

Communication is 93% Nonverbal: An Urban Legend Proliferates

David Lapakko

Associate Professor

lapakko@augsborg.edu

Department of Communication Studies

Augsburg College

Minneapolis, MN

ABSTRACT

Perhaps the best-known numbers within the communication field are those that claim the total meaning of a message is “7 percent verbal, 38 percent vocal, and 55 percent facial.” Despite the fact that this finding is derived from two 1967 studies with serious methodological limitations, these percentages have appeared in a wide variety of communication textbooks. This study takes the investigation a step further, beyond the academic environment, to determine if the 7-38-55 “formula” has now become the equivalent of an “urban legend” about communication in our society-at-large. Overall, this article finds that the formula in question has been widely disseminated across the Internet, and in ways that show little or no understanding of the research that generated these numbers. Given the widespread ignorance reflected in how these numbers are used—and abused—we as communication educators must consider how we should respond and what we can do to correct such misperceptions.

But the truth is, we all have those things that we know about ourselves and those things determine the outcomes of our life. And it comes when the pressure is on. You are going for that job interview. And if your personal truth is, I’m not as smart as these people, I’m not as good as these other applicants. This isn’t me. That’s gonna come out because 93 percent of your communications are nonverbal. So your personal truth is going to scream who you really believe you are.

Dr. Phil McGraw on CNN Larry King Live, 5/26/02

In an article published a decade ago (Lapakko, 1997), I examined one of the most widely-cited academic studies in our field: the research on nonverbal messages conducted by Albert Mehrabian and colleagues in 1967 (Mehrabian & Ferris, 1967; Mehrabian & Wiener, 1967). Out of this research came, arguably, the best-known set of numbers within the discipline: the idea that the total meaning in a message is “7 percent verbal, 38 percent vocal, and 55 percent facial.” Indeed, in this 1997 *Communication Education* article, I tried to identify the many sorts of textbooks that have included the 7-38-55 “formula.” As I demonstrated, these numbers can be found in our textbooks in public speaking, interpersonal communication, small group communication, persuasion, organizational communication, and intercultural communication (Lapakko, 1997).

However, despite the wide dissemination of these numbers, it is clear that this line of research has received considerably more attention—and more credence—than it could possibly warrant. As Burgoon (1985) contends, “A much-repeated estimate in the popular literature is that 93 percent of the meaning in an exchange comes from nonverbal cues, leaving only 7 percent to be carried by the verbal utterance . . . Unfortunately, this estimate is based on faulty analysis . . .” (p. 346). As I observed (Lapakko, 1997), the subjects in the main study by Mehrabian and Ferris (1967) were limited to 37 female psychology majors, and the language prompt was limited to but one word (the word “maybe”), making the role of language in this laboratory experiment largely irrelevant by design. Further, the numbers themselves are actually derived from two studies; neither study simultaneously compared the verbal, vocal, and facial channels. Also, as Hegstrom (1979) observes, “A formula such as Mehrabian’s gives the impression that more is known about the relative contributions of the various channels of communication than in fact is known. It is misleading to use this kind of information as support for the importance of nonverbal communication ‘in general’ when no external validity has been demonstrated. The repetition of this and other formulas only muddies the theoretical water” (p. 135).

Finally, I cited a personal correspondence with Albert Mehrabian in which he himself believes his research has often been misinterpreted and misrepresented. As he stated, “My findings are often misquoted . . . Clearly, it is absurd to imply or suggest that the verbal portion of all communication constitutes only 7% of the message. Suppose I want to tell you that the eraser you are looking for is in the second right-hand drawer of my desk in my third floor office. How could anyone contend that the verbal part of this message is only 7% of the message?” (Mehrabian, 1995, as cited in Lapakko, 1997, p. 65). Therefore, for all of these reasons, I must take the presumptive stance that the Mehrabian research has been widely misinterpreted, and because of its limitations, any broad-based conclusions about the nature of communication simply cannot be derived from it.

Unfortunately, knowing that the Mehrabian research has serious deficiencies and limitations has not stopped the rest of the world from picking up these wonderfully precise numbers. As I suggested in 1997, the allure of this study is that it reduces the complex world of communication into a tidy and precise formula. At some point in the past, these concerns were essentially “quarantined” within academe—that is, confined to our own textbooks—but the academic world does interface with the larger world. What began as a fraudulent set of numbers in our instructional material has now become the equivalent of an “urban legend” within popular culture. The main goal of this paper—in essence, the research question—is to determine how far and in what ways this urban legend has spread, and to consider what lessons we should take away from this situation.

