

## Article

# Understanding How the Public Perceives the Importance of University Research in the United States

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*Most universities in the United States have little or no idea about how the public perceives the importance of research done at these institutions. Learning whether the public believes academic research is valuable, meaningful, and practical has implications for higher education, if the public believes that university research is of little worth. This project utilized naturalistic and qualitative methods to learn how alumni perceived the importance of research at a major public university with a heavy concentration in research (Texas A&M University). Long interviews using open-ended questions were conducted with 133 alumni at 33 locations in Texas. Interviews were transcribed, unitized, and coded using qualitative methods, and themes were identified. Findings provide insights into whether the public believes university research is important, how the public learns about research, whether public relations programs are effective, the importance of research and teaching, and the types of research the public wants universities to pursue. A framework is proposed to learn about how well the public understands science and to measure the effectiveness of media and education programs to raise both science awareness and understanding of science.*

**Keywords:** Public Understanding of Science, Naturalistic Methods, Public Relations Effectiveness.

### Context

Research teaching and service are essential elements of the work of American universities. Research represents a significant investment in terms of the funds needed to carry out studies as well as the professors and students that conduct these investigations (Grunig, 1997). Universities in the United States devote substantial resources to communicate news about research to the public through press releases, magazines, newsletters, websites, e-mail, and other means (Sevier, 1998).

Few studies (for example, Lincoln & Carpenter, 1999, and Harvey & Immerwahr, 1995) have been undertaken to examine attitudes of the American public about university research, or to learn the extent to which college and university public relations programs are influencing knowledge and attitudes. The National Science Foundation (2002) carries out comprehensive evaluations about public understanding of science, but does not differentiate between research done at universities, agencies, and the private sector.

Several authors, including Lane (1998) and Hamrick (1997) urge that university leaders must be concerned about how the public perceives the performance of their institutions, including research. College presidents should monitor attitudes about academic programs to learn if the public has confidence and trust in the work of higher education.

Naturalistic or qualitative methods have the potential to provide in-depth information about the attitudes and beliefs of the public about these issues (Denzin & Lincoln, 1998, and Kruger et al. 1995). Open-ended, loosely structured interviews allow researchers to learn how the public views the function of higher education. Grounded theory enables participants to guide the topics that need to be studied.

Naturalistic methods allow researchers to avoid built-in bias that is often associated with written surveys and questionnaires.

## Objective

Objectives of this study include the following:

- To analyze the content of a university alumni magazine to determine the types of research at Texas A&M University that were most often presented.
- To learn about whether one segment of the public (alumni) is aware of research at a major public American university (Texas A&M).
- To better understand how this public learns about research and whether Texas A&M University publications influence knowledge of this issue.
- To determine if alumni believe that research at Texas A&M University is meaningful, practical, and valuable.

Some of the research questions asked of participants include the following:

- Are you interested in news about Texas A&M University research?
- Have you ever applied results of Texas A&M University research?
- What comes to mind when you think of research at Texas A&M?
- Which Texas A&M University research projects do you believe are meaningful and practical? Are there research projects at Texas A&M that you do not believe have value?
- What are the most important reasons for Texas A&M University to emphasize research?
- Did Texas A&M professors use their research in classes you attended? Did this improve learning?
- How do you rank the importance of teaching, research, and service at Texas A&M University?
- What subjects do you want Texas A&M University professors to be researching?

## Methods

Initial efforts focused on examining the content of the Texas A&M University alumni magazine (*The Texas Aggie*) from 1998 to 2001. The alumni magazine often presents a few brief articles about research in each issue. The purpose of the content analysis was to better understand the types of university research that were recently presented to alumni and to better prepare the researcher for the types of research topics alumni might want to discuss in subsequent personal interviews.

Once it was decided that the target audience would be alumni of Texas A&M University, several efforts were made to work with the university alumni group (The Association of Former Students) to recruit participants. The Association helped the researcher make initial contacts with local alumni clubs throughout Texas.

