrote a first-hand account. This was his reward for not telling what he knew about the Manhattan Project, which developed the bomb (Emery, 1996). Laurence was considered a science expert and won two Pulitzer prizes, the highest recognition for outstanding journalism established by Joseph Pulitzer.

Two lessons: First, freedom of the press means journalists decide for themselves what to print or hold back in the public interest—influenced, or restrained, by the fear of censorship. Second, journalists need access and voluntarily may suspend their principles of independence to gain access to a good story involving science (the Manhattan Project, for example), but it must be a good story. Those wanting coverage should provide journalists with access. Granting access means sharing data and giving interviews at the journalist's convenience.

Today, there is something called science journalism, which means the major news organizations have health and science reporters with knowledge of the environment, physics, biology, medicine and so forth. Thus, journalists need lots of access to scientists and doctors. Thanks to Pulitzer and the evolution of professional journalism, the news standard dictates coverage rather than adherence to party lines and vested interests, and advances in medical science by the end of the 20th century should preclude both journalism and science being on the wrong side of a good issue.

## JOURNALISM EDUCATION UNDER FIRE

Journalism education has come under increasing scrutiny in recent years. On one side are those who believe prospective journalists need a good liberal arts education (Planning for Curricular Change in Journalism Education, 1984). The other side argues for a more practical, professionally-oriented program of study (Dorfman, 1984; Friendly, 1984). The debate about what journalists should be taught is akin to the swirling debate at the start of the century about journalism education. Then, it was some college versus no college or whether anyone could teach a *calling* such as journalism. There is a historical argument that journalists are born, not made (Mirando and Fedler, 1999).

An American Society of Newspaper Editors' survey found that 66 percent of the editors with journalism academic backgrounds and 85 percent without such backgrounds favored increasing student course work outside of journalism (Bales, 1992).

In any event, all seem to worry that many new journalism graduates are not prepared when they leave college (Duhe and Zukowski, 1997), and many challenge journalism educators to steer journalists in the right direction (The Jane Pauley Task Force on Mass Communication Education, 1996).

Others (Giles and Cox, 1997) would require the media to be proactive, concluding: "For the past several years, there has been an effort by some newspapers to reconnect with their communities. That is an important piece of our future. What is needed now is for newspapers to enable reporters and editors to acquire the fundamental knowledge of economics, basic science, the environment and other complex topics that are so much in the news."

There is concern, too, that many stories about science and medical research are hyped, presenting preliminary research as breakthroughs (Nicholson, 1998) and criticism that news organizations pay so little attention to science that their audiences are shortchanged (Hartz and Chappell, 1997).

However harsh the criticism, the literature should not be read as an indictment of journalism or journalism education. Introspection does not mean bad journalism or bad education. It means journalists worry they are not as good as they should be. Making journalism and journalism education better is their intent. Some of the harshest critics say, "The complaints come at a time when medical and science reporting has become better than ever." (Nicholson, 1998).

## SURVEY OF COLLEGE JOURNALISM PROFESSORS

The question remains: Are journalists qualified to cover health and science, and other complex issues? College journalism professors, the bridge between the present and future of journalism, will be used to suggest answers to this and related questions.

As a careful reading of employment ads in *Editor & Publisher* and *The Chronicle of Higher Education* would verify, most journalism and mass communication deans and chairs covet professors who have worked in journalism jobs as broadcast and print reporters and editors, preferably with five or more years of professional work experience. Many professors continue to write and report for professional news organizations while holding academic rank.

As such, the professors should be expected to have an understanding of student and professional media qualifications. The Association for Education in Journalism and Mass Communication publishes an annual directory that identifies 200 members of the Association of Schools of Journalism and Mass Communication. The membership directory was used

to identify the various journalism and mass communication programs across the country for this telephone survey of professors who teach reporting courses. Each institutional member was contacted by telephone and asked for the name and telephone number of a professor who teaches reporting at that institution. Professors representing 86 institutional members of the Association were interviewed by telephone. The others could not be reached.

## SURVEY RESULTS

All survey respondents teach reporting courses. They are veteran journalists averaging 12.29 years of professional work and experienced teachers averaging 13.46 years of teaching reporting courses.

The professors were asked to rate the importance of teaching their students how to report on 11 typical areas (beats) one would expect to read about in a newspaper or magazine, view on television or listen to on a radio newscast. (Table 1). On a scale of 1 to 10, with 10 being the most important, the professors give local government (8.82 mean) their highest rating and low-revenue sports such as soccer (4.78 mean) their lowest. Health and science (7.86 mean) falls in the middle of the list, slightly above the mean for the list (7.37).

