

Demystifying the Puzzle of Applied Communications Research

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Abstract

While research capabilities in agricultural and applied communications have increased substantially in recent years, there is still room for improvement. The shortcomings in applied communications research result largely from confusion and misunderstanding about the research process. As an alternative to the technical treatments provided in conventional research methods textbooks, this paper proposes a user-friendly “puzzle” schema to help practitioners understand and address the essential elements in planning applied communications research. The authors provide an overview of the framework and its component parts, followed by a brief discussion of common myths surrounding the research process. A central point is that bypassing or truncating essential research components can jeopardize the validity of findings in applied communications research. The approach advocated here differs from conventional methodology approaches in that it allows for more fluidity in the research planning process. Recommendations for improving the applied communications research base are provided for both individuals and the profession as a whole.

Introduction

Early research in agricultural communications was conducted mainly by social scientists in other fields, such as mainstream communications and rural sociology (Forsyth, 1939; Wilkening, 1950). But by midcentury, agricultural communications was establishing itself as an applied field driven by research. The development of the National Project in Agricultural Communications (NPAC) in 1953 marked a high point in applied communications research because of its emphasis on integrating theory and practice (NPAC, 1960; Miller, 1995).

Research capabilities in agricultural and applied communications have continued to increase substantially in the decades following NPAC, particularly with the availability of powerful desktop computers and easy-to-use statistical software. While no detailed analyses could be located that focused specifically on the applied communications research literature, it is safe to

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say that our literature base is growing and eclectic (Tucker, 1996). Boone, Meisenbach, and Tucker (2000) conservatively identified at least 14 bodies of research in agricultural communications alone.

Much of this research is increasingly conducted by nonacademic departments and applied communication units, mainly in attempts to improve editorial products, enhance customer service, or to show evidence of their worth or "impact" to the organization (Boone, Tucker & McClaskey, 2002; Tucker & Steel, 2003; Irani & Telg, 2001; Boone & Furbee, 1998; Wood-Turley & Tucker, 2003; Gerakis, 1997; Connors, Elliot & Heinze, 1994).

These developments clearly represent a strong and growing demand for properly conducted applied communications research.¹ At the same time, significant barriers exist that hamper further development of research capabilities in our field. Limited personnel time, resources, and expertise are commonly mentioned impediments (Telg, Tucker & Dolbier, 2001; Montgomery, Donnellan & Whiting, 1996). Anecdotal comments we received from ACE colleagues at the outset of the current project confirmed these problems. One respondent wrote of applied research, "Although some people know intuitively that more decision data will better inform their actions, unless it is their primary responsibility...the perception is there is no time to devote to research." According to another, "Everyone's overloaded, and applied communication research is not on the front burner until it's urgent. When it is on the front burner, we may not have taken the time to think the issues through well enough, so once we get some answers, we discover we needed to have asked other questions."

The fact that many communication practitioners lack confidence in research skills is not surprising. Research is a complex process in its own right and can be particularly challenging for busy professionals whose primary expertise is in fields other than research. While many excellent educational resources are available on the subject of research methods, most assume some background in research on the part of the reader. In addition, we have observed that conventional research methods textbooks often portray research as a highly structured, linear process that follows a predictable route from beginning to end. According to this process, shown in Figure 1, research typically begins with identification of a problem and proceeds through a predetermined sequence of steps leading to data collection, analysis and interpretation (Ary, Jacobs & Razavieh, 2002; Bailey, 1987; Wiersma, 1986). Detailed discussions and checklists are often provided that correspond to each ordered step of the research process.

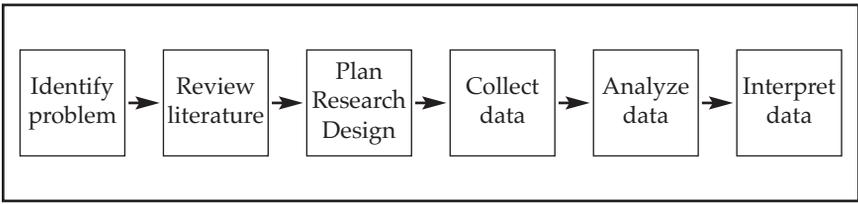


Figure 1. Typical steps in the research process.

While such discussions are valuable for educational purposes, many impose what we view as an excess of order on the planning phase of the research process that is not consistent with how applied research is usually conducted.

Purpose and Rationale

In this professional development paper, we argue that the research-planning process is a dynamic activity that does not necessarily lend itself to discrete, sequential steps. A new user-friendly “puzzle” schema² is introduced to help practitioners understand and address the essential elements in planning applied communications research. A major premise of the proposed puzzle schema is that researchers have some flexibility in the order in which they perform the planning steps of applied research. As with other creative activities in applied communications such as feature writing and graphic design, there is not necessarily a single best order from which the appropriate end may be obtained.

