

Roaming the Changing Theoretical Landscape of Agricultural Communications

James F. Evans

Abstract

The author comments on the role and value of dozens of theories and models he has used during more than 50 years of teaching, research, and practice in agricultural communications. The changing usage of these theories reflects changes in the scholarly foundations and practice of agricultural communications and the other disciplines to which it relates. Looking ahead, the author identifies 13 clusters of underused, new, and otherwise potentially valuable theories he believes may strengthen the contributions of this field.

So what?

Through the career journey of an educational communicator, see how theories undergird and influence every communicative effort, every day. Get a long view of how theories emerge, change, disappear, and even misguide. Review some emerging and underused theories that might strengthen your efforts in the future through teaching, research, and practice.

Recently, two graduate students who were planning a short course asked for my help in identifying the theories most relevant to the agricultural communications discipline. More specifically, they asked about (a) theories that have been involved with my research and teaching, (b) theories not currently used in the profession that offer potential benefits, and (c) theories that should be taught in agricultural communications.

The students might not have chosen to ask me if they had realized that my teaching and research experience in agricultural communications stretches back five decades. My trail of theoretical baggage may have been more than they bargained for. At the same time, my experiences can be seen as rather typical of what others experienced during those years. The underpinnings of my research and teaching efforts can also usefully reflect some of the theoretical foibles and shortcomings that have become apparent in the

growing, changing body of scholarship related to agricultural communications. If I had known early in my career more of what I know now, my focus would have been different in some substantial ways.

So I embarked on a personal journey into the agricultural communications theoretical landscape, with apologies to the students for responses neither brief nor sharply focused. Instead, for better or worse, my range of subject interests in agricultural communications generated lengthy lists of theories cited and used in my teaching and research. Some reflected enduring core interests, while others reflected short-term funded research projects. Some reflected a considerable variety of courses taught (at least nine). Some reflected my early interests, while others reflected later interests.

What follows is a brief summary of that journey, offered in hope that the information might help fit current theories into historical context and provide useful insights into the dynamics of scholarly inquiry. I also hope this may identify some possible thrusts for the future.

In the interest of brevity, I am using the term "agriculture" in the broadest sense. The term refers here to the full breadth of related interests reflected in ACE: agriculture, food, natural resources, and life and human sciences.

Signs of Scatter

Anyone searching for the theoretical foundations of this relatively young field of scholarship will find not only signs of general scatter and lack of focus (as in other young fields), but also shortages of theoretical rigor and integrative force. Agricultural communications scholars today are keenly aware that there is no integrated theoretical base for agricultural communications. The same must be said of our parent discipline, communications.

Here I see an important need and the potential for improved theoretical focus and integration. At the same time, I am aware that scholarship about human communication is multidisciplinary by necessity and mission. If that characteristic is an Achilles heel of such scholarship, it is also, I believe, a special strength for us to appreciate and maximize through strong, vigorous connections with related disciplines. In that sense, I think we should be enthusiastic, rather than apologetic, about collaborating with others in sociology, educational psychology, education, psychology, economics, history, anthropology, linguistics, philosophy, and other fields of interest.

In the responses that follow, I am using Denis McQuail's definition of a theory as a set of ideas that help make sense of a phenomenon, guide action, or predict a consequence (McQuail, 2005). A model helps formulate theories. Some theories and models are more tightly or loosely structured than others.

Some that were relatively new when I used them are now bewhiskered, redirected, abandoned, or even discredited.

Theories Guiding My Research

My core research interests in agricultural communications have centered on the following themes:

- Communications systems and methods in agriculture
- Rural-urban communications
- Communications in agricultural and rural development
- Education of agricultural communicators
- Literature of agricultural communications

My earliest research efforts during the late 1950s and the 1960s involved content analyses and studies of communications systems and methods in agriculture. For example, I carried out decision-guiding analyses of media content and usage in support of extension communications. My doctoral research involved a historical analysis of two major agricultural media institutions of the Midwest and a biographical analysis of the publisher/owner. Individualistic studies such as this were characteristic of early approaches to research about media organizations. They continue to be useful. Some of the theories and models involved in my published research during the 1960s are listed below. I have identified sample references for those who wish to follow up on specific topics. The references are illustrative, not exhaustive.

