Toward the Globalization of Behavior Analysis

Maria E. Malott
Malott & Associates

Globalization could facilitate the long-term growth of behavior analysis, and although progress has been made, much yet needs to be done. Given the scarcity of resources, it is suggested that we draw from successes in the development of behavior analysis and establish behavioral programs around the world that embrace research, education, and practice as a focus of systematic globalization efforts. The strategy would require the implementation of cultural contingencies that support initiation and long-term program expansion. For program initiation, contingencies are needed to place pioneer behavior analysts in university units that would be unlikely to start a behavioral program otherwise. The task of these pioneers would be to build a critical mass that would multiply behavior-analytic repertoires, obtain research funding, conduct publishable research, and establish applied settings. For long-term program development, the field should expand internationally as it continues building the infrastructure needed to accelerate the demand for behavioral programs in higher education, scholarly work in behavior analysis, behavior analysts in existing jobs, and behavioral technology in the market place.

Key words: behavior analysis, critical mass, globalization, international development, multipliers

The Association for Behavior Analysis (ABA) has made great strides in its international growth. In the past 5 years, while U.S. membership increased 53%, non-U.S. membership increased 118% (see Figure 1). Of the 4,283 ABA members in 2003, 14% (i.e., 592) were from 42 countries other than the U.S.¹ (Association for Behavior Analysis, 2003c).

Since the creation in 1983 of the first international ABA chapter, Behavior

Analysis in Ireland, non-U.S. ABA chapters have also proliferated. In 2003, 18 of the 43 ABA chapters were from countries other than the U.S., comprising 6,227 of the estimated 10,722 chapter members (see Figure 2).

In the past 5 years, non-U.S. registration at the ABA annual conventions has increased 3.9-fold. The 2003 ABA annual convention had 3,217 registrants from 26 countries; and for the first time, thanks to Richard W. Malott and students from Western Michigan University (Chiew Fei Tan, Koji Takeshima, and Yukiko Washio), the 2003 program included two bilingual tracks (Association for Behavior Analysis, 2003a; Tan, 2003). In 2002, for the first time, ABA's annual convention was held outside the U.S., in Toronto, Ontario, Canada. Moreover, starting in 2001, ABA has begun to organize special international conferences. The first conference was held in Venice, Italy, and attracted 259 registrants from 27 countries (Malott, 2002). The next ABA international conferences are scheduled in Brazil for 2004 and China for 2005.

Although much progress in the international growth of behavior analysis has already been made, there is still much to do (Malott, Davison, & Sato,

This paper is based on the Society for the Advancement of Behavior Analysis award address for the international dissemination of behavior analysis delivered to the annual meeting of the Association for Behavior Analysis in San Francisco, May 2003.

I thank Sigrid S. Glenn, Richard W. Malott, Jackson M. Marr, Lori H. Miller, Joseph Morrow, and Majda M. Seuss for revising early versions of this manuscript.

Correspondence concerning this article should be addressed to Maria E. Malott at 6104 Far Hills Way, Kalamazoo, Michigan 49009 (e-mail: mmalott@abainternational.org).

¹ ABA members in 2003 were from the following countries: Argentina, Australia, Bahrain, Bangladesh, Belgium, Brazil, Canada, Cayman Islands, Colombia, Costa Rica, Finland, France, Georgia, Germany, Greece, Guam, Hong Kong, Iceland, India, Ireland, Israel, Italy, Japan, Jordan, Mexico, the Netherlands, New Zealand, Norway, the Philippines, Poland, Portugal, Russia, Saudi Arabia, Singapore, South Korea, Spain, Sweden, Switzerland, Taiwan, Turkey, the United Kingdom, and Venezuela.

Figure 1. ABA membership growth between 1998 and 2003.

1999). The discipline should be actively disseminated around the world—not only the application of behavioral technology, but also the basic science, the research methodologies, and the philosophy of behavior analysis. This is a gigantic task, one that can only be accomplished if globalization addresses education, basic and applied research, and effective, science-based practice.