One might ask why there is even a need to document the wide dissemination of such “misinformation.” As discussed later in more detail, it strikes me as an important issue for several reasons. First, in the most general sense, we need to appreciate how “polluted” our information stream has become with the advent of the Internet in particular. Never in the history

of humanity has so much data been disseminated in such volume and detail, with such lightning speed, and at times, with such recklessness; this paper is merely a case study of how that revolution relates to our discipline. Second, we need to consider how the academic world can and should deal with the larger world when it comes to explaining academic research: when misinformation is spread through hundreds or even thousands of websites, what can we possibly do to stem the tide? And third, as communication educators, we have an obligation to be concerned about how our research findings are used in the “real world.” Within the academic community, concerns about how the public interprets our work should not be limited to “life and death” issues such as nuclear technology or global warming or stem cell research. As communication educators, we need to be aware of how our own research is interpreted by the general public and how we can help shape those interpretations. Indeed, if an accurate understanding of communication research is not a concern of ours, it becomes a tacit admission that what we are investigating is largely irrelevant to human life—that what other people think, know, or think they know about communication doesn’t really matter. Not surprisingly, I resist that notion.

Method

To determine in what ways the research by Mehrabian and associates has become part of the larger culture’s understanding of communication, the Google search engine was employed. Specifically, I conducted a Google search using the key words “communication 93 percent nonverbal”; all such data were retrieved on January 5, 2007. These search parameters resulted in more than 263,000 “hits.” I chose to more carefully examine the first 100, performing a content analysis of the various sites using the criteria included below.

Results

Relevance of the Sites to This Study

Of the 100 sites visited using the search parameters above, seven made no reference to the Mehrabian study or the 7-38-55 numbers, so they were excluded from further analysis. In addition, eight sites essentially appeared twice in the first 100 listed, so these eight “duplicates” were also eliminated from further analysis. Finally, I decided to eliminate six sites that were not readily accessible to public access because they involved some type of subscription or registration requirement. Therefore, a total of 79 relevant sites became the focus of this investigation (See Appendix for a complete list of the sites).

Nature of the Relevant Sites

The remaining 79 sites—those which did make reference to the Mehrabian numbers and

were readily accessible to public access—are difficult to neatly categorize. Some were connected to educational institutions—e.g., the MIT Careers Office, Continuing Education at Loyola University, or the Rensselaer Polytechnic Institute’s Advising and Learning Assistance Center. Others were sites created by consultants—e.g., Mary Devlin Associates, Ginny Pulos Communications, Inc., DASH Consulting, and Karl Buhl Consulting. Other sites were affiliated with newspapers—e.g., the *Chicago Tribune*, the *Baltimore Daily Record*, or the *Pahrump Valley Times*. Some sites appeared to be private websites created for unspecified reasons—e.g., the Center for Nonverbal Studies, Roundstone International, and SixWise.com. One is also struck by the vast range and nature of these hits: difficult-to-categorize sites which provide the Mehrabian numbers include websites for the Sweet Adelines International, Lowe’s Commercial Services, Goliath Knowledge on Demand, the ClickZ Network, Designed Thinking Seminars, and 40Plus of Greater Washington.

Orientation of the Sites

Of the 79 sites which did include a reference to communication being 93% nonverbal, only four actually took issue with the numbers derived from this research or questioned them in any way. For example, one source (Chapman, 2007) states that Mehrabian’s research “is arguably on occasions applied in an overly simplistic or indiscriminate manner Style, expression, tone, facial expression, and body language in Mehrabian’s experiments did indeed account for 93% of the meaning inferred by people in the study. But this is not a general rule that you can transfer to any given communications situation.” However, such skepticism was difficult to find; the remaining 75 websites all simply passed along the numbers as being implicitly “correct.” These 75 sites provided the 7-38-55 numbers as “facts,” often with a fair amount of gusto. For example, one site (Beedon, 2005) states that “A staggering 93 percent of our communication is reported to be nonverbal.” Another site (Eisenberg, 2001) takes the Mehrabian formula so seriously that it notes, if you are sending an email, that “You have to do 100 percent of the work with only 7 percent of the resources.” Another (Barnathan, 2006) not only includes the numbers, but boldly adds “Almost 33 years later, that study has yet to be disproved.”

Identification of the Source

In 16 of the 79 websites (20%), Albert Mehrabian was identified as the source for these numbers. More commonly, in 34 of the 79 websites (43%), the references to the source of these numbers were much more indefinite, including:

- “one study at UCLA” (8)
- “a classic UCLA study” (1)
- “a study of communication” (6)
- “one study done in the United States” (1)

- “research shows” (1)
- “studies show” (5)
- “experts say” (3)
- “some students of communication say” (1)
- “a commonly cited statistic” (1)
- “statistics from the communication field” (1)
- “psychologists and anthropologists” (1)
- “other scientists” (1)
- “research in the field of neurolinguistics” (1)
- “according to several communicationists [*sic*]” (1)
- “Neuro-Linguistic Programming Psychologists” (1) and
- “clinical studies done over the past 40 years” (1)

Additionally, ten of the 79 sites (13%) listed a source other than Albert Mehrabian for these numbers, including:

- “Kristen Amundson (1993)” (2)
- “Joan Smith, a career coach at Women Employed” (1)
- “according to Black” (1)
- “Thomas Crane, in *The Heart of Coaching*” (1)
- “Bovee and Thill (2000)” (1)
- “Mele Koney and Alton Barbour” (1)
- “Dr. Phil” (1)
- “Straw” (1) and
- “the now infamous Dr. Moravian from Stanford University [*sic*]” (1).

