THE NEED TO TRAIN MORE BEHAVIOR ANALYSTS TO BE BETTER APPLIED RESEARCHERS

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Malort's paper is a provocative and welcomed contribution to the behavior analysis literature. He has addressed the important topic reflected in his title in a seemingly forthright, albeit controversial, manner. The focus and effectiveness of graduate programs in applied behavior analysis have received relatively little attention in the behavioral literature; however, attention is currently warranted in light of the larger issue of the status of the education system in general in the United States. Hence, the main thrust of Malott's points warrants serious consideration. Such consideration could lead to responsive action, resulting in important changes in the graduate education of applied behavior analysts.

To suggest that Malott's paper should help set the occasion for changes in graduate programs in applied behavior analysis of course implies agreement with his summary of the primary problem with these programs (i.e., the low success rate of teaching productive researchers in applied behavior analysis). In this regard, I am in agreement with his summary. However, I am not in total agreement with his recommended corrective actions. I suggest that graduate programs in applied behavior analysis should not discontinue training as many students to be researchers, as Malott recommends, but rather should make changes in order to do a more effective job of teaching students how to be successful researchers in nonacademic settings. The rationale for why such teaching should occur is summarized in the following paragraphs, followed in turn by suggestions on how to improve the teaching.

Why Graduate Programs Should Teach Students to Be (Better) Researchers

Malott cogently responds to, and negates to a large degree, traditional reasons for training practitioners in research methodology and related skills. However, there are other important reasons for teaching research skills not addressed by Malott. Some of the reasons have been discussed in depth previously (Reid, 1987), and a few will be only briefly described here. First, research skills in applied behavior analysis can be important for assisting practitioners in critically evaluating the validity and efficacy of new developments in the human services, which is the primary area of employment of behavior analysts in nonacademic settings. Human services in general, and education in particular, are replete with recommendations supposedly stemming from research that have led to changes in policy and practice over the years. Unfortunately, much of the research (where research exists) is conducted very poorly, and resulting conclusions are of limited value at best for practitioners. Relatedly, practitioners are rarely sufficiently trained to evaluate research critically. Many practitioners often assume new developments popularized in the professional literature, workshops, and so on are useful because the recommendations reportedly stem from research (which to many human services personnel simply means there is some reference to statistics). Practitioners trained in critically evaluating research can be invaluable for controlling (or at least impeding enthusiastic adoption of) ineffectual procedural changes based on research of questionable quality. In this regard, perhaps consideration is warranted regarding Malott's point that it is cost ineffective to train practitioners in research skills in order to allow the practitioners to be able to detect poorly conducted and/or analyzed research pre-

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sented in scholarly behavioral journals. However, good research skills are useful for critically evaluating those journals and related sources that are not so scholarly or scientifically rigid, from which invalid conclusions are likely to be drawn. At least someone (i.e., a behavior analyst skilled in research) should be in every human services agency to help prevent the agency from responding to misguided information that can result in ineffective and even counterproductive changes in service provision.

Another advantage of training behavior analyst practitioners in research skills not emphasized by Malott is that if practitioners successfully conduct research, the applied research process can improve an agency's service provision as well as the human services field in general (see Reid, 1987, for elaboration). Also, by successfully involving a behavioral researcher's agency colleagues in collaboration on applied research, the service provision skills of these colleagues can be enhanced. The skill enhancement results from participating in various professional activities related to conducting successful research, such as reading relevant professional literature, attending conferences, and responding to requests for consultation. Such professional activity is otherwise frequently lacking among many personnel in human services settings.

The end result of the processes just summarized is a small but important increase in the awareness and corresponding application (i.e., adoption) of behavior analysis technology in applied settings. When considered in this vein, more applied behavior-analytic researchers are needed in applied settings, not fewer—assuming, of course, that the researchers are skilled and successful at conducting applied research.

Improving the Success of Graduate Programs in Teaching Students to Be Productive Researchers in Applied Behavior Analysis

As alluded to earlier, Malott makes a rather striking case regarding the ineffectiveness of many graduate programs at teaching students to be successful researchers in applied behavior analysis. He subsequently concludes that most graduate faculty should consider deemphasizing the teaching of scientific research, because most faculty members do not perform such teaching very well. Based on the premise just noted that applied behavior analysis research is important in human services settings, I would argue not to deemphasize teaching research skills in graduate programs but, as indicated previously, to change the teaching focus somewhat and do a more effective job of teaching. If graduate programs were more successful at teaching research skills (and this point seems at least implicitly reflected in Malott's comments) then the question of whether the programs should teach such skills becomes much less of an issue.

Applied behavior analysis as a field has grown enormously since the 1960s, with many specialty areas of research and application having developed. Some of the specialty areas are amenable to research undertakings in nonacademic settings, and some are not. If most behavior analysts will eventually work in applied settings as Malott indicates, then the focus of their research training should be on the former specialty areas. To illustrate, research on applied behavior analysis technology—its development, application, refinement, and adoptionis often amenable to incorporation into existing human services settings and practices, whereas theoretical research is not amenable in this respect. Technological research can be problem solving in nature, and every human services agency has problems to be solved.

In addition to the selected focus of applied research, the eventual success of a research program is affected significantly by *how* the research is conducted in relation to a respective setting's resources and routine practices. The latter issue pertains to research skills typically not addressed in academic research curricula. Such skills include, for example, (a) establishing a research agenda based on the goals of the agency and interests of agency staff in contrast to the researcher's particular research interests, (b) selecting experimental designs acceptable to agency staff and flexible to compensate for day-to-day work contingencies, and (c) finding and applying available agency staff resources to assist with the research. Actually, the latter skills could be addressed

through a systems analysis approach, as described by Malott, and be incorporated into graduate training curricula.

One suggestion for improving the applied research skills of students offered by Malott that seems especially interesting is for students to complete a research internship under the tutelage of a successful researcher working in an applied setting. As a practitioner, and perhaps responding selfishly, I strongly support such an idea. I also believe many agency executives, at least in the human services with which I am familiar, would seriously welcome such an arrangement—provided it was clear to all involved that the research would be applied in nature and in accordance with respective agency missions. A related suggestion I offer is for faculty members responsible for teaching applied research methodology to fulfill periodically a sabbatical-type role in an applied setting and conduct research while in that role, under the supervision of a successful practitioner/researcher. Many contingencies operating on a faculty member's research behavior are different than the contingencies operating on a practitioner's research behavior. The type of sabbatical arrangement suggested here could serve to increase a faculty person's awareness of the latter contingencies as well as the countercontrol types of skills often necessary for conducting research in an applied services setting. In essence, this process could function in the same manner as more traditional

postdoctoral training for practitioners, but in this case for university teachers, and could have a number of educational benefits (cf. Bailey, 1981) that would subsequently be incorporated into graduate training programs in applied behavior analysis.

In summary, Malott identifies an important and problematic issue warranting attention. Although I disagree in large part with his recommended solutions, I sincerely commend his willingness to raise the issue so cogently. Indeed, a problem is unlikely to be solved if the problem is not well identified. Malott's pointed articulation of the problem in current graduate programs is likely to draw considerable professional attention to the issue, attention that is seriously needed if significant improvements are going to occur in the training of productive researchers in applied behavior analysis.

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