- Readability (e.g., Gunning, 1968)
- Legibility (e.g., Tinker, 1963)
- Diffusion and adoption of innovations, two-step flow, information seeking (e.g., Katz, Levin, & Hamilton, 1963; Rogers, 1962; Ryan & Gross, 1943)
- Modernization theory of development (e.g., Schramm, 1954, 1964)
- Personal influence and opinion leadership (e.g., Katz & Lazarsfeld, 1955)
- Decision-making (e.g., Beal, 1966)
- Media effects (e.g., Hyman & Sheatsley, 1947; Klapper, 1960; Schramm, 1954)
- News selection (e.g., Emery, Ault, & Agee, 1968)
- Dramaturgical model of impression management (e.g., Goffman, 1959)

Beginning in the 1970s, I extended my early study of specific media institutions, carrying out a 90-year aggregate analysis of the U.S commercial farm press. Several other published reports involved the academic base for agricultural communications as guidance for our expanding teaching

program at undergraduate and graduate levels. One published analysis involved a new rural-urban communications course I introduced. During this period, I also carried out a comprehensive research review in preparing a teaching reference about education campaign planning. Another research analysis in the early 1970s provided groundwork for a USDA-sponsored national survey about public attitudes toward food, farmers, and agriculture. Research initiatives for the U.S. Environmental Protection Agency focused on the communications effectiveness of pesticide labels. These and other efforts involved some of the same theories mentioned above, along with others, such as:

- Uses and gratifications (e.g., Blumler & Katz, 1974)
- Social movements and agrarianism (e.g., Shannon, 1957)
- Social marketing (e.g., Kotler & Roberto, 1989; Kotler & Zaltman, 1971)
- Diffusion and adoption of innovations (e.g., Rogers, 1976)
- Communication in development (e.g., Quebral & Gomez, 1976; Schramm & Lerner, 1976)
- Economics of information (e.g., Schultz, 1970)
- Joint problem solvers model of communication (e.g., Havelock et al., 1969)
- Persuasion (e.g., Simons, 1976)

Increased international involvement during the 1970s and 1980s led to published research and comment about the role and effectiveness of communications in agricultural and rural development. International work sensitized me to a variety of issues new to me and prompted me to rethink my perspectives. I was not alone; criticisms mounted against the dominant modernization paradigm of how development occurs and how communications contributes to it. Also, my international experience and the expansion of agricultural communications programs in the United States spurred me to address the growing need to gain access to the widely scattered body of literature about agriculture-related communications. The concept of an electronically searchable collection of such literature took shape in the early 1980s, leading to the establishment of the Agricultural Communications Documentation Center. I approached all of these efforts as need-driven more than theory-driven. However, my published work involved some emerging theories and changes in some existing theories. Among them were:

- Diffusion and adoption of innovations (e.g., Rogers & Adhikarya, 1979)
- Communication in development (e.g., Crawford & Ward, 1974; Kinkaid, 1987; McAnany, 1980; Rogers, 1976)

- Dependency (e.g., Beltrán, 1976; Díaz Bordenave, 1976; McAnany, 1984)
- Development communication (e.g., Dissanayake, 1981; Jacobson, 1985; Jayaweera & Amunugama, 1987; Nair & White, 1993; Quebral, 1988)
- Development support communication (e.g., Bueno & Frio, 1982; Gecolea, 1982)
- Participatory communication (e.g., Servaes, Jacobson, & White, 1996)
- Extension systems (e.g., Röling, 1988)
- Media effects (e.g., Ball-Rokeach & DeFleur, 1976)

My research efforts were limited during the late 1980s and early 1990s due to administrative responsibilities. Since my retirement in 1995, my research efforts have centered on the resources and services of the Agricultural Communications Documentation Center. In addition, a series of published studies related to the effects of advertising on the editorial content of agricultural periodicals used the following conceptual base:

- Social contract theory (e.g., Cunningham, 1999)

Theories Used in My Teaching

Skills-based instruction characterized my teaching responsibilities during the 1960s. This was typical of undergraduate teaching in agricultural journalism and agricultural communications at that time, and still is today. Major courses of that type included a multimedia communications skills course for agriculture students and an education campaign planning course for agricultural communications students and others. My theoretical orientation generally mirrored that of journalism and communications education of the period, supplemented by my previous experience in agricultural broadcasting and advertising. Similarly, the National Project in Agricultural Communications (NPAC) of the late 1950s and early 1960s drew upon predominant concepts from educational psychology, psychology, rural sociology, and other disciplines. Among the theories and models I used in teaching during that period:

- “Who says what to whom with what effect” (e.g., Lasswell, 1948)
- Mathematical theory of communication (e.g., Shannon & Weaver, 1949)
- Theories of the press (e.g., Siebert, Peterson, & Schramm, 1956)
- Gatekeeping (e.g., White, 1950)
- Information analysis—observations, inferences, judgments (e.g., Hayakawa, 1964)

Research

- Diffusion and adoption of innovations (e.g., Rogers, 1962; Ryan & Gross, 1943)
- Human motivation (e.g., Maslow, 1954; Rokeach, 1960)
- Personal influence and opinion leadership (e.g., Katz & Lazarsfeld, 1955)
- Attitudes and behavior (e.g., Fishbein & Ajzen, 1975; Janis & Feshbach, 1953)
- Symmetry (e.g., Newcomb, 1953)
- Readability (e.g., Gunning, 1968)
- Legibility (e.g., Tinker, 1963)
- Persuasion—order of presentation, stated or unstated conclusions, credibility, threat and fear appeals, personality traits, other dimensions (e.g., Abelson, 1959; Berelson & Janowitz, 1953; Hovland, Janis, & Kelley, 1953)
- Cognitive dissonance (e.g., Festinger, 1962)
- Decision theory under conditions of risk (e.g., Bross, 1953)
- Group dynamics (e.g., Asch, 1958; Lewin, 1947)
- Mass communication systems and effects (e.g., Fuson & Moran, 1977; Hyman & Sheatsley, 1947; Klapper, 1960)
- Communication in development (e.g., Lerner, 1958; Schramm, 1954, 1964)

As my teaching responsibilities broadened across more courses and subject areas during the 1970s and 1980s—and as my insights changed and other theories of interest emerged—I adapted usage and incorporated other theories, such as:

- Co-orientation (e.g., Chaffee & McLeod, 1968)
- Uses and gratifications (e.g., Lometti, Reeves, & Bybee, 1977)
- Diffusion and adoption of innovations (e.g., Rogers, 1976)
- Agenda-setting (e.g., McCombs & Shaw, 1972)
- Gatekeeping (e.g., Dimmick, 1974; McCombs & Shaw, 1972)
- Knowledge gap (e.g., Donohue, Tichenor, & Olien, 1975; Tichenor, Donohue, & Olien, 1970)
- Economics of information (e.g., Perloff & Rausser, 1983)
- Technology determinism (e.g., McLuhan, 1964)
- Public relations theory (e.g., Grunig, 1989; Grunig, Nelson, Richburg, & White, 1988)
- Communication in development (e.g., Schramm & Lerner, 1976)

My teaching responsibilities after 1985 were informal and focused mainly on professional development during those years of administrative service.

Theories Not Currently Used in the Profession With Potential Benefit to Agricultural Communications

I interpreted this to include theories that are based in other disciplines, but that might be used in agricultural communications research. Probably, scholars in various disciplines have used all of the theoretical dimensions listed below for research about agriculture-related communications. However, I believe theoretical areas such as the following may hold potential for agricultural communications researchers far beyond their current usage. They have struck me as important, especially through my work with the Agricultural Communications Documentation Center from the early 1980s to date.

Normative inquiry and methods.

Our societies need more explorations into the normative dimensions of agriculture-related communications systems, methods, and activities, both domestically and internationally. Normative inquiry can, for example, help to interpret the history, contexts, and cultural implications of new information technologies being used in agriculture. It can help the agriculture sector—and society—identify and address issues, such as equity of access to agricultural information, privacy, information control, concentration of media ownership, and economic and cultural dependence in development-related communications. It can help reveal the interface of agricultural science with communications, including specific ways in which media institutions, systems, and methods are used to shape identities, perceptions, and social outcomes of science. Many approaches may be involved, in differing contexts (e.g., Habermas, 1990; Jansen, 2002).

Mediation theory, negotiation theory, conflict resolution theory, joint problem-solving theory.

Globally, the entire food and agriculture enterprise faces an increasing array of complex interactions that involve a burgeoning list of issues and publics. Agricultural communications researchers can use theoretical tools such as these to help identify valuable options beyond the combat-oriented and manipulation-oriented communications strategies that prevail today. Some agricultural communications researchers are successfully using theories of risk and crisis communications in response to issue- and event-based challenges. Theories of mediation, negotiation, joint problem solving, and conflict resolution may offer even greater potential, as may other theories of

interpersonal communications and organizational communications (e.g., Bryan, 2004; Daniels & Walker, 2004; Thor & Evtuhovici, 2003).