Finally, in 19 of the 79 websites (24%), the 7-38-55 “formula” was simply provided without any attribution—i.e., it was asserted that these numbers were correct.

Types of Evidentiary Distortion

Let us first keep in mind the focus of Mehrabian’s research. According to Mehrabian himself (Mehrabian & Ferris, 1967), the purpose of his research was to “find out how well people can judge the feelings of others” (p. 250). And in a personal correspondence (A. Mehrabian, personal communication, September 21, 1995), he confirmed this goal when he wrote, “Please remember that all my findings on inconsistent or redundant communications deal with communications of FEELINGS AND ATTITUDES.” So, it has never been Mehrabian’s conclusion that communication in general conforms to the 7-38-55 proportions; rather, he only believes it is applicable within the realm of interpreting the affect or emotional state of others. With this foundation established, we can now see whether his original research is viewed within this more narrow realm, or as a truism about communication in general.

Of the 79 sites referenced in this study, only one (Ragsdale, 2006) correctly described Mehrabian’s findings as involving the “emotional meaning” within communication. On the

other hand, some 63 of the 79 sites (80%) used the 7-38-55 numbers as a general statement about the overall nature of communication. Another two sites (2.5%) discussed the figures in terms of the “total impact” of a message. Nine sites (11%) said that 93% of “communication effectiveness” came from the nonverbal message. One site stated that 93% of “a person’s attitude” is nonverbal, while another included the rather odd statement that “most of us believe 93% of what we sense non-verbally and only 7% of what we hear spoken.” Three remaining sites could not be readily categorized in this manner.

Another form of distortion involved what types of nonverbal messages were part of Mehrabian’s original research. The 1967 studies were concerned with the verbal message, the vocal/paralinguistic message, and the facial message. But some sources in this sampling of websites went further—a chapter in a management text (*Principles of Management*, n.d.), for example, declares that the “other 93 percent includes vocal intonations, facial expressions, posture, and appearance.” Or, another source (Pigford, 2000) takes a similarly expansive view: “According to several communicationists, people receive 93 percent of the message through nonverbal communicators—gestures, voice qualities, posture, appearance, and body language” (p. 182). Finally, another site transformed Mehrabian’s research into the false context of memory. Yewman (2007) says this “classic 1971 study” showed “that when asked what they remembered about a speaker, . . . audience members indicated just 7 percent of their recall was verbal (what was said), but 38 percent of their recall was vocal (how it was said) and 55 percent was visual (the speaker’s body language and confidence).”

Taken as a whole, it seems reasonable to conclude that virtually all of the 79 websites were mistaken in their understanding of Mehrabian’s original research. Indeed, with one or two exceptions, it is highly unlikely that any of these “sources of information” traveled back to the *Journal of Consulting Psychology* or the *Journal of Personality and Social Psychology* to read the actual studies upon which they were relying.

Limitations

It is certainly worth noting that the sampling procedure in this study involved a type of convenience sample. First, it only made use of one electronic search engine, Google. Second, the research did not examine a wide variety of sources dealing with communication and randomly select certain ones for analysis with the Mehrabian study in mind. Rather, the objective was to locate only those electronic sources that dealt with the issue of communication being “93 percent nonverbal.” Therefore, one could argue that this study creates a sort of self-fulfilling prophecy by only finding sources that include the Mehrabian numbers. However, the specific goal was to determine how widely disseminated the 7-38-55 numbers are, so the search parameters employed seemed reasonable. Further, it should be stressed that of the 79 sites examined, 75 simply provided the Mehrabian formula without any qualification; this indicates that his research has achieved wide dissemination with little critical evaluation.

Discussion

To the extent that any academic discipline has the potential to educate the larger community, it is clear to me, in this case, that we have failed in our mission. Perhaps this matter pales in significance to global terrorism or nuclear proliferation, but it should nonetheless concern those of us in communication studies. If it does not, then we would be forced to ask, why are we even in this field to begin with? At some level, we have to be concerned when so-called “experts” repeatedly chant that communication is 93% nonverbal. What that number tells people is to pay little attention to the words they use, because words don’t really matter. For example, as suggested by the opening quotation from Dr. Phil, many of these sites are dealing with job interviews and suggest that applicants had better pay attention to their “nonverbals” or they will not be successful candidates, all the while offering no advice whatsoever about one’s words—because again, the words supposedly don’t matter. Is this really a formula for success? Couldn’t it result in tangible harm to people in their quest for employment? To put it bluntly, we have, over the past many years, been willing accomplices in spreading information that is simply incorrect and misleading. And we are now left with the reigning authority on communication in the early 21st century—Dr. Phil—telling Larry King that communication is 93% nonverbal. What are we to do?