It is important to note that the proposed schema deals only with the planning, or predata collection, phases of the research process, as represented by the first three cells of Figure 1. There are practical reasons for limiting the schema in this manner. First, it is the planning, or “getting-started,” phase of research that is most troublesome to many communication practitioners. Second, many critical decisions about the research process are made in the planning phase. These decisions often cannot be altered or “undone” at later stages, so careful attention to the planning phase of research is warranted.

Audiences for this work include communication administrators and practitioners who use applied research to help guide or evaluate their efforts, as well as graduate students and others desiring an alternative conceptual lens through which to view the research process.

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Puzzle Schema for Applied Communications Research

In contrast to the rigid, linear research process advocated by most conventional methods textbooks, we conceptualize the research-planning process as a “puzzle” made up of individual, interlocking components (Figure 2). These components are as follows: researcher’s worldview, problem identification, theoretical perspective, methodological approach, research technique, and measurement. While these six components, or “puzzle pieces,” must be accounted for before the data-collection step of the research process, we argue that researchers have some degree of flexibility as to the order in which the pieces are completed and placed into the overall process.

This section provides a brief discussion of the components of the puzzle schema, followed by arguments for why the “puzzle” approach represents a viable alternative to conventional methods of describing the research-planning process.

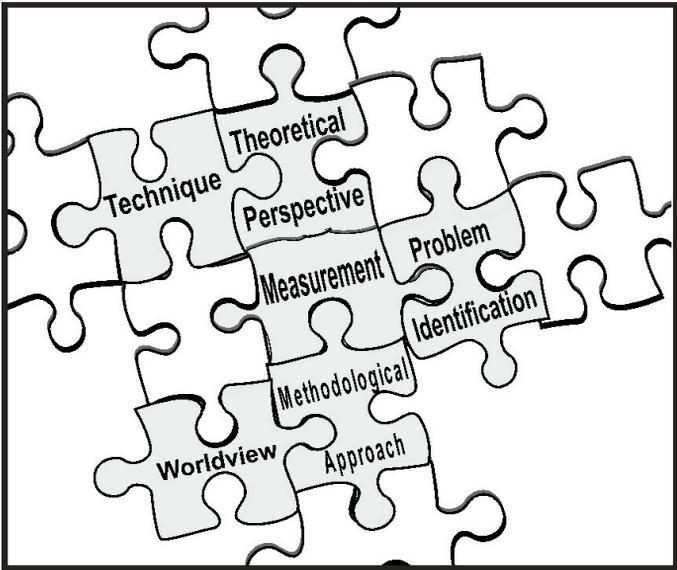


Figure 2. Proposed puzzle schema for planning applied communications research.

Puzzle “Pieces”

Researcher’s Worldview – Within our puzzle schema, all human perceptions and biases are based on our own particular worldview and formed through years of reasoning and experience. These views involve our opinions and ideas about the world and our role in it, and they greatly influence what we value in life, including personal and family goals and priorities, as well as our professional views. Our worldviews can and do affect all aspects of the research process, including what we choose to study, how we study it, and how we interpret and apply the findings.

Researchers’ worldviews are usually not explicitly built into the research process. Indeed, the common research paradigm calls for “objective” methods that discourage introduction of researchers’ personal beliefs or biases from the research process. Grunig and White (1992) note an important shift toward recognizing the importance of worldview in influencing research—especially in studies of communication-related topics. While we are most certainly not opposed to attempts to increase objectivity in research, we think it important to acknowledge that our worldviews can never be fully suppressed and that they have the potential to influence our research. In fact, left unchecked, our worldviews can lead to fatal flaws in the research process by dominating the questions we ask and interpretation of the answers we receive, as in the following actual examples:

- a study finding that FFA is the country’s foremost youth leadership development organization...based on a survey of former FFA state officers
- findings that show the public doesn’t believe biotech is a food safety risk...according to readers of a farm magazine
- survey data showing that X-type of media is the best way to reach a particular target audience...based on research sponsored by that medium’s trade association

Providing detailed descriptions of our research, how we made certain decisions, and why we interpret findings as we do does not minimize the influence of our worldviews, but it does allow users of our research to judge for themselves the rationale and validity of the process, and, ideally, to determine its relevance to their situation.