Successful Strategies

The discipline of behavior analysis has its roots in academic settings, where it continues to receive much of its nourishment. Typically, one or two behavior analysts joined a program in psychology, education, or a related discipline. Sometimes these pioneers

managed to arrange for hiring other dedicated behavior analysts in the same department until a critical mass was reached that provided enough courses to “multiply” individuals with similar repertoires (Ellis & Glenn, 1995; Morris, et al., 2001; Polson, 1995). Even though a few of those programs no longer exist, graduates and faculty members of those programs became “multipliers” of behavior analysts in other colleges and universities.

The field has been enriched by the long-lasting impact of early programs, starting in the 1960s at the University of Kansas (Baer, 1993), the University of Washington (Lovitt, 1993), Southern Illinois University at Carbondale (Rubin & Cuvo, 1993), Western Michigan University (Michael, 1993), West Virginia University (Hawkins, Chase, & Scotti, 1993), and the University of Florida (Pennypacker, 2002). The 2003 graduate training directory (Association for Behavior Analysis, 2003b) of behavior analysis lists 99 programs in 87 universities. Twenty-seven of these programs were in 24 universities located outside the U.S.²; a number of these programs can generate “multipliers.” In 2003, of the 18 universities

Figure 2. Members reported by ABA affiliated chapters in 2003.

² There were 17 non-U.S. graduate programs listed in the 2003 ABA Graduate Training Directory: Latin America (5), the Middle East (2), Europe (4), Australasia (4), Southeast Asia (1), and Canada (1).

hiring behavior-analytic faculty, four were located outside the U.S.³

Without question, academic programs in behavior analysis have been the major contributors to research. Between 1983 and 2002, 93% of the first authors of the articles published in the *Journal of the Experimental Analysis of Behavior (JEAB)*, the *Journal of Applied Behavior Analysis (JABA)*, the *Behavior Analyst (TBA)*, the *Analysis of Verbal Behavior (TAVB)*, and the *Journal of Organizational Behavior Management (JOBM)* were by university faculty and their students.⁴ Only 12% of the contributors to these journals were from Europe, Latin America, Australasia, Southeast Asia, and Canada. (For other accounts of publication patterns in behavior analysis journals, including international representation, see Critchfield, Buskist, Crockett, Sherburne, & Keel, 2000; Dymond, 1997; Dymond & Critchfield, 2001; Mathews, 1997; Saville, Epting, & Buskist, 2002.)

University programs also have had an impact on the expansion of applied behavior analysis in a variety of settings, such as institutions for developmental disabilities, schools, hospitals, and businesses. In these settings, faculty and students conduct research and training while they benefit their communities by delivering valuable behavior-analytic services. Some behavior-analytic-based businesses have successfully evolved from these academic settings and have become reliable sources of employment for behavior analysts. Examples of application-directed organizations originated in academia include Applied Behavior Consultants, which originated at California

State University, Sacramento; the Continuous Learning Group, which originated at West Virginia University; and MammaCare, which originated at the University of Florida.

Proposal for Globalization

Because the resources of the field are limited, behavior analysts can be more effective in accomplishing globalization if they engage in a few strategic and enduring efforts, rather than in a long list of overambitious or unachievable initiatives. Drawing from experience in developing the field thus far, a worthwhile effort toward the long-term establishment of behavior analysis around the world would be to place two or more behavior analysts in university units that would be unlikely to start behavioral programs otherwise. The task of these pioneers would be to build the critical mass that would promote and expand behavior-analytic repertoires, obtain research funding, conduct publishable research, and help to establish applied settings that would ultimately employ behavior analysts.

There have been a number of behavior analysts who work alone, sometimes at odds with their university departmental programs, but who have trained other excellent behavior analysts and have produced outstanding scholarly work. However, multiplying behavior analysts is more difficult to do when one works in isolation, particularly without departmental support. Attempting to establish behaviorally oriented programs might offer greater chances of success than spreading behavior analysts too thin across many different universities.

Program development has been the underlying goal of ABA's international delegations. As a first step, countries with potential resources for the successful development of behavior analysis are identified. Then a small group of behavior analysts, each focusing on a critical aspect of development, meets jointly with the region's advocates, volunteers their time and resources to

³ Non-U.S. programs posting jobs in ABA job placement in 2003 were located at Southampton University, United Kingdom (2); St. Lawrence College, Canada (1); University of Auckland, New Zealand (1); and University of Wales, United Kingdom (1).