As educators in the field, one thing that we can certainly do is contact people who use the 7-38-55 formula and treat it as the gospel. We need to let them know that they are in error. In fact, with Dr. Phil in mind, I personally went to his website and sent him a note that he is “just plain wrong” when he says that communication is 93% nonverbal. Somewhat surprisingly, I was contacted by the show’s producers, both by voice mail and email—they wanted to know if I was willing to debate Dr. Phil about this matter on the air! They asked, could I fly to Los Angeles on a particular date for a taping of the show? I readily agreed, but for some unknown reason, their initial enthusiasm was replaced by a very cold shoulder. I also sent a similar message to a local business communication columnist who used these numbers; I have no idea if she took my note to heart, but at least I felt as if I was doing something to help stamp out ignorance.

Perhaps our professional organizations could play a more active role in this type of dialogue as well. Although the National Communication Association has a wide variety of outreach initiatives within its own membership, perhaps NCA could play a more active role in communicating with the larger community. For example, recent findings from the *New England Journal of Medicine* are often cited in the popular press; such coverage does not happen by accident but can be cultivated.

Another obvious remedy to this type of misinformation is to be mindful of it in the textbooks that we adopt for our courses. Whenever I am looking at possible texts in interpersonal communication, public speaking, or intercultural communication, I make a point to see what has been written about nonverbal communication. If the 7-38-55 formula appears—especially if it appears without any critical analysis—I have been reluctant to seriously consider the book for classroom use. And I have gone out of my way in courses where nonverbal

messages are relevant to stress to my students that if they ever do encounter these numbers, they should take them with the proverbial grain of salt.

The Mehrabian research can also be used as an illuminating case study for introducing basic issues in critical thinking, communication theory, and social scientific research. From a critical thinking perspective, for example, one can ask students to consider a simple question: if the meaning in communication is in fact 93% nonverbal, what would be the point of learning a language? What possible purpose would it really serve? Then, with respect to “theory,” one can discuss with students whether they have been in situations where a pivotal component of the message did involve language; chances are they know full well the very real power of words to convey both ideas and feelings. In the realm of feelings—supposedly the focus of Mehrabian’s research—words of both praise and shame can affect us all deeply, and our students must therefore learn to measure their language with care and appreciate its potential impact. From a social scientific perspective, the Mehrabian research can be the focal point for a discussion to determine what would be a more methodologically valid way to assess the relative importance of the verbal and the nonverbal message. Included in that discussion can be the question of whether it is even prudent to attempt to quantify the relative importance of the verbal and the nonverbal in the first place.

The relationship between popular culture and the academic world has a symbiotic dimension. Popular culture needs academic research to answer an endless number of important questions. For example, will taking a daily baby aspirin stave off a heart attack? Does genetic makeup lead people to a life of crime? Can a more favorable jury be chosen for a client using “scientific” principles? Is televised violence adversely affecting our kids? And, if I am in a job interview, do my words matter, or only my “nonverbals”? These are all questions where the academic community seeks to have a “real world outlet” for its findings, and an impact on the issues of the day. Within communication studies, we have the potential to make a difference on matters of substance, and we should find ways to enable it to happen—making sure, of course, that they “get it right” in the process.

References

- Barnathan, L. (2006, June 6). *Are you sending the right message?* Retrieved January 5, 2007, from the Employment Times Web site:
http://www.employmenttimesonline.com/career_advisor/article.php?ID=605
- Beedon, J. (2005, June). Ten tips for virtual meetings. *WomensBiz*. Retrieved January 5, 2007, from <http://www.womensbiz.us/archives/communication0605.asp>
- Burgoon, J. (1985). Nonverbal signals. In M. Knapp & G. Miller (Eds.), *Handbook of interpersonal communication* (pp. 344-390). Beverly Hills: Sage.
- Chapman, A. (2007). *Mehrabian’s communication research*. Retrieved January 5, 2007, from <http://www.businessballs.com/>
- Eisenberg, B. (2001, July 23). *Why aren’t your emails getting more action?* Retrieved January 5,