That local government, politics, public schools

**Table 1. Mean Rating of News Beats Journalism Professors Say Are Important to Teach Their Students How to Cover and Textbooks Used in Beginning and Advanced Reporting Courses.**

| News Beats | Important to Teach[a] Rating | Beginning Book[b] Rating | Advanced Book[c] Rating |
|---|---|---|---|
| Local Government | 8.82 | 5.86 | 6.46 |
| Politics | 8.65 | 5.78 | 6.08 |
| Public Schools and Education Issues | 8.40 | 4.64 | 6.31 |
| Criminal Courts | 8.39 | 6.09 | 6.35 |
| Economics and Business | 8.31 | 5.25 | 5.50 |
| Health and Science | 7.86 | 4.55 | 5.08 |
| Private Schools and Education Issues | 7.12 | 2.89 | 3.87 |
| International Affairs | 7.11 | 3.10 | 3.06 |
| Charities | 6.19 | 3.00 | 4.64 |
| Big-Time Sports | 5.48 | 4.13 | 3.63 |
| Low-Revenue Sports | 4.78 | 2.47 | 1.75 |
| Mean = | 7.37 | 4.34 | 4.70 |

[a]Question. On a scale of 1 to10, with 10 being the most important, how important is it for journalism departments and schools to offer instruction in coverage of: Local government, criminal courts, not-for-profit organizations such as the United Way, Red Cross and other charities, big-time sports such as football and basketball, low-revenue sports such as soccer, diving, swimming and volleyball, health and science issues, economics and business, public schools and education issues, private schools and education issues, international affairs, politics?

[b]Question. Rate the primary textbook you are using for the beginning-reporting course. Please rate the book on a scale of 1 to 10, with 10 being the highest rating. Rate the book's coverage of: Local government, criminal courts, not-for-profit organizations such as the United Way, Red Cross and other charities, big-time sports such as football and basketball, low-revenue sports such as soccer, diving, swimming and volleyball, health and science issues, economics and business, public schools and education issues, private schools and education issues, international affairs, politics.

[c]Question. Rate the primary textbook you are using for the advanced-reporting course. Please rate the book on a scale of 1 to10. with 10 being the highest rating. Rate the book's coverage of: Local government, criminal courts, not-for-profit organizations such as the United Way, Red Cross and other charities, big-time sports such as football and basketball, low-revenue sports such as soccer, diving, swimming and volleyball, health and science issues, economics and business, public schools and education issues, private schools and education issues, international affairs, politics.

**Table 2. Percentage of Professors Supplementing Textbooks with Additional Course Materials for Various News Beats and Percentage Knowing Helpful Courses Outside Journalism.**

| News Beats | Percentage/Supplement[a] | Percentage/Know Courses[b] |
|---|---|---|
| Local Government | 89.41 | 85.37 |
| Politics | 80.00 | 83.33 |
| Criminal Courts | 78.82 | 58.33 |
| Public Schools | 67.06 | 58.23 |
| Economics and Business | 67.06 | 84.71 |
| Health and Science | 61.18 | 68.67 |
| International Affairs | 50.00 | 71.08 |
| Private Schools | 37.65 | 40.51 |
| Charities | 35.71 | 25.64 |
| Big-Time Sports | 34.12 | 34.94 |
| Low-Revenue Sports | 18.82 | 36.59 |
| Mean = | 56.35 | 58.85 |

[a]Question. In your reporting courses, do you supplement the textbook with lectures, handouts and other materials when discussing the coverage of: Yes or No. Local government, criminal courts, not-for-profit organizations such as the United Way, Red Cross and other charities, big-time sports such as football and basketball, low-revenue sports such as soccer, diving, swimming and volleyball, health and science issues, economics and business, public schools and education issues, private schools and education issues, international affairs, politics?

[b]Question. Do you know of other courses on your campus outside your program that would help students learn to cover? Yes or No. Local government, criminal courts, not-for-profit organizations such as the United Way, Red Cross and other charities, bigtime sports such as football and basketball, low-revenue sports such as soccer, diving, swimming and volleyball, health and science issues, economics and business, public schools and education issues, private schools and education issues, international affairs, politics.

and education and criminal courts hold the top spots for importance should be of no surprise. They represent the core of instruction and reflect media preference for content. The news media find them newsworthy because they produce one or more of the elements of news—impact, conflict, novelty, prominence, and timeliness.

Health and science are more difficult to cover than crime and government. While they beat out the sports beat, that probably does not mean that health and science get better coverage than sports. It suggests that journalism professors do not teach much about sports coverage in beginning and advanced reporting courses. Professors tend to concentrate on hard news, more serious items, in these classes. Many professors assume that students will pick up basic reporting values in these classes and apply them to the Big-Time sports beat, such as basketball, football, baseball and hockey. Some schools have separate sports news classes, and some of the big-time sports would be covered as specialized journalism on a growing number of campuses. Low-revenue sports lack impact, an essential ingredient in determining newsworthiness, and do not attract much media attention unless they do something unusual (win the women's World Cup).

Beginning textbooks average a 4.34 rating for how well they cover the 11 news beats versus 4.70 for advanced textbooks (Table 1), with the health and science area getting a 4.55 rating and 5.08 rating, respectively. The six most important beats (Table 1) also are the six best covered by the textbooks. However, the mean ratings for the textbooks fall far short of the mean rating for importance, 7.37 for all of the beats and 7.86 for health and science (Table 1). The difference between means probably indicates unhappiness with the quality of the textbooks. These responses also help explain Table 2, which indicates that most of the professors supplement their textbooks with lectures and handouts and know of

courses outside journalism (and may recommend them) to supplement areas the professors consider important but are not covered adequately by textbooks.