Both purposeful and convenience sampling methods were used to recruit participants. Typically, the process began by contacting the president of a local alumni club and arranging for a date in which the researcher could take part in a monthly club meeting. At this time, the researcher used purposeful sampling methods to request that the club provide at least three people who would be willing to be interviewed for at least 30 minutes. An emphasis was made on recruiting participants other than white males (i.e., females, minorities) even though this proved to be unsuccessful as most of the people attending club events were in fact Anglo-American males. In several instances, the club president did not recruit participants in advance but suggested that the researcher should simply use convenience sampling

methods. In these instances, the researcher came to the meeting and asked participants on-site if they would consent to be interviewed. Finally, some participants were recruited because they were recommended or mentioned while the researcher was interviewing other individuals. This is referred to as a snowball technique.

Field visits were made at 33 locations throughout Texas. Personal interviews lasting from 45 to 70 minutes were carried out with 133 alumni. Interview notes were recorded by hand in bound journals. Interviews were transcribed, sent to alumni for member checking to verify accuracy, and analyzed using strict naturalistic methods.

Transcripts were separated into unitized thoughts that each represent only one thought. Unitized thoughts were printed on note cards, grouped according to common themes, and used to answer research questions. Data summaries were created after each of the 33 field visits.

This study emphasized the use of grounded theory. The questions asked evolved as the study progressed, in response to the feedback provided by participants.

Other interpretive tasks include content analyses of articles about research from the alumni magazine, and the analysis of other printed sources. The researcher recorded insights into a reflective journal and commented on the research process and data in a series of lengthy memos. Two colleagues in naturalistic methods served as peer debriefers, and regularly offered advice about data collection and analyses methods. At the conclusion of this project, the peer debriefers examined the data, audited the methods used throughout this study, and verified that information could be triangulated with outside sources.

## **Results**

### *Demographics*

During 2001, 123 people were interviewed at 33 locations throughout Texas. Participants were 79% men (21% women) and 88% were white (11% were Hispanic and 1.5% were African American).

Most participants graduated from Texas A&M in the 1980s (28%), the 1990s (24%) and the 1970s (18%). Academic colleges participants graduated from most often included Engineering (23%), followed by Business (18%) and Agriculture (17%). While attending the university, 63% of participants had served in the prestigious Corps of Cadets—a military training organization known for its loyalty to the university and its traditions.

After graduating, most participants (73%) had served in leadership positions in local Texas A&M University alumni organizations. The most commonly mentioned occupations include business, engineers, military personnel, oil and gas production, and education. People who had worked for Texas A&M University were excluded from the study.

### **Using the Data to Address Research Questions**

Through the data analysis procedure, comments from participants were divided into 26 themes. Information within these themes was then used to address the research questions posed at the beginning of this study as well as concerns that arose through the use of grounded theory as the study progressed. Responses to some of the research questions posed during this study are presented below.

*Interest in Research* - Several participants said they were only interested in research pertaining to their careers or hobbies. Areas of research participants most often wanted to learn more about include health, medicine, and agriculture. One participant said, “Most people are interested in what research produces... Research is not even on my RADAR... The human interest side of research is what you’re marketing... The public’s not that interested”.

*Learning about Research* - Participants said alumni and university publications were not a major source of research information, and they thought Texas A&M University could do a better job of communicating research information. Instead, they learned about research through the news media, by email, and by visiting university websites. Said one participant, “I don’t think academics do a good job

of explaining their research... They think the public is stupid... Professors need to be willing and able to communicate”.

*Applying Research in Their Lives* - Surprisingly, more than 66% of participants said they have applied results of Texas A&M University agricultural, business, and education research in their personal lives or careers. This is largely due to comprehensive outreach programs developed by Texas Cooperative Extension. One participant recalled, “I had an uncle whose sheep were dying in droves... An Texas A&M expert came up...to Goldthwaite [Texas] and found they had stomach worms and recommended a vaccine you could drench them with. Few other schools would do that.” Another participant said they went to the university for practical advice. They said, “We put up a granary to mill corn and food for deer and wildlife, so we called the A&M Wildlife and Fisheries Department. We contacted A&M to learn how putting cornmeal on lawns may save them”.