Theories for embracing more of the food/environment complex.

The deepest roots of agricultural communications scholarship involve the production of food, feed, fiber, and bio-energy products. The need for such scholarship elsewhere throughout the food complex (in processing, marketing, and consumption) and in the areas of interaction between agriculture and the environment is very apparent. Research in these areas may involve various theories, such as social cognitive theory, the theory of reasoned action, social marketing theory, consumer choice theory, the nutrition communications model, and theories of environmental communications (e.g., Campbell, 1998).

Theories of information economics and behavioral economics.

Agricultural communications research can help define and document the economic impacts and costs and benefits of information in agriculture-related systems. Increasingly, information has economic value. Information systems are becoming more complex, expensive, and central to all agriculture-related enterprises. Working with economists and others, agricultural communications researchers can help document and improve the economic value of varied types of agricultural information in varied settings for varied purposes (e.g., Huffman & Tegene, 2003; Stiglitz, 2005).

Knowledge management concepts.

The knowledge management model being used in organizational settings merits close consideration for agricultural communications research. For example, it offers a framework to integrate diverse elements, such as concepts of information flow and function (e.g., creation, retention, transfer and use); types of knowledge (e.g., explicit, as in media output and databases, or tacit, as in people's heads); types of agents (e.g., individuals and organizations); and types of knowledge management tools (e.g., knowledge mapping and social network analysis). Many of these elements are currently being addressed in agricultural communications research and are inviting integration (e.g., Davis, Subrahmanian, & Westerberg, 2005).

Indigenous/traditional knowledge theory.

Internationally, a growing body of experience is dramatizing the costly folly of ignoring or stifling this type of agricultural knowledge in the rush to scientific advancement. In a real sense, the call for sustainable agriculture, food security, and participation is a cry for remembering, understanding, and appreciating this deep-rooted, valuable body of knowledge in any culture. Agricultural communications researchers are in a key position to

advance understanding about the origins, nature, role, flow, creativity, and impact of indigenous agricultural knowledge. In particular, they may help successfully connect such knowledge with knowledge generated through scientific agricultural research (e.g., Erdelen, 2002).

A combination: indigenous/traditional media theory and new media theory.

Indigenous means of social interaction operate actively, exert influence, and provide important stabilizing value in any era and in any society. Today, with research attention fixed on new electronic information technologies, agricultural communications researchers are in an excellent position to help reveal the full range of methods humans use for interaction by enriching the theory and practice of traditional media. Understanding and creative development of this theory, as well as new media theory, may help identify new potential for the equitable flow of the benefits of agricultural information across the full spectrum of the agriculture-food complex (e.g., Communication for Development Group, 1998).

Visual communications theory.

The visual aspects of communicating are increasingly important, yet their complexities make it very challenging to develop a core theoretical base. This field engages scholarly interests that range from mass communications and linguistics to optical reception systems; from semiotics and perception to archaeology. Agricultural communications scholars can contribute in substantial ways through interdisciplinary partnerships based on shared interests. For example, agricultural communicating often involves combinations of words and images, so scholarship might focus on revealing more about how words and images interact to permit humans to communicate effectively about our food, nutrition, and well-being (e.g., Moriarty & Kenney, 1995).

Literacy theory.

I refer to this theory for (a) strengthening citizens' understanding of the food and agriculture on which they depend, (b) improving rural-urban interactions, and (c) effectively addressing public issues that involve agriculture. Some agricultural education researchers are active in this field, particularly in terms of agricultural literacy education for schoolchildren. Agricultural communications researchers can also use and contribute to literacy theory as related to other audience segments, issues, and venues—especially the mediated channels for communicating (e.g., Lipschultz & Hilt, 2005).

Theory of campaign effects.

This developing body of thought can serve the goals of agricultural communications scholarship in at least two ways. First, it addresses the kinds of campaign-oriented settings where a substantial share of agricultural communicating takes place. Agricultural communications could benefit immensely from increased use of communications research that can guide coordinated approaches. Thus, this theory offers centrality. In addition, its integrative nature can help researchers, teachers, and practitioners assemble and interrelate some of the scattered elements of existing agricultural communications research and practice about information campaigns (e.g., Capella, 2003).

