

# *Developing Opportunities to Disseminate the Natural Science of Behavior*

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This article serves to update behaviorological scientists and practitioners regarding the growing number of behaviorology courses available through both TIBI and regular university course offerings. Articles in past issues of TIBI's newsletter also addressed this topic (see Ledoux, 1998 [In this issue.—Ed.]; 1999). While some details have changed since those articles appeared, the general trend they report continues. This article will describe the successes to date (i.e., fall 2001) in developing courses to disseminate behaviorology through the author's university campus—the State University of New York at Canton (SUNY-Canton)—as well as through [www.behaviorology.org](http://www.behaviorology.org) which is TIBI's web site.

Behaviorologists at other institutions of higher education should also provide descriptions of their successes disseminating this independent discipline for publication in future issues of the TIBI magazine/newsletter. This independent discipline is the natural science of behavior known as behaviorology (though originally known as behavior analysis—see Fraley & Ledoux, 2002, for a discussion of the name change). That is, behaviorology is the independent discipline of strictly *naturalistic* explanations of behavior and so it should not be confused with the discipline of fundamentally *mystical* explanations of behavior known as psychology. (In practice psychology, as a discipline, requires even its dissenting members to accept and allow the mysticism inherent in granting causal status—through an inner agency of behavior origins—to minds, psyches, selves, etc. For elaboration, see Fraley, 2000a, 2000b, 2001; also, see Ledoux, 2000 [All in this issue.—Ed.] )

This article will also consider some early factors relevant to successfully developing courses to disseminate behaviorology. Some of these factors are available to behaviorological scientists and practitioners at other institutions of higher education. Perhaps the presence of such factors will prompt similar successes on the part of others, thereby substantially moving forward the natural science of behavior and the contributions it makes to the human community.

## *Successes Through Fall 2001*

Before the end of 2004, TIBI is committed to having ten behaviorology courses available online. To the extent possible, TIBI wants these courses to be offered at three levels:

(a) The first level is to offer the courses for free. This level is for those who simply want to expand their repertoires—by downloading a course syllabus from TIBI's web site, purchasing the course materials from a book seller, and working through the course solely on their own—but who do not want or need any sort of credit toward TIBI certificates or regular academic degrees.

(b) The second level involves paying TIBI tuition and being assigned a TIBI faculty member to help cover course content (while working through the course after downloading the course syllabus from TIBI's web site and purchasing course materials from a book seller). This level is for those who want to earn TIBI credit toward one or another of TIBI's certificates but who do not want or need regular academic credit.

(c) The third level is for those who want or need regular academic credit, perhaps toward an official degree from an institution of higher education. (While TIBI's non-profit, 501-c-3 incorporation required the consent of the New York State Education Department, TIBI is not accredited to offer "degrees.") At this level each course TIBI offers on its web site includes a list of any regular academic courses, offered by institutions of higher education, that TIBI considers equivalent. Students can then contact the institution of their choice about taking the course, paying that institution's tuition, and getting that institution's credit. (Students who take such equivalent courses also automatically accumulate TIBI credits toward TIBI's certificates. See TIBI, 1999, particularly pp. 12-14 and pp. 15-16, for details on TIBI's certificates and courses [An updated version will appear in the next issue.—Ed.]; by design, the TIBI Board of Directors modeled these courses and certificates on those in Ledoux, 2002a.)

The value of successes with regular academic courses resides in that third level. Currently SUNY-Canton has seven behaviorology courses. All of them were proposed and approved explicitly as "behaviorology" and "natural science of behavior" courses. The first five were also proposed and approved with a "BEHG"—behaviorology—designator for the course number (e.g., BEHG-135). The designator was changed to "SSCI"—the designator for social science—by the Curriculum Committee at the suggestion of the Deans who were concerned to insure that students would be able to transfer these courses to other colleges. (The last two of the seven courses were proposed and approved after the decision to use the SSCI designator.) Also, the behaviorologist designing and proposing these courses was a professor in the Department of Social Sciences. In this context the concept of "social science"

inheres more in the concerns of the various “social science” disciplines for people issues than in any competition with, or alternative to, the natural sciences. (Since, ultimately, behaviorology courses should be academically housed with the natural sciences, a review of some origins and definitions of natural science is relevant to this discussion. Such a review is available in Ledoux, 2000 [Also in this issue.—Ed.] )