⁴ Of 3,498 articles published in *JEAB*, *JABA*, *TBA*, *TAVB*, and *JOBM* between 1983 and 2002, the first authors of 3,242 (92.6%) had university affiliations.

meet in the target area, and strategizes initial steps for long-term development, including educating relevant constituencies about behavior analysis, building a critical mass in a university program, creating an applied setting, and establishing a professional organization. ABA organized a delegation to Russia in 2000 (Malott, Morrow, Glenn, & Hayes, 2000), another to China in 2002 (Malott et al., 2002), and another to Bahrain, Qatar, and Saudi Arabia in 2003 (Malott et al., 2003). From these delegation initiatives, the participants have learned that to accomplish viable program development with the field's limited resources, careful and selective contingencies need to be engineered that will support the behaviors necessary for starting, maintaining, and continuously developing behavior analysis programs around the world.

Contingencies to Start Behavior Analysis Programs

Developing pioneer faculty to start programs. To start behavioral programs in universities, pioneer faculty first need to be developed. Linda Hayes has built a system to help generate behavior-analytic faculty members in universities where it would otherwise be difficult to establish a behavioral program. The Behavior Analysis Program at the University of Nevada, Reno, is funding Irina Egorova, assistant professor of the Psychology Department at St. Petersburg State University, and Yanqing Guo from the University of Beijing Medical School to study behavior analysis at Reno for the 2003–2004 academic year. The candidates commit to become certified, translate a major work in behavior analysis into their native language, teach behavior analysis, and help to establish behavioral programs after returning to their home countries (Hayes, 2002).

Sidney and Janet Bijou have implemented another model that can generate multipliers by financially support-

ing students in a doctoral program in child development (Wesolowski, 2002). Since 1998, seven students have been awarded the Bijou Fellowship; one is from Brazil and another is from the Netherlands. Inspired by the Bijou model and with the financial support of over 324 ABA members, the Society for the Advancement of Behavior Analysis has awarded fellowships in the experimental analysis of behavior to one student from New Zealand and another from Japan, and it will continue to offer fellowships each year.

Expanding current behavior analysis programs internationally. Globalization of behavior analysis can be facilitated if existing programs develop means for international outreach. For example, Sigrid Glenn, in collaboration with University of North Texas faculty Janet Ellis, Leslie Burkett, and Shahla Ala'i-Rosales, has established an Internet-based behavior analysis course sequence. The sequence as a whole has been approved by the Behavior Analysis Certification Board as meeting its content requirements for becoming board certified. Distance learners can obtain a postbaccalaureate Certificate in Applied Behavior Analysis or can take the Internet sequence for continuing education credits. In 2003, over 75 students enrolled in the certificate program and another 250 students took the Internet sequence for continuing education credits, including students in Australia, Canada, England, Ireland, Italy, the Netherlands, the United Arab Emirates, and Wales (S. S. Glenn, personal communication, September 28, 2003).

Other educational entrepreneurial efforts that can facilitate globalization are being developed. For instance, Linda Hayes and the faculty at the Behavior Analysis Program of the University of Nevada, Reno, have created five off-campus master's degree programs, one of them in Toronto, Ontario, Canada. Moreover, the Reno group has also demonstrated how doctoral and master's degree programs can be established at almost no cost to the univer-

sity (Hayes et al., 1995)—a model that could be used around the world where financial resources for higher education are even harder to obtain than in countries with existing programs. With a self-capitalization model, faculty offer needed services to the community for fees and provide a practical setting to train students. The fees generate revenue for faculty salaries, student stipends, and administrative costs. Since its beginning in 1990, the program has generated revenues of nearly \$1.2 million and has graduated 49 MAs and 17 PhDs.

About 1.2 billion of the world's population lives in poverty, including 36 million U.S. residents—14% of the U.S. population (Encarta, 2003). The lack of basic resources such as adequate food, clothing, housing, clean water, and health services represents a tremendous challenge toward global adoption of behavior analysis. To reach many impoverished regions with desperate needs for behavioral technology, additional strategies must be developed to provide full financial support for training prospective pioneer multipliers and placing them in available educational programs around the world.