Communications aspects of leadership theory.

A number of theories of communicating address vital dimensions of leadership, such as dialogue, feedback, participation, persuasion, and media/channel selection. Agricultural communications research can contribute to agricultural leadership by helping identify communications guidelines for effective leaders. In addition, it can help make leaders (and followers) better able to analyze and critique their interactions (e.g., Jablin, 1997).

Theories That Should be Taught in Agricultural Communications

I would emphasize two theoretical clusters that seem uniquely central to agricultural communications. Both may have potential to provide integrative frameworks for teaching in this field. They may also serve as part of the “home base” for agricultural communications research.

History and theories related to the communications aspects of agricultural and rural development.

My career experience suggests that the history and dynamics of development theory—including its communications aspects—can be a tremendously valuable “macro” framework to help us think broadly across topic, time, and space. This body of knowledge can acquaint students with the winding, bloody trail of scholarship about theoretical concepts such as modernization, the diffusion and adoption of innovations, extension models, development communications, development support communications, scientific communications, participation, and technology-culture relationships. It can help students connect their concepts of communications with concepts of agricultural and rural development (a basic, continuing challenge in all societies). It may help U.S. students, in particular, recognize that development is not only “out there” (somewhere abroad) but also alive and challenging here at home. It can open doorways for exploring any specific aspect of agriculture-related communication in public and private sectors. Its

historical dimensions can acquaint students with the meaningful National Project in Agricultural Communications (NPAC).

Information systems in agriculture.

Students of this field need to develop an understanding of the dynamics and interplay of all kinds of channels through which agricultural information flows, has flowed, and might flow in a changing international agriculture/food complex. This focus can involve a variety of related theories, such as systems theory, traditional media theory, new media theory, information economics, and technology and culture theory. From it, learners can get acquainted with various agricultural information channels—personal, group, and mass—that have emerged over the centuries in various cultures. Learners can gain an appreciation of the unique roles and impacts of such systems, from mealtime conversations to the latest electronic interactions. They can be encouraged to envision and plan new agricultural information systems and identify new applications and combinations for existing systems within the context of social responsibility.

Overview

This brief look to the past and future leaves me with several overarching impressions. First, I am impressed anew by the ways in which theory undergirds and intertwines with every communicative endeavor, whether we realize it or not. As communicators—professional practitioners, teachers, or researchers—we all use theories, some of which are more soundly based than others. Important opportunities are at hand to strengthen these theories and use them more effectively.

Second, this journey seems a loud call for close, respectful cooperation among all who strive for better communication about one of society's most basic human enterprises. Theory is no isolated domain. It holds interest for all of us, with all our varied responsibilities and talents. Through researching and experiencing, educating and informing, and reaching out in service, we can rise above the academic silos and misguided pecking orders that can deaden the cooperative and mutually supportive spirit of learning.

Finally, the journey has helped me recognize more clearly how the theoretical roots of agriculture-related communication grow deep, spread widely across disciplines, and change constantly. This endeavor calls for vigorous collaboration with associates in other disciplines. Agricultural communicators are in an excellent position to contribute actively and powerfully to this endeavor.

About the Author

Jim Evans, a longtime ACE member, led the teaching and research program in Agricultural Communications at the University of Illinois from 1962 to 1985. He then helped form a new agricultural communications and education unit, serving as head for 10 years. In retirement, he serves as a staff associate in the Agricultural Communications Documentation Center.

Keywords

agricultural communications, theory, communications education, communications research

Acknowledgments

The author expresses special appreciation to Mason Miller and David Doerfert for helpful reactions and suggestions, and to René Miller and Leslie Jenkins-McKendrick for prompting this journey.