Problem Identification – A key stage in the research process is identification of the research problem, which involves an explicit formulation of the topic, or problem, to be studied. It is not difficult for most communication practitioners to identify problems for which they would like answers. Novice researchers, in particular, are often overly ambitious in identifying

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the research problem, which often leads to difficulties later in the process. Therefore, one of the difficult, subjective tasks in problem identification is sufficiently narrowing a problem or subject so that it can be manageably defined and studied.

Once the problem is identified, the researcher typically writes a statement of purpose that may be framed as either study questions or objectives. The selection of either study questions or objectives to guide the study is largely a matter of personal choice—the important thing is that they confine the scope of the research to specific aspects that can be measured and studied with social scientific methods. Narrowing the scope of a study is somewhat like focusing the lead of a news story or the key objective of a marketing campaign.

Theoretical Perspective – In this phase, the researcher reviews the literature to find how others have studied the problem, to learn their major findings, and to identify a theoretical perspective that will help give direction and structure to the study. Selection of a theoretical perspective is particularly important because it provides the researcher with a vantage point from which to view the research problem and suggests ways of studying it. In applied communications research, the theoretical perspective is typically adapted from an existing communication model or theory and applied to a particular problem.

The choice of a theoretical perspective must be based on the nature of the study problem because some theories are simply more appropriate for or better suited to particular topics. For instance, uses and gratifications theory could be quite useful in helping researchers anticipate which mass media channels are preferred by various target audiences, but it would be ill-suited to guiding a study on management perspectives used by university communication heads. When multiple theoretical perspectives can be identified as appropriate to helping guide a study, which is often the case, researchers can select the one they most prefer (is most consistent with their worldview), or a mix of perspectives can be used.

The following examples illustrate how theory has been used in various research articles recently published in the *Journal of Applied Communications*:

- Use of agenda-setting theory to assess whether farm magazine news coverage influenced news agendas of national nonfarm newspapers and news magazines (Sweeney & Hollifield, 2000)
- Use of the elaboration likelihood model, a persuasion theory, to investigate how terminologies used by mass media can influence consumer perceptions of food safety and acceptance of biotechnology (Miller, Annou & Wailes, 2003)

- Mix of three theoretical models (self-interest model, sociotropic model, and the symbolic politics model) to investigate the basis of Iowa residents' attitudes toward the environment (Rodriguez, Farnall, Geske & Peterson, 1998)

Despite the importance of the theoretical perspective component, it is the most derided and feared piece of the applied research puzzle. Communication practitioners and researchers alike may not value the role of thorough consideration of theory in developing a project. It's too easy to dismiss this component of research or compartmentalize it as merely a theoretical exercise with no practical basis. Perhaps the worst-case scenario is when research is avoided altogether because of felt inadequacy in this area. It is important to recognize that theory is an integral part of the research process, particularly because of its potential to influence other key phases, such as the selection of the methodological approach.

Methodological Approach – Another critical juncture in the research process requires the researcher to determine the methodological approach most appropriate for the study. The two major methodological approaches discussed in the literature are categorized as qualitative and quantitative. Qualitative methods are associated with naturalistic inquiry (Denzin & Lincoln, 1994) and are appropriate when the chief objective is to gain a deeper, richer understanding of a given topic. This approach lends itself to exploration and probing for new knowledge that may occur unexpectedly or serendipitously (Kirk & Miller, 1986). Qualitative research also generally assumes that data lend themselves to multiple interpretations and that the range of different interpretations contributes to the knowledge base. Results of qualitative analyses, such as those generated by focus groups or participant observation, are typically not generalized to larger populations.

Quantitative methods, which are associated with positivistic philosophy (Newman & Benz, 1998), are properly used to generate descriptive information about respondents and to test hypotheses developed from theory. Unlike qualitative research, quantitative methods generally assume that there is a single underlying truth or reality that can be identified using the scientific method. When conducted properly, quantitative analyses generate results that can be generalized to larger populations. Survey methodology has traditionally been the preferred technique for collecting quantitative data in the social sciences.

The particular choice of methodological approach in any given situation must be based on the nature of the problem to be addressed and not simply on personal preference. For instance, if the goal is to explore how potential students access a college Web site or how low-income clientele use mass

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media to acquire food safety information, qualitative methods such as focus groups or interviews may be particularly helpful. On the other hand, quantitative methods might be more appropriate if the goal is to develop a demographic profile of college alumni or to test hypotheses concerning what factors influence readership of our publications. Although much debate has been waged over which approach is more valid or appropriate for research, applied communicators need not concern themselves with these arguments. As Newman and Benz (1998) argue in their discussion of qualitative and quantitative methods, both methods are necessary to gain a full understanding of human perceptions and behaviors.