- 2007, from the ClickZ Network Web site:
<http://www.clickz.com/showPage.html?page=844061>
- Encore presentation: Interview with Dr. Phil (2002, May 26). Retrieved December 17, 2003, from CNN Web site: <http://www.cnn.com/TRANSCRIPTS/0205/26/lklw.00.html>
- Hegstrom, T. (1979). Message impact: What percentage is nonverbal? *The Western Journal of Speech Communication*, 43, 134-142.
- Lapakko, D. (1997). Three cheers for language: A closer examination of a widely cited study of nonverbal communication. *Communication Education*, 46, 63-67.
- Mehrabian, A., & Weiner, M. (1967). Decoding of inconsistent communications. *Journal of Personality and Social Psychology*, 6, 109-114.
- Mehrabian, A., & Ferris, S. (1967). Inference of attitudes from nonverbal communication in two channels. *Journal of Consulting Psychology*, 31, 248-252.
- Pigford, L. (2000). *The successful interview & beyond (Chapter 10, The communication tool box)*. Retrieved January 5, 2007, from the Delmar Learning Web site: http://webtools.delmarlearning.com/sample_chapters/0766822354.pdf
- Principles of Management (n.d.). *Chapter 12, Communicating in the internet age*. Retrieved January 5, 2007, from Clovis Community College Web site: www.clovis.edu/ba/kuykendallr/courses/MGT201/Chapter_12_-_Student_Notes.pdf
- Ragsdale, J. D. (2006). *Quality communication in achieving fundraising excellence*. Retrieved January 5, 2007, from Indiana University, Center on Philanthropy Web site: http://www.philanthropy.iupui.edu/TheFundRaisingSchool/PrecourseReadings/precourse_qualitycommunication.aspx
- Yewman, D. (2007). *Can you see what I'm saying?* Retrieved January 5, 2007, from DASH Consulting, Inc., Presenters University Web site: http://www.presentersuniversity.com/delivery_Saying.php

Appendix

List of Sites Visited for Content Analysis

- American Management Association. (2005). *Face-to-face versus virtual communications*. Retrieved January 5, 2007, from http://www.amanet.org/books/catalog/0814472869_ch.htm
- Azusa Pacific University, Human Resources. (n.d.) *Communication: The nonverbal agenda*. Retrieved January 5, 2007, from <http://www.apu.edu/humanresources/development/videolibrary/communication/>
- Baker, W. (2001). Medical meetings: The real value. *Bulletin of the American College of Surgeons*. Retrieved January 5, 2007, from http://www.facs.org/fellows_info/bulletin/baker1101.pdf
- Barnathan, L. (2006, June 6). *Are you sending the right message?* Retrieved January 5, 2007, from the Employment Times Web site: http://www.employmenttimesonline.com/career_advisor/article.php?ID=605
- Beedon, J. (2005, June). Ten tips for virtual meetings. *WomensBiz*. Retrieved January 5, 2007, from <http://www.womensbiz.us/archives/communication0605.asp>
- Benedyk, M. O. (2005, April 25). Talking the talk. *News & Views: Online Weekly of the Scripps Research Institute*, 5(14). Retrieved January 5, 2007, from http://www.scripps.edu/newsandviews/e_20050425/talk.html
- Boleyn, M. (2002, January 24). Read the signals. *Nurse Week*. Retrieved January 5, 2007, from http://www.nurseweek.com/news/features/02-01/signals_web.asp
- Bosma, M. (n.d.). *Communication — getting the job done*. Retrieved January 5, 2007, from Sweet Adelines International Web site: <http://www.sweetadelineintl.org/Oct05pp4.cfm>
- Chapman, A. (2007). *Mehrabian's communication research*. Retrieved January 5, 2007, from <http://www.businessballs.com/>
- Cobb, C. (2005, February 10). Practicing the art of flirting. *The Daily Toreador*. Retrieved January 5, 2007, from <http://media.www.dailytoreador.com/media/storage/paper870/news/2005/02/10/LifeLeisure/Practicing.The.Art.Of.Flirting-1280254.shtml>
- Continuum. (n.d.). *Matching your meaning and message—effective non-verbal communication*. Retrieved January 5, 2007, from Loyola University Chicago, Continuing Education Web site: <https://perseus.luc.edu/sps/getCourse?classnbr=5252&term=1072>
- Cooijmans, P. (2005). *Body language: The walking ink blot*. Retrieved January 5, 2007, from http://paulcooijmans.lunarpages.com/psy/body_lang.html
- Denning, S. (2004, April 8). *Dr. Condoleezza Rice tells her story: Form vs content*. Retrieved January 5, 2007, from <http://www.stevedenning.com/SIN-113-Rice-cool-as-storyteller.html>
- Designed Thinking Seminars (n.d.). *Non-verbal skills*. Retrieved January 5, 2007, from <http://www.designedthinking.net/html/non-verbal.html>
- Desmarais, P., & Kersten, G. (n.d.) *E-negotiation systems: Interaction of people and technologies to resolve conflicts*. Retrieved January 5, 2007, from http://www.odr.info/unforum2004/kersten_desmarais.htm
- DJRadiohead (2006, April 10). The hot topic: Foreign language films. Message posted to Brewster's Millions: Reviews of Music, Movies, Books and Culture. Retrieved January 5, 2007, from <http://midnightcafe.wordpress.com/tag/uncategorized/>
- Dobson, L. (2006, April 6). Avoiding email catastrophes. *Psychology Today*. Retrieved January 5, 2007, from <http://www.psychologytoday.com/articles/pto-20060405-000001.html>
- Drafke, M. W. (2002). *Working in health care: What you need to know to succeed*. Retrieved January 5, 2007, from www.fadavis.com/related_resources/1_1863_1.pdf
- Eisenberg, B. (2001, July 23). Why aren't your emails getting more action? Retrieved January 5, 2007, from the ClickZ Network Web site: <http://www.clickz.com/showPage.html?page=844061>
- Emery, D. H. (2004, May 6). *Conversations with Dale: Misrepresenting Mehrabian*. Retrieved January 5, 2007, from <http://www.dhemery.com/cwd/2004/05/mehrabian.html>
- Fogel, P. (n.d.). *Why you never want to turn your back on your audience when giving a speech*. Retrieved January 5, 2007, from <http://www.content-articles.com/article.aspx?i=36167&t=Why-You-Never-Want-To-Turn-Your-Back-On-Your-Audience-When-Giving-A-Speech>
- Forms of Nonverbal Communication* (n.d.). Retrieved January 5, 2007, from http://www.marin.cc.ca.us/buscom/index_files/page0011.htm
- Gajadhar, J., & Green, J. (2003). *An analysis of nonverbal communication in an online chat group*. Retrieved January 5, 2007, from Open Polytechnic of New Zealand, Working Papers Web site: http://www.openpolytechnic.ac.nz/static/pdf/research/res_wp203gajadharj1.pdf
- Garcia, C. (2004, May 30). What candidates aren't saying when they face the nation: Experts say Bush is