Here are brief descriptions of all seven courses:

✦ **SSCI 135: *Parenting Knowledge and Skills*** (equivalent to TIBI’s BEHG 201: The Behaviorology of Child Care Practices): This course provides students of any age and interest (i.e., parenting or child care) with the scientific contributions of behaviorology that can instill or enhance the knowledge and skills for caring for children in effective, pro-active, non-coercive, positive, and loving ways.

✦ **SSCI 245: *Introduction to the Science and Technology of Behavior*** (equivalent to TIBI’s BEHG 101: Introduction to Behaviorology I): This course, the first of a two-course sequence and the prerequisite of all higher courses, provides students with a solid grounding in the various components of the behaviorology discipline. The areas covered include fundamental principles, basic experimental research methods, elementary techniques of behavior/environment engineering, historical and philosophical perspectives, and trends.

✦ **SSCI 345: *Applied Science and Technology of Behavior*** (equivalent to TIBI’s BEHG 102: Introduction to Behaviorology II): This course, the second of a two-course sequence, provides students with general applications of the principles of behaviorology by focusing on a range of problem prevention and intervention techniques and considerations (e.g., ethics) in a range of settings.

✦ **SSCI 365: *Behavior Engineering—Rehabilitation*** (equivalent to TIBI’s BEHG 400: The Behaviorology of Rehabilitation): This course provides students with the application of behaviorological considerations to help improve human interactions and success rates in institutional rehabilitation settings such as hospitals and prisons. The course emphasizes the use of the more effective, science-based practices to replace the unscientific emphasis on coercive practices in these settings. Both adult and youth clients and offenders receive consideration.

✦ **SSCI 375: *Behavior Engineering—Autism Analysis and Recovery Methods*** (equivalent to TIBI’s BEHG 415: The Behaviorology of Autism Analysis and Recovery Methods): This course provides students with the behavior engineering practices and skills valued in the recovery of children from autism. Topics include (a) the different roles of professionals, paraprofessionals, and school systems, (b) training curricula and programs, (c) home- and center-based programs, and (d) the organizational and legal supports available to autistic children and their families.

✦ **SSCI 455: *Behavior Engineering—Preventing Workplace Violence*** (equivalent to TIBI’s BEHG 420: The Behaviorol-

ogy of Performance Management and Preventing Workplace Violence): This course provides students with three levels of application of behaviorological considerations appropriate to preventing workplace violence. The most general level examines the role punishment and coercion play in prompting violence of all types throughout society. The middle level focuses on the use of effective behaviorological practices for performance management in the full range of workplace settings to replace the unscientific emphasis on coercive management practices thereby *preventing* the violence such practices may themselves induce. The most specific level focuses on the various recommended policies and procedures for *detering* the actual occurrence of workplace violence.

✦ **SSCI 465: *Behavior Engineering—Preventing School Violence*** (equivalent to TIBI’s BEHG 425: The Behaviorology of Non-Coercive Classroom Management and Preventing School Violence): This course provides students with three levels of application of behaviorological considerations appropriate to preventing school violence. The most general level examines the role punishment and coercion play in prompting violence of all types throughout society, from interpersonal and family relations, through educational and workplace situations, to international and cultural relations. The middle, and most significant, level focuses on the use of effective behaviorological practices for classroom management. These replace the unscientific emphasis on coercive classroom “discipline” practices thereby *preventing* the violence such practices may themselves induce. The most specific level focuses on the various recommended policies and procedures for *detering* the actual occurrence of school violence in situations where violence has become likely.