References

- Abelson, H. I. (1959). *Persuasion: How opinions and attitudes are changed*. New York: Springer Publishing Company.
- Asch, S. E. (1958). Effects of group pressure upon the modification and distortion of judgments. In E. E. Maccoby, T. M. Newcomb, & E. L. Hartley (Eds.), *Readings in social psychology* (3rd ed.) (pp. 174-183). New York: Holt, Rinehart and Winston.
- Ball-Rokeach, S. J., & DeFleur, M. L. (1976). A dependency model of mass media effects. *Communication Research*, 3(1), 3-21.
- Beal, G. M. (1966). Decision making in social change. In H. J. Schweitzer (Ed.), *Rural sociology in a changing urbanized society* (Special Publication No. 11) (pp. 50-94). University of Illinois, Urbana: Department of Agricultural Economics.
- Beltrán S., L. R. (1976). Alien premises, objects and methods in Latin American communication research. *Communication Research*, 3(2), 107-134.
- Berelson, B., & Janowitz, M. (Eds.). (1953). *Reader in public opinion and communication*. Glencoe, IL: The Free Press.
- Blumler, J. G., & Katz, E. (Eds.). (1974). *Uses of mass communications: Current perspectives on gratifications research*. Beverly Hills, CA: Sage Publications.
- Bross, I. D. J. (1953). *Design for decision*. New York: Macmillan.
- Bryan, T. A. (2004). Tragedy averted: The promise of collaboration. *Society and Natural Resources*, 17, 881-896.

- Bueno, P. B., & Frio, A. S. (Eds.). (1982, August). *Development support communication for rural development*. Proceedings of a regional workshop at the Southeast Asian Regional Center for Graduate Study and Research in Agriculture, Laguna, Philippines.
- Campbell, C. (1998). Consumption and the rhetorics of need and want. *Journal of Design History*, 11(3), 235-246.
- Capella, J. N. (Ed.). (2003). Theoretical approaches to communication campaigns [Editor's introduction to selected papers from a symposium]. *Communication Theory*, 13(2), 160-163.
- Chaffee, S., & McLeod, J. M. (1968). Sensitization in panel design: A coorientational experiment. *Journalism Quarterly*, 45(4), 661-669.
- Communication for Development Group. (1998). *Knowledge and information for food security in Africa: From traditional media to the Internet*. Retrieved March 16, 2000, from <http://www.fao.org/waicent/faoinfo/sustdev/cddirect/cdan0017.htm>
- Crawford, R. H., & Ward, W. B. (Eds.). (1974, March). Communication strategies for rural development. *Proceedings of the Cornell-CIAT International Symposium, Cali, Colombia*. Ithaca: New York State College of Agriculture and Life Sciences, Cornell University.
- Cunningham, A. (1999). Responsible advertisers: A contractualist approach to ethical power. *Journal of Mass Media Ethics*, 14(2), 82-94.
- Daniels, S. E., & Walker, G. B. (2004). Dialogue and deliberation in environmental conflict: Enacting civil science. *Environmental Communication Yearbook*, 1(1), 135-152.
- Davis, J. G., Subrahmanian, E., & Westerberg, A. W. (2005). The 'global' and the 'local' in knowledge management. *Journal of Knowledge Management*, 9(1), 101-112.
- Díaz Bordenave, J. (1976). Communication of agricultural innovations in Latin America: The need for new models. *Communication Research*, 3(2), 135-154.
- Dimmick, J. (1974). The gatekeeper: An uncertainty theory. *Journalism Monographs* (No. 37).
- Dissanayake, W. (1981). Development and communication: Four approaches. *Media Asia*, 8(4), 217-227.
- Donohue, G. A., Tichenor, P. J., & Olien, C. N. (1975). Mass media and the knowledge gap: A hypothesis reconsidered. *Communication Research*, 2(1), 3-23.

Research

- Emery, E., Ault, P. H., & Agee, W. K. (1965). *Introduction to mass communications* (2nd ed.). New York, NY: Dodd, Mead and Company.
- Erdelen, W. (2002). *Linking traditional and scientific knowledge for sustainable development*. Retrieved February 2, 2005, from <http://portal.unesco.org>
- Festinger, L. (1962). *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fusonie, A., & Moran, L. (1977). *Agricultural literature: Proud heritage—future promise*. Washington, D.C.: Graduate School Press, U. S. Department of Agriculture.
- Gecolea, R. H. (1982). *A primer on development support communication: Functions, operation and organization*. Bangkok, Thailand: UNDP Asia and Pacific Programme for Development Training and Communication Planning (DTCP).
- Goffman, E. (1959). *The presentation of self in everyday life*. Garden City, NY: Doubleday.
- Grunig, J. E. (1989). Symmetrical presuppositions as a framework for public relations theory. In C. H. Botan & V. Hazleton, Jr. (Eds.), *Public relations theory* (pp. 17-44). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Grunig, J. E., Nelson, C. L., Richburg, S. G., & White, T. J. (1988). Communication by agricultural publics: Internal and external orientations. *Journalism Quarterly*, 65(1), 26-38.
- Gunning, R. (1968). *The technique of clear writing* (Rev. ed.). New York: McGraw-Hill.
- Habermas, J. (1990). *Moral consciousness and communicative action*. Boston: MIT Press.
- Havelock, R. G., Frohman, M., Gustin, A., Havelock, M., Hill, M., & Huber, J. (1969). *Planning for innovation through dissemination and utilization of knowledge*. Ann Arbor, MI: Center for Research on Utilization of Scientific Knowledge, Institute for Social Research, University of Michigan.
- Hayakawa, S. I. (1964). *Language in thought and action*. New York: Harcourt, Brace & World.
- Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communication and persuasion: Psychological studies of opinion change*. New Haven, CT: Yale University Press.