Contingencies to Sustain and Support the Continued Development of Behavior Analysis

Once programs are initiated, how can their survival and development be ensured? The answer to this question lies beyond the university setting, in the implementation of cultural contingencies that could affect the growth and expansion of behavior analysis around the world. Contingencies are needed to increase demands for basic and applied behavioral curricula, scholarly work in behavior analysis, trained behavior analysts, and behavioral technology. The infrastructure involved in such cultural contingencies ultimately would support the generation of behavior-analyst multipliers, and thus the survival of the field.

Increase demand for curricula in behavior analysis. The field will benefit from contingencies that increase the demand for university curricula in behavior analysis. Recognizing masters and doctoral programs with adequate curricula to generate qualified behavior analysts can establish such demand. That is exactly what ABA accreditation of graduate programs was designed to accomplish (Hopkins & Moore, 1993). Today ABA has accredited 17 programs in 12 universities,⁵ all of them in the U.S.; plans are underway to gain the U.S. Department of Education's recognition of ABA's accreditation system. The value of accreditation will be enhanced if it gains the recognition of established higher education accreditation systems outside the U.S. Development of an inter-

⁵ ABA accredited programs are located at the University of North Texas, MS Program in Behavior Analysis from the Department of Behavior Analysis (1993–2008); California State University, Los Angeles, two MS programs in Applied Behavior Analysis—one from the Department of Psychology and one from the Division of Administration and Counseling (1994–2005); Ohio State University, MA and PhD programs in Applied Behavior Analysis from the Department of Education Services and Research (1995–2007); Western Michigan University, MS and PhD programs in Behavior Analysis from the Department of Psychology (1998–2008); St. Cloud State University, MS Program in Behavior Analysis from the Department of Applied Psychology (1999–2004); University of Nevada, Reno, PhD and two MS programs in Behavior Analysis from the Psychology Department (2000–2004); Southern Illinois University, MS in Behavior Analysis and Therapy from the Rehabilitation Institute (2001–2005); California State University, Stanislaus, MS program in Psychology (emphasis in behavior analysis) from the Department of Psychology (2002–2007); Queens College and Graduate Center of CUNY, PhD in Learning Processes Doctoral Subprogram from the Department of Psychology (2002–2007); University of Kansas, PhD in Behavior Analysis, from the Department of Human Development and Family Life (2002–2007); University of Maryland, Baltimore County, MA in Applied Behavior Analysis from the Human Services Psychology Program in the Department of Psychology (2003–2008); West Virginia University, PhD in Psychology with a specialization in Behavior Analysis, from the Psychology Department (2003–2008).

national accreditation scheme could strengthen established programs all over the world.

Increase demand for scholarly work. The field will benefit from contingencies that increase the demand for scholarly work. Such demand has been successfully established internationally by behavioral associations, through conferences, journals, and networks.⁶ There are at least 41 behavioral conferences each year around the world, and there are over 120 journals that provide opportunities to discuss conceptual, experimental, and applied issues of behavior analysis.⁷ Regional networks provide opportunities for collaboration between countries, as in the Latin American Association of Behavior Analysis and Modification (ALAMOC), the European Association for Behavior Analysis, and—now in consideration—the Asian Association for Behavior Analysis. More opportunities for professional activities in behavior analysis can only help globalization.

Increase demand for trained behavior analysts. The field will benefit from contingencies that increase the demand for trained behavior analysts in the marketplace. Such demand can be established by certification systems and legislative work that leads to recognition of behavior-analysis certification as a requirement for specific jobs. The certification of behavior analysts by the Behavior Analysis Certification Board (BACB) is based on job analyses that assess minimum skills for practice in

the U.S., but the BACB began to offer test administrations in the United Kingdom in 2003. Thanks to the extraordinary and sustained work of many individuals, including Gerald Shook, James Johnston, Michael Hemingway, and Jon Bailey, the field of behavior analysis has a model that could be used to create certification systems for skill assessments that meet the needs of other regions in the world—a good start for the development of international certification systems (Johnston & Shook, 1987; Moore & Shook, 2001; Shook, 1993; Shook & Eyer, 1995; Shook, Hartsfield, & Hemingway, 1995; Starin, Hemingway, & Hartsfield, 1993).