Each of those seven courses would be offered both as TIBI courses by TIBI online, and by SUNY-Canton online and face-to-face. By fall 2001, four of the seven were already being offered online at TIBI and were ready to be offered online at SUNY-Canton. Using SUNY-Canton’s numbers, these four were 135 (the child care course), 245 (the basic discipline course), 345 (the initial applied behaviorology course), and 465 (the classroom management prevents school violence course). Together, the first three of these courses (i.e., 135, 245, and 345) fulfill the requirements for TIBI’s basic *Behavior Literacy Certificate*.

Of course, the progress of seven approved courses did not occur in a vacuum. Several factors came together to enable such success. Some of these are generally available to other behaviorologists, or can be arranged. Others are unique to SUNY-Canton. Most of these factors are discussed next.

### ***Factors Relevant to Success***

The personal story begins about fourteen years ago (1987), the same year as the founding of TIBA (The International Behaviorology Association, which later changed

its name to the International Society for Behaviorology—ISB) which was about ten years before the current successes began. I arrived at SUNY–Canton in 1982, and five years later (1987), I proposed a typical “psychology” behavior modification course. The department approved the proposal (though not unanimously as psychology instructors were department members and some opposed the proposal). However, the Dean at the time, who has since retired, was disinclined to move the course forward, and stalled it permanently. Little happened at SUNY–Canton over the next ten very long years.

However, during those intervening years, a variety of events accumulated which prepared a foundation for the possible success of renewed efforts. For instance, as my TIBA presidential address (Ledoux, 2002a), I developed a set of consensus-based behaviorology curricula to begin answering the questions, “What [would] we want to do with behaviorology training time when we behaviorologists are responsible for *all* of it? How should behaviorologists be trained?” (p. 174). The publication of that paper in a book on the broad components of the behaviorology discipline (Ledoux, 2002b) caught my administrators’ attention when they received a complimentary copy.

Also, when I returned from an academic year teaching in China (1990–1991), I reported the speed with which my three invited behaviorology course proposals (two graduate courses—one on verbal behavior and one on educational behaviorology—and one undergraduate course, also on the latter) were approved and scheduled: The whole process took less than three weeks! This too grabbed some administrative attention.

Three other factors lent credibility to development efforts. One was the already mentioned incorporation of TIBA with the consent of the New York State Education Department. Another was the separate existence of another behaviorology professional organization, ISB, and my circulating each organization’s newsletters as they arrived, along with demonstrating TIBA’s web site. The third was TIBA’s successful proposal to SUNY–Canton that the two co-sponsor a visiting scholar from China who was interested in coming here to study behaviorology. That first visiting scholar, Professor Ma Wen (see Ma, 1998, 1999; Ma & Li, 2000) of Yantai University, earned TIBA’s *Professional Studies in Behaviorology Certificate*. And our second interested-in-behaviorology visiting scholar from China, Professor Li Fangjun (see Li, 2000) of the Xi’an Foreign Languages University, arrived at the college in August 2001 for the 2001–2002 academic year.

In the same time frame, other factors occurred that also increased the chances of success for renewed development efforts. For instance, SUNY–Canton received approval to begin offering four-year “Bachelor of Technology” (BT) degrees. This approval instantly created the need for upper division courses to support such degree programs. (And,

in a cash-strapped college environment, development efforts are certainly not hurt by SUNY allocating more dollars to campuses for their upper division courses.) Also, local employers were weighing in with letters supporting behaviorology courses in terms of the number of behaviorology-knowledgeable students these employers would hire annually if they could. Such letters were received from the local ARC and from United Helpers. The local chapter of Families for Early Autism Treatment (FEAT) also provided support for behaviorology development efforts.

At the same time as renewed behaviorology-development efforts went forward, SUNY–Canton was also becoming increasingly interested in two related areas, both of which supported such efforts. One was in offering online courses in general. This is something for which most behaviorology courses are well-suited, since the discipline itself would be applied in teaching them (as it is the most effective informing science for education, using the Shaping Model of Education rather than the Presentation Model; see Vargas, 1996). And TIBA would be offering online behaviorology courses anyway. The other area of interest for SUNY–Canton was in offering online courses to China in particular. The college had received a grant to arrange such courses and I had substantial experience both with China and with one of the online course areas of probable interest to Chinese universities: applied behaviorology (Ledoux, 2002c).