- Huffman, W. E., & Tegene, A. (2003). *The effects of information on consumer demand for biotech foods*. Washington, D.C.: Economic Research Service, U. S. Department of Agriculture. Retrieved March 26, 2005, from <http://www.ers.usda.gov/publications/tb1903/tb1903.pdf>
- Hyman, H. H., & Sheatsley, P. H. (1947). Some reasons why information campaigns fail. *Public Opinion Quarterly*, 11(3), 412-423.
- Jablin, F. M. (1997, March). *The nexus between communication studies and leadership studies*. Paper presented at the Organizational Communication Symposium, University of Colorado, Boulder, CO. Retrieved October 3, 2005, from http://www.leadershiplearning.org/community/files/download?version_id=1156
- Jacobson, T. (1985). An epistemological shift in development communications theory. In B. Dervin & M. J. Voigt (Eds.), *Progress in Communication Sciences* (Vol. 6) (pp. 77-104). Norwood, NJ: Ablex Publishing Corporation.
- Janis, I. L., & Feshbach, S. (1953). Effects of fear-arousing communications. *Journal of Abnormal and Social Psychology*, 48, 78-92.
- Jansen, S. C. (2002). *Critical communication theory: New media, science, technology, and gender*. Lanham, MA: Rowland & Littlefield.
- Jayaweera, N., & Amunugama, S. (Eds.). (1987). *Rethinking development communication*. Singapore: Asian Mass Communication Research and Information Centre.
- Katz, E., & Lazarsfeld, P. F. (1955). *Personal influence: The part played by people in the flow of mass communications*. Glencoe, IL: Free Press.
- Katz, E., Levin, M. L., & Hamilton, H. (1963). Traditions of research on the diffusion of innovation. *American Sociological Review*, 28(2), 237-252.
- Kinkaid, D. L. (Ed.). (1987). *Communication theory: Eastern and Western perspectives*. San Diego, CA: Academic Press, Inc.
- Klapper, J. T. (1960). *The effects of mass communication*. New York, NY: Free Press.
- Kotler, P., & Roberto, E. L. (1989). *Social marketing: Strategies for changing public behavior*. New York: Free Press.
- Kotler, P., & Zaltman, G. (1971). Social marketing: An approach to planned social change. *Journal of Marketing*, 35(3), 3-12.
- Lasswell, H. (1948). The structure and function of communication in society. In L. Bryson (Ed.), *The communication of ideas* (pp. 37-51). New York: Institute for Religious and Social Studies, Jewish Theological Seminary of America.