Increase demand for behavioral technology. The field will benefit from contingencies that increase the demand for behavioral technology while protecting its integrity. Such demand can be established by engaging in procedures of successful technology transfer, including acquisition of intellectual property, market assessment, and technology demonstrations. Pennypacker and others have pointed out that behavior analysis, as a field, is inexperienced in this regard, and much needs to be done in the U.S. and elsewhere (Pennypacker, 1986; Pennypacker & Hensch, 1997).

Conclusion

Why should behavior analysts work toward globalization? International dissemination can help the field of behavior analysis by providing opportunities to assess the generality of its scientific findings and technologies across a great array of cultural diversity. It also can provide access to international resources as more countries are embraced. Thus, globalization should be of interest to all behavior analysts.

What strategies can be effective? The globalization of behavior analysis will not succeed if efforts are exclusively focused on particular domains of the field. Research, education, and practice have been intertwined in the

⁶ Many established behavioral organizations have benefited from the long-term involvement of behavioral faculty, for instance, Mark Sundberg and the Southern California ABA, founded in 1976; Jon Bailey and the Florida Association for Behavior Analysis, founded in 1976; Paolo Moderato and the Italian Association for Behavior Analysis, founded in 1985; Masaya Sato, Koichi Ono, K. Yamaguchi, and Naoko Sugiyama and the Japanese Association for Behavior Analysis, founded in 1985.

⁷ One hundred and twenty-one journals related to behavior were identified by 201 ABA members who responded to an ABA electronic survey in 2003 (4% of ABA members surveyed responded).

successful growth of the scientific discipline of behavior analysis, and they all should be emphasized in global development. Following from the progress of behavior analysis as a field thus far, major gains can be accomplished by creating and sustaining graduate programs around the world that multiply behavior-analytic repertoires. In addition, it would help if behavior analysts work together strategically to build and maintain a solid infrastructure for effective growth so that, all over the world, there will be an accelerating demand for behavioral programs in higher education, scholarly work in behavior analysis, behavior analysts in existing jobs, and behavioral technology in the marketplace.