- contradicting himself, and Kerry can actually make us tired. *Austin American-Statesman*, Section 2, pp. 6-7. Retrieved January 5, 2007, from the Ginny Pulos Communications, Inc., Web site: <http://www.ginnypulos.com/gpc/ITN-Statesman.asp>
- George, A. S. (2006). *Using spectral subtraction to enhance speech and improve performance in automatic speech recognition*. Retrieved January 5, 2007, from <http://dscholarship.lib.fsu.edu/undergrad/186>
- Ginsberg, S. (2005). *Why aren't you talking to me?* Retrieved January 5, 2007, from The Effective Admin Web site: http://www.admin-ezine.com/nonverbal_communication_and_networking.htm
- Givens, D. B. (n.d.). *Nonverbal communication*. Retrieved January 5, 2007, from the Center for Nonverbal Studies Web site: <http://members.aol.com/nonverbal2/nvcom.htm>
- Goman, C. K. (2006, September 5). *A look at non-verbal communication*. Retrieved January 5, 2007, from IABC Employee Communication Commons Web site: <http://commons.iabc.com/employee/2006/09/05/a-look-at-non-verbal-communication/>
- Goman, C. K. (2006, September 5). *Speaking of change*. Retrieved January 5, 2007, from <http://speakingofchange.blogspot.com/2006/09/im-researching-nonverbal-communication.html>
- Gomez, P. (2006, April 19). Annual town cleanup scheduled for May 6. *Pahrump Valley Times*. Retrieved January 5, 2007, from <http://www.pahrumpvalleytimes.com/2006/04/19/news/cleanup.html>
- Goodman, J. (n.d.). *Expanding your versatility in nonverbal communication, a body/mind approach to empowering yourself*. Retrieved January 5, 2007, from <http://www.coachingforlife.org/courses.htm>
- Haas, B., & Haas, P. (2005). Communicating with a teenager. *The Lookout*. Retrieved January 5, 2007, from <http://www.lookoutmag.com/articles/homelife.asp?id=19>
- Handi Gunawan, M. (n.d.). *Non-verbal communication: The "silent" cross-cultural contact with Indonesians*. Retrieved January 5, 2007, from <http://www.ialf.edu/kipbipa/papers/MuhamadHandiGunawan.doc>
- Heathfield, S. M. (n.d.) *Listen with your eyes: Tips for understanding nonverbal communication*. Retrieved January 5, 2007, from http://humanresources.about.com/od/interpersonalcommunication/a/nonverbal_com.htm
- Hogan, K. (2005, December 20). *93% of all communication body language?* Retrieved January 5, 2007, from <http://www.bodylanguageexpert.blogspot.com/>
- HRM. (n.d.) *Corporate communication*. Retrieved January 5, 2007, from <http://www.dignusmercede.com/index.php?page=humanresourcemanagementbusiness>
- In a rush to get married?* (n.d.). Retrieved January 5, 2007, from the Dr. Phil Web site: <http://www.drphil.com/articles/article/348>
- Irmscher, K. (1996). *Communication skills*. ERIC Digest, Number 102. Retrieved January 5, 2007, from <http://www.ericdigests.org/1996-3/skills.htm>
- Karl Buhl Consulting. (2006). *Where do you want to go? Profit-driven marketing*. Retrieved January 5, 2007, from <http://www.karlbuhlconsulting.com/Profit.html>
- Keeney, D. (2006, May 9). *Harnessing the power of facial expression and eye contact*. Retrieved January 5, 2007, from <http://www.keeneypr.com/en/art/?174>
- Kersten, G. E. (2004). *E-negotiation systems: Interaction of people and technologies to resolve conflicts*. Retrieved January 5, 2007, from <http://interneg.concordia.ca/interneg/research/papers/2004/08.pdf>
- Kleiman, C. (2000, March 5). Body language speaks the loudest. *Chicago Tribune*. Retrieved January 5, 2007, from <http://www.chicagotribune.com/classified/jobs/chi-010717bodylanguage.0.5052247.story>
- Lempinen, E. W. (2003, January 30). Horrible' speaker, great speech. *Salon*. Retrieved January 5, 2007, from http://dir.salon.com/story/news/feature/2003/01/30/sotu_critique/index.html
- Lineage. (2004). *The basic forms of communication*. Retrieved January 5, 2007, from http://www.refstar.ru/data/r/id.5234_1.html
- Lowe's Commercial Services: Lowe's for Pros. (n.d.). *Overcome the language barrier*. Retrieved January 5, 2007, from <http://forpros.lowes.com/articles.cfm?aid=149>
- LT. (2006, July 13). There's no such thing as the one-hour meeting. Message posted to Signal vs. Noise Weblog. Retrieved January 5, 2007, from http://www.37signals.com/svn/archives2/theres_no_such_thing_as_the_onehour_meeting.php
- Guilford County Schools. (2006, October 19). *Guilford County schools' top leaders*. Retrieved January 5, 2007, from the *News & Record* Web site: <http://blog.news-record.com/staff/chalkboard/archives/POY06.doc>
- Martin, C. (n.d.). *The 2-minute drill*. Retrieved January 5, 2007, from University of Nevada, Las Vegas, William S. Boyd School of Law Web site: http://law.unlv.edu/pdf/two_minute.pdf
- Martin, C. (n.d.). *The two minute drill*. Retrieved January 5, 2007, from Monster Canada Web site: http://interview.monster.ca/6447_en-CA_p1.asp
- Miller, P. (2005). *Body language in the classroom*. Retrieved January 5, 2007, from Goliath Knowledge on Demand