Research Technique – Selection of the research technique involves choosing the specific procedures by which data will be collected for analysis. One of the most common techniques used throughout the social sciences is survey methodology, which is generally a quantitative approach. Survey techniques typically involve sending or administering a structured questionnaire to a population or specific sample of individuals via the Internet, electronic or surface mail, or by telephone.

Other common research techniques in applied communications research include a mix of quantitative and qualitative methods, such as content analysis, focus group interviews, in-depth interviews, case studies and various quasi-experimental designs (Wimmer & Dominick, 2003; Campbell & Stanley, 1963). Many excellent references are available that provide detailed information and advice on these and other techniques. Selection of the research technique should be based largely on its compatibility with the methodological approach and the problem statement. For instance, if the problem involves testing of hypotheses or learning more about an audience according to pre-defined criteria, survey techniques may be most appropriate. If the problem requires a more in-depth exploration of a topic, particularly one that is specialized or in which the researcher has little experience, focus groups or in-depth interviews may be more appropriate. Finally, quasi-experimental designs are often appropriate when the researcher wishes to conduct semicontrolled experiments or similar tests in natural settings, such as classrooms. For instance, such designs are often used to examine the effectiveness of new curricula or new communications technologies.

If time or expertise is an impediment in carrying out the preferred research technique, consult a research- or statistical-service department available on most campuses, or collaborate with social science colleagues from academic departments such as communications, rural sociology, agricultural education, or economics.

Measurement – The measurement component of research refers to the task of determining how key items, or variables, will be identified or operationalized. Measurement concerns vary greatly according to the research technique being used. For example, in content analysis, the measurement task often involves how you or your personnel will identify variables of interest in a given text. For instance, how will you identify articles that contain “editorializing” in an edition of the *New York Times*, or how will you identify “bias” in an organization’s Web page stories?

In questionnaires developed for mail or telephone survey techniques, the concerns are quite different, but still complex. Survey techniques typically require that questionnaires be filled out by a diverse group of individuals in their homes or businesses, where you are not available to answer questions about the project or assist them in understanding the questions. A primary concern in such cases is ensuring that items are phrased clearly, so there can be no confusion in what is being asked of the respondent. A field test, conducted as a trial run before the final questionnaire is sent out, should always be conducted to ensure that all items and instructions are clear.

Another measurement concern is phrasing items in such a way that they provide the specific information needed for decision-making. The task is complex because similar types of questions can yield different answers and interpretations. For instance, imagine that an editor wants to measure preference for a newsletter used in a popular Extension program: Should she ask how important the publication is to readers? Or, do readers look forward to receiving it? Or, are readers willing to pay for the publication? Or, how helpful is the publication? Should responses be “yes/no,” or scaled so that respondents provide a value from 1 (strongly agree) to 5 (strongly disagree)? There are no correct answers to these options. The best choice depends on the nature of information needed, the theoretical perspective, and the results of the literature review. The manner in which questions are asked is probably one of the best predictors of data quality. So, when in doubt, applied researchers should consult with a social science colleague from an academic department or contract this work out to a research-service department.

Piecing Together

We believe a puzzle is an appropriate metaphor to describe the applied communications research planning process. Numbered checklists and flowcharts commonly used in research methods textbooks provide a detailed description of the process, but tend to imply that successful research must be done in a singular, rigid sequence. Our puzzle schema retains the essential elements of textbook approaches, but, we believe, provides a more dynamic

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view of how the separate “pieces” of applied research fit together when planning research.

For instance, unlike most textbook approaches, the puzzle schema has no obvious starting point. This feature mirrors reality in that many communication practitioners are unable to specify correctly the research problem during the early stages of the process. Occasionally, it is possible for us to specify study objectives only after investigating research designs developed by colleagues or looking at how others have used their research findings. It is often during these phases that many communication practitioners become genuinely excited about adapting the research process to their own needs and problems. Curiosity in or investigation of any of the components shown in Figure 2 may well give individuals the awareness and motivation needed to learn more about the whole process.

This argument brings us to the first of three myths and misperceptions we believe are visually exposed by applying the puzzle schema to applied communications research. First among these myths is the contention that research must be carried out in a sequential, linear process in which discrete steps must be followed in the prescribed order. The common experience of many applied researchers contradicts this simplification. In truth, many of the components of research shown in Figure 2 are completed concurrently or in a reciprocal fashion rather than proceeding predictably from one to another. For instance, our training or preference for certain theoretical perspectives may well shape the way we identify research problems. Similar relationships likely exist among other components in our puzzle schema. The thin line between research technique and measurement of variables is particularly worth noting. Our experience and familiarity in measuring communication variables in certain ways, for instance, may well lead to our increased reliance on and use of a given research technique.

