

# Delphi and NGT for Consensus Building E-Research

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## INTRODUCTION

Research is a quest, driven by a specific question, that needs an answer. Leedy (1993), in his book, *Practical Research: Planning and Design*, lists eight characteristics to define research. Research:

1. Originates with a question or a problem
2. Requires a clear articulation of a goal
3. Follows a specific plan of procedure
4. Usually divides the principal problem into more manageable subproblems
5. Is a specific research problem, question, or hypothesis that will guide research
6. Accepts certain critical assumptions. These assumptions are underlying theories or ideas about how the world works
7. Requires the collection and interpretation of data in attempting to resolve the problem that initiated the research
8. Is, by its nature, cyclical; or more exactly, spiral or helical

Anderson and Kanuka (2003) loosely define e-research as research that takes advantage of “the excitement, breadth, and diversity offered by an ever-increasing and sometimes bewildering set of new Net-based tools and techniques” (Anderson & Kanuka, 2003, p. 4). They suggest that e-research incorporates “special tasks” that act as its boundaries (p. 5). Beyond the qualitative vs. quantitative debate that has occupied traditional research discussions, e-research is:

*more than a set of new research techniques...the e-Researcher is both a participant and researcher of the environment in which the research occurs...it takes its place alongside e-commerce and e-learning as alternative ways to act, understand, and create knowledge in a networked society...[it] spans temporal distance...[and] research applications can be customized to take advantage of either synchronous or*

*asynchronous formats – or both. E-Research permits the exploration of new fields of knowledge...[and] is concerned both with the application and adoption of tools from the real world and the invention, refinement, and calibration of a new genre of tools. (Anderson & Kanuka, 2003, p. 5-7)*

## BACKGROUND

When defining early research into distance learning and, more recently, online learning environments, many researchers took what they knew worked in “traditional” settings, and did their best to take their tools and skills and apply them to this “new media.” Saba (2000) and Best (1977) agree that the traditional settings and research methodology had been the “scientific” method, and that dominating education was experimental research. The use of traditional methods, while seen as having merit, had its detractors within this new media (see Diaz, 2000, for a discussion of some of the limitations of traditional methods used within distance learning).

Johnston (1984) maintained that the freshness of the new media both required and made possible new research methodologies that are able to take into account the properties and exceptional characteristics of this media. He argued that long-established educational research methods were imperfect and did not fit because they were created for different environments. Harasim (1991) concurred. “...New communication media, particularly computer-mediated systems such as electronic mail, computer conferencing, and bulletin boards, can...facilitate not only [new]...but different forms of active and group learning...[enabling] new forms of educational interaction to study as well as new tools for conducting such research” (Harasim, 1991, p. 1-2).

Indeed, this “educational interaction,” this opportunity to collaborate and possibly cooperate with other disciplines and research paradigms, brought together

by examinations of the online learning environment, may finally put the qualitative/quantitative dichotomy to rest. As Paccagnella (1997) acknowledges “Despite the recent advances in the methods used in social sciences and the sophistication of post-modern epistemological debates, one of the first things most people still want to know when one speaks about social research is whether one’s orientation is *quantitative* or *qualitative*...[it is possible that] CMC [computer-mediated communication] constitutes a field which, given its own intrinsic characteristics, could transcend the traditional quality/quantity distinction, fostering at the same time new perspectives of analysis” (Paccagnella, 1997). Rossman and Wilson (1994) concur by stating that “[p]erhaps wisdom lies in being tolerant and *shamelessly eclectic* in our use of methods” (Rossman & Wilson, 1994).

In much of the current research, traditional methodologies, some modified and some not, continue to be used in online and CMC research. Table 1 summarizes some of the traditional applications.

Along with the new areas to explore and research, new research problems are emerging and with this emergence, methodologies are being created, modified, and adjusted to begin to address these problems, changing the very conversation that is educational research (Middleton, 2000, p. 3).

*Table 1. A summary of some of the traditional methodologies used in e-research*

Web-based survey and e-mail research
Content analysis
Participant observation (within online communities)
Structured and semi-structured interviews (both online and off-line, in real time and virtually using synchronous and asynchronous technology)
Delphi studies
Focus groups (again, both online in real-time chat, and off-line, face-to-face)
Document collection and analysis

## MAIN FOCUS: CONSENSUS BUILDING ON THE INTERNET

One of the areas of growth in e-research is the area of consensus building on the Internet. Anderson and Kanuka (2003) suggest a number of advantages to consensus-building techniques, both via traditional delivery and using the Internet as the main means of communication and interaction. They maintain that the following can be accomplished by using consensus building:

- High-quality, informed opinions
- Safety in numbers
- Authority
- Controlled process
- Supports communication among individuals with polarized views
- Credibility
- Accessibility
- Time and cost savings
- Equitable time and power sharing
- Broad and diverse opinions (Anderson & Kanuka, 2003, p. 122-124)

Two of the most common consensus-building techniques that are moving online are the *Delphi* method and the *nominal group technique* (NGT).

### Delphi

Invented by the RAND Corporation in the United States in the 1950s and called Delphi to honor the Oracle of Delphi of Ancient Greece, this technique has been used to obtain consensus and to forecast the future (Bramwell & Hykawy, 1999; Gabriel, Ostridge, & Doiron, 2003; Neiger, Barnes, Thackeray, & Lindman, 2001).

According to Fish and Busby (1996) and Linstone and Turoff (1975), the Delphi method is a procedure designed to have a panel of knowledgeable persons reach consensus on a particular topic. Delphi offers an “impersonal anonymous setting” where divergent opinions can be raised without any sort of direct interaction (Pfeiffer, 1969, p. 155). The Delphi method attempts to prevent or minimise the influence of dominant individuals, biased communication, and group conformity (Dalkey, 1972). Perhaps most importantly, Clayton (1997) argues that the Delphi method is an

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