This variety of factors seemed supportive of renewed development efforts. Hence I began developing behaviorology course proposals in late 1997.

### ***Local Steps to Success***

The first course I proposed was the basic introduction to behaviorology course (titled SSCI 245: Introduction to the Science and Technology of Behavior). It was a lower division course and, should it succeed (which it did), it would serve as the fundamental prerequisite course for more advanced behaviorology courses.

As the college became more involved in four-year degree programs, and the need for upper division courses increased, I developed four additional course proposals, only one of which was appropriately a lower division course without a prerequisite. (Actually I had developed five course proposals, but one was considered a bit thin and so did not pass the department. I reworked it and re-submitted it later successfully as one of two newer courses.) These four were (a) SSCI 135: Parenting Knowledge and Skills, (b) SSCI 345: Applied Science and Technology of Behavior, (c) SSCI 365: Rehabilitation, and (d) SSCI 465: Classroom Management and Preventing School Violence (a later-adopted name that reflects more accurately the connection between these two parts of the course’s content). To improve the chances of success, each course topic reflects a major, meaningful behaviorology application area. Most are not only potentially useful to

one or another of the college's initial four-year BT degrees, but they are also appropriate to some future BT in "Behavior Technology" or "Behavior Engineering."

Subsequently, in focusing on two further areas that served community needs, college needs, and/or BT-program needs, I developed two more upper division courses: SSCI 375: Autism Analysis and Recovery Methods, and SSCI 455: Preventing Workplace Violence. These brought the total number of behaviorology courses to seven.

When the Dean has scheduled any of these courses, I have taken steps to improve their chances of success. One step involved getting SSCI 135 and SSCI 245 approved as alternative, or general education, courses for students who usually get put into the intro psych course but who do not need that course as their curricula do not require it or any advanced psych course (for which intro psych is the prerequisite). This way, some of my regular behaviorology sections cover the students who would otherwise have been in psych sections that I would have had to teach. Another step involved producing and distributing flyers to assure that students and advisors were aware, during each pre-scheduling time for the following term, of the behaviorology courses being offered. (Distribution was not difficult. The Dean's office sent the flyers to the faculty advisors, and the Student Life office put them up in the dorms.)

With only one behaviorology professor, seven behaviorology courses is probably too many when all need to be taught, some every term, others at least occasionally, and all both face-to-face and online. Over the next couple of years, I hope to teach each course both ways, with an online version offered both by SUNY-Canton and by TIBI.

Meanwhile, I anticipate the opportunity to expand this collection of courses, adding to it and developing it into local certificates and degree programs. This may also be the only way to "get some help," that is, enable the hiring, in due time, of additional behaviorologists as faculty members. (Just think of all the job descriptions properly trained behaviorology students can fill, and how many more students could be taught by more than one professor...)

Another factor, one which I could *not* use to enhance success, involved being able to say that so-and-so college already offers *Behaviorology* courses (approved as such). At least now, behaviorologists at other campuses *can* say that!

## Conclusion

In every institution of higher education, factors already exist that affect the likelihood of success for efforts to develop dissemination opportunities for behaviorology and its applications across human concerns. The only guarantee of failure it not to try. This article identified and addressed some supporting factors which, when added to the local mix, could tip the balance in favor of further success. As readers include such factors in their dissemination efforts, successes should continue to accrue. [Also, as

the fall 2001 term began, the author received a grant from the New York State Department of Education to develop four-course sequences for certificates in "Autism Recovery Training" for paraprofessionals, parents, and teachers. These may be described in a future issue.—Ed.]✽

## Endnote

This material was prepared after Dr. Jerome Ulman, the President of ISB, called me early in 2001 about presenting such material at the ISB-13 convention in Chicago in March 2001. I accepted only to discover that my mother's ill health precluded my attendance. (She died during the convention.) So I prepared this article instead, and arranged for as many convention attendees as possible to receive a copy of the issues of the newsletter containing this article and the article on defining natural sciences (Ledoux, 2000) as that material would have been an intergal part of the convention presentation.

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