Research

- Lerner, D. (1958). *The passing of traditional society: Modernizing the Middle East*. Glencoe, IL: Free Press.
- Lewin, K. (1947). Frontiers in human relations. *Human Relations*, 1(2), 143-153.
- Lipschultz, J. H., & Hilt, M. L. (2005). Media and information literacy theory and research: Thoughts from the co-editors. *Studies in Media and Information Literacy Education*, 5(1). Retrieved October 10, 2005, from <http://www.utpjournals.com/simile/issue17/issue17toc.html>
- Lometti, G., Reeves, B., & Bybee, C. (1977). Investigating the assumptions of uses and gratifications research. *Communication Research*, 4(1), 321-337.
- Maslow, A. H. (1954). *Motivation and personality*. New York: Harper & Brothers.
- McAnany, E. G. (Ed.). (1980). *Communications in the rural third world: The role of information in development*. New York: Praeger Publishers.
- McAnany, E. G. (1984). From modernization and diffusion to dependency and beyond: Theory and practice in communication for social change in the 1980s. In Sigman, V. A. (Ed.), *Development communications in the third world: International agriculture publications general series* (No. 2) (pp. 1-14). Urbana, IL: College of Agriculture, University of Illinois.
- McCombs, M. E., & Shaw, D. L. (1972). The agenda-setting function of mass media. *Public Opinion Quarterly*, 36(2), 176-187.
- McLuhan, M. (1964). *Understanding media: The extensions of man*. New York: McGraw-Hill.
- McQuail, D. (2005). *McQuail's mass communication theory* (5th ed.). London: Sage Publications.
- Moriarty, S. E., & Kenney, K. (1995). *Visual communication: A taxonomy and bibliography*. Retrieved March 15, 2005, from <http://www.ivla.org/bibliography/intro.htm>
- Nair, K. S., & White, S. A. (Eds.). (1993). *Perspectives on development communication*. New Delhi, India: Sage Publications India Pvt. Ltd.
- Newcomb, T. M. (1953). An approach to the study of communicative acts. *Psychological Review*, 60 (6), 393-404.
- Perloff, J. M., & Rausser, G. C. (1983). The effect of asymmetrically held information and market power in agricultural markets. *American Journal of Agricultural Economics*, 65(2), 366-372.
- Quebral, N. C. (1988). *Development communication*. Los Baños, Philippines: Institute of Development Communication, University of the Philippines at Los Baños.

- Quebral, N. C., & Gomez, E. D. (1976). *Development communication primer*. Los Baños, Philippines: Department of Development Communication, University of the Philippines at Los Baños.
- Rogers, E. M. (1962). *Diffusion of innovations*. New York: The Free Press of Glencoe.
- Rogers, E. M. (Ed.). (1976). *Communication and development: Critical perspectives*. Beverly Hills, CA: Sage Publications.
- Rogers, E. M., & Adhikarya, R. (1979). Diffusion of innovations: An up-to-date review and commentary. *Communication Yearbook*, 3, 67-81.
- Rokeach, M. (1960). *The open and closed mind: Investigations into the nature of belief systems and personality systems*. New York: Basic Books.
- Röling, N. G. (1988). *Extension science: Information systems in agricultural development*. Cambridge, England: Cambridge University Press.
- Ryan, B., & Gross, N. C. (1943). The diffusion of hybrid corn seed in two Iowa communities. *Rural Sociology*, 8(6), 15-24.
- Schramm, W. (1954). *The process and effects of mass communication*. Urbana, IL: University of Illinois Press.
- Schramm, W. (1964). *Mass media and national development*. Stanford, CA: Stanford University Press.
- Schramm, W., & Lerner, D. (Eds.). (1976). *Communication and change: The last ten years—and the next*. Honolulu, HI: University Press of Hawaii for the East-West Center.
- Schultz, T. W. (1970). *Investment in human capital: The role of education and research*. New York: Free Press.
- Servaes, J., Jacobson, T. L., & White, S. A. (1996). *Participatory communication for social change*. Thousand Oaks, CA: Sage Publications.
- Shannon, C. E., & Weaver, W. (1949). *The mathematical theory of communication*. Urbana, IL: University of Illinois Press.
- Shannon, F. A. (1957). *American farmers' movements*. Princeton, NJ: D. Van Nostrand.
- Siebert, F. S., Peterson, T., & Schramm, W. (1956). *Four theories of the press*. Urbana, IL: University of Illinois Press.
- Simons, H. W. (1976). *Persuasion: Understanding, practice and analysis*. Reading, MA: Addison-Wesley Publishing Company.
- Stiglitz, J. E. (2005). Information and the change in the paradigm of economics: Part 2. *American Economist*, 48(1), 17-49.

- Thor, E., & Evtuhovici, R. (2003). Alternative dispute resolution and peace making for resolving agribusiness and food management conflict resolution in the free trade area of the Americas grass roots initiatives with international applications. *International Food and Agribusiness Management Review*, 5(3). Retrieved March 22, 2005, from <http://www.ifama.org/nonmember/OpenIFAMR/Articles/v5i3/evtuhovici.PDF>
- Tichenor, P. J., Donohue, G. A., & Oliien, C. N. (1970). Mass media flow and differential growth in knowledge. *Public Opinion Quarterly*, 34(2), 159-170.
- Tinker, M. (1963). *Legibility of print*. Ames, IA: Iowa State University Press.
- White, D. M. (1950). The 'gatekeeper': A case study in the selection of news. *Journalism Quarterly*, 27(4), 383-390.