In all such cases, we might well consider and resolve multiple components at the same time or even in reverse order before working out all of the details of the research design. Most important is not that components are treated in a rigid order or sequence, but that all are rigorously addressed and resolved before proceeding to data collection. On the practical side, forcing ourselves to diagram the process of a research project provides a cross-check to ensure that enough time is being spent on the necessary pieces of the research puzzle.

A second misperception dispelled by the puzzle schema is that applied studies are somehow less theoretical than formal research. Perhaps because applied research is practical, some come to believe that theory is unnecessary. In reality, all research is based on some type of theory. Those who do

not state the theory they are using may be relying on little more than their own worldview as a basis for the study, but there is always some underlying principle in use. Explicitly stating the theory we are using forces us, and allows others, to think about the logic being used in the research.

Articulating the theories and principles underlying the study is as important in applied research as in “pure” research (Vocate, 1997). Practical options exist for those colleagues who feel inadequate in their theoretical grounding. For instance, collaborating with someone who is more research-focused but understands the need for timeliness in applied research is an earlier-stated option. Also, simply taking time to look at others’ work addressing research questions or problems similar to yours can help you build a theoretical base and may also help with the methodological piece of the puzzle.

A final misperception exposed by the puzzle schema is the notion that decision-making with hastily collected data is always better than basing decisions on no data at all. The “quick and dirty” argument says a study can be valuable if it provides at least some information for decision-making. Such studies are usually done quickly by omitting one or more of the components shown in Figure 2. However, as shown, the separate components are interlocking, which suggests each is essential to the generation of valid research findings. Suspect data will result if components are left out or performed improperly. There is no statistical procedure or method that can be used to reduce the error caused by truncating the research process. Hastily conducted research is often not research at all and is a risky basis for decision-making. We recognize this assertion may not sit well with colleagues who cite time as the greatest constraint to conducting quality research. However, we maintain that recognizing the connectivity between puzzle pieces can help even the busiest practitioners to cleanse their “quick and dirty” work.

Conclusions

All communication professionals—practitioners, administrators, and tenure-track faculty—have a stake in the conduct of sound research in our field. Applied research, properly conducted and interpreted, can not only guide our individual efforts, but also help propel the profession. Likewise, the organizations we work with benefit from valid research into the motivations and needs of various publics. As examples, Dozier, Grunig, and Grunig (1995) and Grunig et al. (1992) consider nearly 40 years of evidence that two-way symmetrical communication environments benefit the function and financial bottom line of organizations. We argue that, especially within public educational organizations, part of such symmetry can be achieved only by properly conducted research. The changing needs and demographic char-

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acteristics of our audiences require the use of social science tools to gather intelligence on what those publics know about us and what they want from us in the future (Dozier et al., 1995).

Lack of time and expertise are common reasons that research is not conducted properly or is not undertaken. The puzzle schema proposed in this paper illustrates and defines key components of the research-planning process and is used to dispel some of the common myths associated with applied research. A major argument advanced here is that attempts to bypass or truncate essential research-planning components can jeopardize the validity of findings in applied communications research. Each component is an essential "piece" of the research puzzle. At the same time, the puzzle schema does accord more fluidity to the research process—the order in which components are accomplished is not as important as ensuring that all phases are fully completed before data collection. Flexibility does not mean that researchers may do whatever they please and call it research. Certain tasks must be accomplished properly to conduct valid research in applied communications. For instance, there are right and wrong ways to interpret theories, sample populations, and use findings.

Topics such as data collection, data analysis and application of research findings represent other crucial links in the applied communications research chain and are deserving of attention in future papers. As a profession, we may also need to make a renewed commitment to building our applied research base. We need to encourage curiosity and build interest in research throughout the ACE membership, particularly among new members, and we need to make our administrators aware of the ways that applied communications research benefits our institutions. Finally, we need to reward those who conduct good research and especially those who share it with others through peer-reviewed journals such as the *Journal of Applied Communications* and other professional outlets. While advances in theory, methods, and software will undoubtedly improve applied communications research in the future, the most promising advances are likely to come from breakthroughs in our own thinking.

Endnotes

¹We also have noted through informal scanning of professional meeting agendas and journals that some noncommunication disciplines are showing an increased interest in communications research. Recent examples include programs and papers presented at the 2002 annual meeting of the American

Agricultural Economics Association in Long Beach, Calif., and the 2003 annual meeting of the Rural Sociological Society in Montreal, Canada.

²A “schema” is defined as a diagram, outline, or structured framework.

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