REFERENCES

- Association for Behavior Analysis. (2003a). *ABA program: 29th annual convention*. Kalamazoo, MI: Author.
- Association for Behavior Analysis. (2003b). *Graduate training directory*. Kalamazoo, MI: Author.
- Association for Behavior Analysis. (2003c). *Membership directory*. Kalamazoo, MI: Author.
- Baer, D. M. (1993). A brief history of the Department of Human Development and Family Life at the University of Kansas: The early years. *Journal of Applied Behavior Analysis*, 26, 569–572.
- Critchfield, T. S., Buskist, W., Crockett, J., Sherburne, T., & Keel, K. (2000). Sources cited most frequently in the experimental analysis of human behavior. *The Behavior Analyst*, 23, 255–266.
- Dymond, S. (1997). International publication trends in the experimental analysis of behavior. *The Behavior Analyst*, 20, 109–120.
- Dymond, S., & Critchfield, T. S. (2001). Neither dark age nor renaissance: Research and authorship trends in the experimental analysis of human behavior. *The Behavior Analyst*, 24, 241–253.
- Ellis, J., & Glenn, S. S. (1995). Behavior-analytic repertoires: Where will they come from and how can they be maintained? *The Behavior Analyst*, 18, 285–292.
- Encarta. (2003). *World English dictionary*. [Computer software]. Redmond, WA: Microsoft Corporation.
- Hawkins, R. P., Chase, P. N., & Scotti, J. R. (1993). Applied behavior analysis at West Virginia University. *Journal of Applied Behavior Analysis*, 26, 573–582.
- Hayes, L. J. (2002, March). *Training in applied behavior analysis*. Paper presented at the Institute of Mental Health of Peking University, Beijing, China.
- Hayes, L. J., Hayes, S. C., Ghezzi, P. M., Bijou, S. W., Williams, W. L., & Follette, W. C. (1995). A self-capitalization model for building behavior analysis graduate programs. *The Behavior Analyst*, 18, 331–340.
- Hopkins, B. L., & Moore, J. (1993). ABA accreditation of graduate programs of study. *The Behavior Analyst*, 16, 117–121.
- Johnston, J. M., & Shook, G. L. (1987). Developing behavior analysis at the state level. *The Behavior Analyst*, 10, 199–234.
- Lovitt, T. C. (1993). A brief history of applied behavior analysis at the University of Washington. *Journal of Applied Behavior Analysis*, 26, 563–567.
- Malott, M. E. (2002). First ABA international conference in Venice, Italy. *ABA Newsletter*, 25(1), 52–54.
- Malott, M. E., Al-Quassab, N., Hayes, L., Marr, J., Johnson, K., Williamson, P., et al. (2003). ABA delegation works toward the establishment of behavior analysis in the Middle East. *The ABA Newsletter*, 26(3), 3–6.
- Malott, M. E., Davison, M., & Sato, M. (1999). A history of international development of ABA. *The ABA Newsletter*, 22(3), 4–6.
- Malott, M., Morrow, J., Glenn, S., & Hayes, L. (2000). ABA goes to Russia. *The ABA Newsletter*, 23(3), 4–8.
- Malott, M. E., Peng, D., Marr, J., Hayes, L., Morrow, J., Terzich, B., et al. (2002). China: Land of opportunity for behavior analysis. *The ABA Newsletter*, 25(2), 6–8.
- Mathews, R. M. (1997). Editors as authors: Publication trends of articles authored by JABA editors. *Journal of Applied Behavior Analysis*, 30, 717–721.
- Michael, J. (1993). A brief overview of the history of Western Michigan University behavioral programs. *Journal of Applied Behavior Analysis*, 26, 587–588.
- Moore, J., & Shook, G. L. (2001). Certification, accreditation, and quality control in behavior analysis. *The Behavior Analyst*, 24, 45–56.
- Morris, E. K., Baer, D. M., Favell, J. E., Glenn, S. S., Hipline, P. N., Malott, M. E., et al. (2001). Some reflections on 25 years of the Association for Behavior Analysis: Past, present, and future. *The Behavior Analyst*, 24, 125–146.
- Pennypacker, H. S. (1986). The challenge of technology transfer: Buying in without selling out. *The Behavior Analyst*, 9, 147–156.
- Pennypacker, H. S. (2002, May). *Behavior analysis at the University of Florida: Thirty-five years old and still growing*. Paper presented at the annual convention of the Association for Behavior Analysis, Toronto, Ontario, Canada.
- Pennypacker, H. S., & Hench, L. L. (1997). Making behavioral technology transferable. *The Behavior Analyst*, 20, 97–108.
- Polson, D. A. (1995). Fostering multiple rep-

- ertoires in undergraduate behavior analysis students. *The Behavior Analyst*, 18, 293–300.
- Rubin, H. B., & Cuvo, A. J. (1993). The behavior analysis and therapy program at Southern Illinois University at Carbondale. *Journal of Applied Behavior Analysis*, 26, 583–586.
- Saville, B. K., Epting, L. K., & Buskist, W. (2002). Selected publication trends in *JEAB*: Implications for the vitality of the experimental analysis of behavior. *The Behavior Analyst*, 25, 29–36.
- Shook, G. L. (1993). The professional credential in behavior analysis. *The Behavior Analyst*, 3, 1–22.
- Shook, G. L., & Eyer, J. C. (1995). Statewide behavior analysis training through distance education. *The Behavior Analyst*, 18, 317–320.
- Shook, G. L., Hartsfield, F., & Hemingway, M. J. (1995). Essential content for training behavior analysis practitioners. *The Behavior Analyst*, 18, 83–91.
- Starin, S., Hemingway, M., & Hartsfield, F. (1993). Credentialing behavior analysts and the Florida behavior analysis certification program. *The Behavior Analyst*, 16, 153–166.
- Tan, C. (2003). The international track at the ABA convention. *The ABA Newsletter*, 26(2), 23–24.
- Wesolowski, M. D. (2002). Pioneer profiles: A few minutes with Sid Bijou. *The Behavior Analyst*, 25, 15–28.