- Web site: http://goliath.ecnext.com/coms2/gi_0199-5060801/Body-language-in-the-classroom.html#abstract
- MIT Careers Office. (2005, November 4). *Interviewing*. Retrieved January 5, 2007, from <http://web.mit.edu/career/www/guide/interviews.html>
- Moore, D. (2004, March 4). Communication workshop builds good skills. *ISU Bengal*. Retrieved January 5, 2007, from <http://media.www.isubengal.com/media/storage/paper275/news/2004/03/04/News/Communication.Workshop.Builds.Good.Skills-625708.shtml>
- Netsurvey. (n.d.). *Human resources: Tips for understanding nonverbal communication*. Retrieved January 5, 2007, from <http://www.netsurvey.info/latestnews.asp?ID=925&Read=y&PageNo=18>
- Nonverbal communication*. (n.d.). Retrieved January 5, 2007, from Rensselaer Polytechnic Institute, Advising & Learning Assistance Center Web site: http://www.rpi.edu/dept/advising/american_culture/social_skills/nonverbal_communication/reading_exercise.htm
- Oak, C. (2004, November 8). Enhancing communication skills. *Insurance Journal*. Retrieved January 5, 2007, from <http://www.insurancejournal.com/magazines/midwest/2004/11/08/features/49139.htm>
- Pape, D. A. (2005, October 24). *The self-disclosure flip: A collision between F2F & online discussion*. Retrieved January 5, 2007, from California Virtual Campus Web site: <http://pdc.old.cvc.edu/common/newsdetail.asp?idx=2524>
- Pappas, J. (2003, April 13). Commentary: Nonverbal skills more important in sales than verbal. *The Baltimore Daily Record*. Retrieved January 5, 2007, from http://findarticles.com/p/articles/mi_qn4183/is_20030412/ai_n10054890
- Performance Learning Systems. (2002, October 2). Positive nonverbal communication. *Performance Learning PLUS*. Retrieved January 5, 2007, from http://www.plsweb.com/resources/newsletters/enews_archives/25/2002/10/02/
- Pfefferman, N. (2006, June 9). Playing those 'mind games.' *The Jewish Journal*. Retrieved January 5, 2007, from <http://www.jewishjournal.com/home/preview.php?id=%2015983>
- Pigford, L. (2000). *The successful interview & beyond (Chapter 10, The communication tool box)*. Retrieved January 5, 2007, from the Delmar Learning Web site: http://webtools.delmarlearning.com/sample_chapters/0766822354.pdf
- Power communication*. (n.d.). Retrieved January 5, 2007, from Florida Atlantic University, Small Business Development Center Web site: http://fausbdc.com/clientuploads/ptac/archived/Power_Communication.doc
- Principles of Management. (n.d.). *Chapter 12, Communicating in the internet age*. Retrieved January 5, 2007, from Clovis Community College Web site: www.clovis.edu/ba/kuykendallr/courses/MGT201/Chapter_12_-_Student_Notes.pdf
- Ragsdale, J. D. (2006). *Quality communication in achieving fundraising excellence*. Retrieved January 5, 2007, from Indiana University, Center on Philanthropy Web site: http://www.philanthropy.iupui.edu/TheFundRaisingSchool/PrecourseReadings/precourse_qualitycommunication.aspx
- Rainey, M. B. (2005). Am I my brother's keeper? *Graziadio Business Report*, 8(4). Retrieved January 5, 2007, from Pepperdine University, Graziadio School of Business and Management Web site: <http://gbr.pepperdine.edu/054/negotiations.html>
- Robinson, E. (2006, March 31). Increasing the success of your business communication. *Denver Business Journal*. Retrieved January 5, 2007, from http://www.volumepr.com/innews_denverbusinessjournal.html
- Roundstone International. (2003). *Communication*. Retrieved January 5, 2007, from http://www.roundstoneintl.com/site3-5/actionpack/RII_Communication_072003.pdf
- Salinas, B. (2006, Spring). Building a better foundation for communication students. *The X-Change*, 5(1). Retrieved January 5, 2007, from University of Texas Pan-American, Communication Department Web site: <http://www.panam.edu/dept/comm/TheXChangeWeb.pdf>
- Seip, R. (2006, September 26). *Take the terror out of presentations*. Retrieved January 5, 2007, from the ManageSmarter Web site: http://www.presentations.com/msg/content_display/presentations/e3iba76Bqzy2OuGCT_a_HmOOzsg%3D%3D
- Seip, R. (2006, October 15). Overcoming 'glossophobia'. *Virginia Journal of Education*. Retrieved January 5, 2007, from Virginia Education Association Web site: http://www.veaweteach.org/articles_vje_detail.asp?ContentID=2284