*Is University Research Meaningful, Practical, and Valuable* - Most alumni said they believed Texas A&M University research in agriculture, engineering and education is valuable. One participant said, “Research that has come out of Texas A&M is historical... We’ve developed disease-resistant melons, grasses, mild jalapeños, grain sorghum, and drought-tolerant cotton, and we created the Rio Red grapefruit”. Comments that identified Texas A&M research as valuable were given three times more often than statements that the university’s studies are not meaningful. Some participants pointed out research at the university associated with ridicule or scandal. Along these lines, one participant who was more sceptical said “I’ve heard a few stories about stupid stuff we do in research”.

*Why Should Universities Emphasize Research* - Participants said universities should focus on research to pursue knowledge, to increase the reputation of the institution, and improve the quality of people’s lives. One person commented that “If you don’t have good research, the institution dies”. Another participant said, “To do research just to increase the status of Texas A&M may be important for the Regents, but I don’t think that’s the right reason”.

*The Importance of Research, Teaching, and Service* - Participants overwhelmingly said that undergraduate teaching is a much more important role for Texas A&M University than research or service. One participant said, “Teaching has to be primary... It’s why the students are there... The private sector can do research”.

*What is the Proper Role for Faculty* - More than anything else, this theme provoked participants into giving thoughtful and complex responses. Most participants said that professors can be allowed to concentrate on research or teaching - they do not have to do both. They said that professors do not have to be researchers in order to be great teachers. One participant said, “Teaching is a gift. Some people can get the point across beautifully while others are gifted in research... We need to cultivate the gifts individuals have”. Another participant commented, “Why should someone who has proven themselves as a good teacher have to do research? I don’t see why a good teacher should be punished for not publishing”. A similar comment was given by another participant who said “I’ve never understood the requirement that you have to do research to be able to teach”.

Similarly, several participants said that they did not want researchers instructing students unless they can teach well and that they questioned if professors with research skills were good teachers. Several participants were hostile to the idea that professors should be evaluated primarily on research skills and were opposed to tenure. They associated their favourite classes with skills of good teachers (professors were interested in student welfare and made instruction interesting). The worst classes were linked to research skills (professors did not want to be in the classroom). One participant said, “Don’t expose researchers to the kids, unless the professors are natural teachers. The best and brightest kids go to [universities] and their parents and taxpayers are paying substantial sums for them to be there. Don’t waste their money and time with people who can’t teach. Don’t inflict an incoherent or incompetent teacher on students”. Another participant commented “Professors heavily involved in research were more focused on their projects than teaching, and were less effective teachers... We thought they would rather be in the lab than teaching”.

*What Should Universities be Researching* - Participants most want Texas A&M to be studying issues related to health and medicine. Other types of research were mentioned much less often, including agriculture, the environment, and energy.

## Discussions and Conclusions

This project is important because few studies have focused on understanding how the public views the importance of research done at American universities. Please note that study only describes the perceptions of alumni research at Texas A&M University. The author believes that, to some extent, these insights may represent some of the attitudes about research at large, public, American universities that emphasize agricultural and engineering programs. More importantly, similar studies about the attitudes of other publics about the importance of research at other universities need to be conducted.

Leaders of universities and other entities must be very concerned about how the public views the importance of the work they do, and should consider taking measures to adjust programs to better meet public criticisms and concerns. Otherwise, the social contract between universities and the public may be threatened.

This study presents one method that can be used to assess the image of universities and other organizations. In a public relations sense, a useful approach may be to measure public attitudes and then to implement an education campaign. Later, opinions could be measured again to see if perceptions had been altered.

This project demonstrates the utility of naturalistic methods to assess complex issues. The use of open-ended personal interviews allowed the research to listen to participants and best understand their experiences and concerns. If qualitative methods had not been used, the passion of participants about the perceived conflicts between research and teaching may have been missed.

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## Author

Dr. Ricard W. "Ric" Jensen has worked at the Texas Water Resources Institute since 1985. During that time, he has developed several newsletters and websites to tell readers about water resources research carried out at Texas A&M University. For his Doctoral dissertation, Jensen surveyed a large number of Texas A&M alumni to seek to identify if publications produced by the University were making an

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