

Cognitive Technology's Contribution to Cognitive Psychology: The Optimization of Discovery and Application

EDITORIAL

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The Need for a Forum for Applications of Cognitive Psychology.

In the past three decades, cognitive psychology has grown rapidly, as fast or faster than other areas of psychology. Basic research programs

in cognitive psychology have been developed at almost all major colleges and universities. Over this period, a sufficient body of basic cognitive research has accumulated and many applied researchers have come to apply basic cognitive theories to everyday problems (Barber, 1988; Berger, Pezdek, & Banks, 1987; Gruneberg, Morris, & Sykes, 1978, 1988; Herrmann, McEvoy, Hertzog, Hertel, & Johnson, 1996; Hoffman & Deffenbacher, 1992).

Applied researchers have sought to solve real world problems and devise remedies for situations in which people have difficulty in perceiving, comprehending, learning, remembering, reasoning and problem-solving. For example, cognitive psychology has been successfully applied to: improving the accuracy of surveys; resolving legal disputes over trademark infringement; identifying flaws in computer screens in commercial software; developing treatments for cognitive problems due to neuropsychological impairments; and numerous other products and services intended for the home, business, industry, and government.

Although applications of cognitive psychology are on the increase, the absolute number of such applications is less than it should be (Gruneberg, Morris, Sykes, & Herrmann, 1996; Herrmann & Raybeck, in press; Hoffman, & Deffenbacher, 1993; Intons-Peterson, in press; Payne & Conrad, in press; Schonflug, 1993a, b). One reason why cognitive psychology is not being applied more broadly is because much basic research that might lead to successful applications is not being disseminated beyond the basic research community. Similarly, effective cognitive applications are not widely shared. Basic journals often do not reach applied

researchers, and applied reports on product development are typically circulated just within the organization that will produce the application. As a result, applied researchers often unknowingly repeat development and evaluation research done by others; and basic researchers never learn about the limits of their findings and theories. Clearly, a forum is needed for presentation of new cognitive products, as well as for scientific analysis of new products of technology that aid a person's cognitive function.

The Purpose of this Journal

The primary purpose of Cognitive Technology is to provide such a forum, a communication channel that will facilitate the sharing of scientific knowledge helpful to basic researchers and applied researchers. Basic research and applied research have more to offer each other than is currently being accomplished (Herrmann, in press; Herrmann & Raybeck, in press; Schonflug, 1993a, b; Payne & Conrad, in press), a state of affairs that sadly has existed since the early days of psychology (Munsterberg, 1914).

Stimulation of Basic and Applied Research. Cognitive Technology will present applied research and applied theories of particular cognitive applications that will benefit other applied researchers. Reports on these topics will accelerate the development and dissemination of applications of cognitive psychology (particularly applications addressing the cognitive processes of comprehension, perception, memory, problem solving, and reasoning). Specifically:

- Cognitive Technology will seek to increase the access of applied researchers to the latest basic cognitive theories, especially those theories that have the greatest potential for immediate application and development into useful technologies. If applied researchers can learn about recent advances in basic theory more rapidly than is now the case, then better services and products may be

developed faster to meet the needs of society (Dasgupta, 1996; DeVore, 1980).

- Cognitive Technology will seek to increase the access of basic researchers to applied research that suggests refinements of basic theories. If a cognitive theory cannot explain, or lead to successful application, then that theory clearly is inadequate.
- Cognitive Technology will provide a much needed outlet for the presentation of new cognitive products. Successful applications attest to the power of cognitive psychology, and may increase the flow of funds to both basic research and applied research.

Facilitating Communication. Basic researchers and applied researchers have a great deal to gain if they can substantially improve their communication. Improved communication between basic and applied researchers will accelerate the development and use of basic and applied cognitive research. Increased communication about applications of cognitive psychology will lead to greater public support of our science and more opportunities for cognitive psychologists to contribute in important ways to the public good.

General Editorial Policies

Cognitive Technology will publish articles about any cognitive technology where technology is defined as either a device or a procedure that is hypothesized to facilitate cognitive functioning. All articles have the goal of advancing the scientific understanding of cognitive psychology as well as advancing the development of cognitive technology.

In that this journal is the first to pay sole attention to the applications of cognitive psychology, Cognitive Technology will initially experiment with the format of articles. Our goal is to find which formats work most effectively for different kinds of reports concerned with applications. We will be soliciting the reactions of both readers and authors regarding the articles and means of presentation. If you want to offer your reactions before we contact you, please do so.

Conclusion

The long and short history of applied cognitive psychology is replete with ingenious investigations and applications of cognitive psychology (Hoffman & Deffenbacher, 1992). However, as many have suggested, the largest effects, may have been found. Important effects will still be discovered and be applied to real world situations, but these discoveries and applications may not

come as easily as the ones of the past. If cognitive psychology is to grow as rapidly as in the past, discoveries must continue to be made at a good pace. Similarly, society must be informed when new applications, innovations, and inventions are due to progress in our science.

However, public support of science has declined in recent years (Miller, 1995). Today, basic and applied researchers need to collaborate more than ever before in order to discover new knowledge and apply this knowledge effectively. If basic and applied researchers can come together and communicate through such societies as the Society for Applied Research on Memory and Cognition and through journals such as: *Applied Cognitive Psychology*; *Applied Psychology*; *Applied Psychology: An International Review*; *Journal of Experimental Psychology: Applied*; and now *Cognitive Technology*, then the promise of cognitive psychology may actually be realized as cognitive technologies increase the tangible benefits we provide to society.

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