The mean percentage of professors supplementing textbooks for the 11 news beats is 56.35 percent (Table 2), and the mean percentage of professors who know of courses outside journalism (Table 2) is 58.85 overall and 68.67 for health and science.

So how prepared are journalism graduates to cover specific news stories involving complex issues? The professors believe their new graduates are prepared to cover simple stories that reflect their undergraduate training. Journalism professors primarily train their students to cover uncomplicated meetings, deaths, and crimes involving local government, politics, the courts and public schools (Table 3). Most of the specific stories above the mean rating of 6.76 involve simple news items: speech by the mayor, 8.76; college dean driving drunk, 8.62; death of a philanthropist, 8.24. More complex news items fall below the mean: stock market, 4.76; community college finances, 4.81; charter schools, 5.03; federal support for police, 5.82.

There are probably elements of health and science in each of the news items in Table 3, but the most obvious one is the new AIDS treatment, which ranks 12th with a 6.65 rating, slightly less than the mean for all news items.

**Table 3. Rating of Professors on How Prepared Graduates Are to Cover Specific News Stories.**

| Specific News Stories | Rating[a] | Rank |
|---|---|---|
| Speech by Mayor | 8.70 | 1 |
| College Dean's DUI | 8.62 | 2 |
| Death of Philanthropist | 8.24 | 3 |
| United Way Campaign | 7.81 | 4 |
| Gift to University | 7.78 | 5 |
| Board of Trustees | 7.60 | 6 |
| Criminal Trial | 7.57 | 7 |
| Lobby City Council | 7.40 | 8 |
| Public Education Reform | 7.02 | 9 |
| Homelessness | 6.73 | 10 |
| Local Government Budgets | 6.68 | 11 |
| AIDS Treatment | 6.65 | 12 |
| Women's Volleyball | 6.41 | 13 |
| Men's Basketball Game | 6.37 | 14 |
| State Supreme Court | 6.18 | 15 |
| Charity Lose Tax Exemption | 5.93 | 16 |
| Changes in AFDC | 5.91 | 17 |
| Federal Support for Police | 5.82 | 18 |
| Charter Schools | 5.03 | 19 |
| Community College Finances | 4.81 | 20 |
| Stock Market | 4.76 | 21 |
| Mean = 6.76 | | |

[a]Question. Rate the preparation of students graduating from your journalism program using a scale of 1 to 10, with 10 being the most prepared .... How do you rate the preparation of students graduating from your journalism program to cover: Municipal and county budgets, charter schools, financing of community colleges (2-year colleges), homelessness in your community, federal support for local police, changes in Aid to Families with Dependent Children (AFDC), a men's basketball game, a criminal trial, a speech by your mayor, a United Way campaign kickoff, your university's board of trustees meeting, state supreme court arguments, the stock market, a breakthrough in the treatment of AIDS, a large gift to the university, a charity losing its tax-exemption, the death of a local philanthropist, lobbying by a local association before the city council, a women's volleyball game, public education reform, the arrest of your college dean for drunk driving?

## DISCUSSION

Overall, this article demonstrates the historical linkage between journalism and health and science and answers several questions about the qualifications of journalists who write about health and science. This discussion clearly shows preparation for coverage of simple issues and raises concerns about preparation for coverage of more complex issues

The fact that many news people question journalists' abilities is encouraging and signals efforts to improve news coverage. Many take courses in the natural sciences and physical sciences. While it is apparent that some journalists are not qualified immediately after leaving college, what group of professionals is? Even new physicists and other scientists must absorb knowledge and mature before accepting the Nobel Prize.

Journalists also learn about coverage of health and science and other complex issues through on-the-

job-training and specialized journalism programs sponsored by various foundations at universities across the country.

There is room for optimism (Liebeskind, 1999). The Accrediting Council on Education in Journalism and Mass Communications has accredited more than 100 college and university journalism programs and requires students to take 90 semester hours of a typical 120 hours outside journalism departments (in such areas as history, economics, political science, natural sciences, and mathematics).

At Northwestern University's Medill School of Journalism, for example, those who concentrate in health and medical journalism visit the medical school, research labs, and the Institute of Health Policy to develop an understanding about such beats. The University of Mississippi Department of Journalism puts on professional-development workshops, including one this fall on health and science coverage.

The Knight Foundation has been funding science journalism fellowships since 1983, and its Science Journalism Fellowships at the Massachusetts Institute of Technology encourage journalists to audit courses at MIT and Harvard. More than 140 professionals have gone through Knight's program. The Kaiser Family Foundation also funds six fellowships a year in health. There are other such programs, too.

Still, a close reading of the survey and journalism community's self-criticism indicates much more work needs to be done both within journalism and outside. Scientists who want press attention and those who just care about the portrayal of science in the media should first learn something about the journalistic method, as journalists learn about the scientific method. They should study the publications and television shows for clues about their news requirements, much as one would study an academic journal before submitting a manuscript. Later, when they have an event that needs publicity, they should use the occasion to help educate reporters. Workshops on journalism would help scientists, too. This article should be the beginning and not the end.

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