- Shank, M. (2006, October 20). Veiled prejudice. *The Daily Star, Egypt*. Retrieved January 5, 2007, from <http://www.dailystaregypt.com/article.aspx?ArticleID=3553>
- SixWise.com. (2005, October 19). How your body language conveys confidence, intelligence and trust . . . or a lack there of. *SixWise.com Newsletter*. Retrieved January 5, 2007, from http://www.sixwise.com/newsletters/05/10/19/how_your_body_language_conveys_confidence_intelligence_and_trust_or_a_lack_there_of.htm
- Stafford, C. (n.d.). *Interpersonal communication and the internet: The cyberspace world of net.relationships*. Retrieved January 5, 2007, from <http://wrt-intertext.syr.edu/iii1/stafford.html>
- Stein, D. (2006, Fall). Credibility, respect, and power: Sending the right nonverbal signals. *Planning Commissioner Magazine*. Retrieved January 5, 2007, from GCA Strategies Web site: http://www.gcastrategies.com/books_articles/article_06_11.php
- Symmes, M. (2004, May 10). *The power of non-verbal communication*. Retrieved January 5, 2007, from the 40Plus Center of Greater Washington Web site: <http://www.40plus-dc.org/TopicDetail.cfm?searchid=2004-05-10%2000:00:00>
- The basic forms of communication*. (n.d.). Retrieved January 5, 2007, from http://www.refodrom.ru/business_communication/s/23170/1.1.html
- Thompson, P. (2005, May). Power speaking: Tips and tricks for presenting with confidence and style. *California CPA*. Retrieved January 5, 2007, from http://findarticles.com/p/articles/mi_m0ICC/is_9_73/ai_n15734259
- UNL Video Services. (n.d.). *Communication: The nonverbal agenda*. Retrieved January 5, 2007, from <http://videoservices.unl.edu/catalog/search2.cfm?ID=221>
- Yewman, D. (2007). *Can you see what I'm saying?* Retrieved January 5, 2007, from DASH Consulting, Inc., Presenters University Web site: http://www.presentersuniversity.com/delivery_Saying.php
- Zaltman, G., & Higie, R. (1993). *Seeing the voice of the customer: The Zaltman metaphor elicitation technique*. Retrieved January 5, 2007, from the Marketing Science Institute Web site: <http://www.msi.org/publications/publication.cfm?pub=356>

Author's Note

Because of the transient nature of the Internet, some of the sources listed above may no longer be accessible.