TrainABA Supervision Curriculum Series

Volume 1: BCBA Reference Manual

Second Edition

Ben Theisen

Free and Open Source Community Edition
Cumulative Records Documentation Society

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Los Angeles, California, USA.

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About the Maintainer

This book is maintained by Ben Theisen. He earned a PhD in Business Psychology and MBA. He has been a Board Certified Behavior Analyst (#1-10-7323) since 2010. Dr. Theisen is an adjunct professor in the Industrial-Organizational/Business Psychology Department at The Chicago School of Professional Psychology, Los Angeles Campus. He researches occupational characteristics of behavior analysis supervisors. He operates a private practice for behavioral and personnel consulting. His hobby is computer programming.

Preface

This book continues to be a labor of love. It serves as an excuse to incorporate GNU/Linux command line tools into the soul-crushing Microsoft® workflow of many behavioral service providers.

Anyone is welcome to participate in the development of this book. All of the source code is publicly available, including the latest PDF version. The code is the maintainer's way of saying "reinforcement is available" for tinkering with the files on a personal computer. Most behavior analysts know that our community can benefit from a larger number of practitioners with computer programming competencies. Many of us have left one Ron Van Houten's talks, fired up like Christians on Sunday after a rousing sermon. We went to free websites to learn computer programming, ready to write code that would contribute to the behavior analysis community. Something about that approach did not work. We found a disconnect in terms of learning objectives.

What was the problem? Part of the issue is that online programming tutorials train skills for computer scientists. In behavior analysis, we do not necessarily have a way to practice those skills at work. When we come home from a long day of house calls or maybe school-based or center-based service hours, we have other things to do that get in the way of learning code for people in scientific professions. Most of us like the science but we took less science classes in college than the target audience of these online coding programs, which build from curriculum in math, physics, and chemistry.

Practicing behavior analysts are aware tha new skills need to be maintained, so they look at their own lives in search of opportunities to practice coding skills. When can the practitioner actually use something they coded at work? Seeing the lack of opportunities to use and maintain these hard-to-acquire skills, practitioners give up. The goal is for practitioners to learn programming and remain in the industry, not have to become full-blown software developers. The result would be a loss of valuable practitioners. Putting these ideas together, the motivation to learn programming quickly fades when practitioners cannot find opportunities to practice skills. It is hardly worth, the effort needed to learn code.

If the goal of the preface was to set a dismal tone, this book already a suc-

cess. There is a ray of light in the sea of misaligned contingencies. Practicing behavior analysts do not have contingencies in place for learning programming from mainstream curriculum. However, they have contingencies in place to learn behavior analysis content very well (for students) or develop very good behavior analysis curriculum at work (for supervisors). This book provides curriculum with source code. Hence, this book offers reinforcement for programming behavior for professional behavior analysis supervisors and students.

Less formally, this book is an invitation for behavior analysis practitioners to hack the TrainABA supervision curriculum to suit individualized or cohort-wide needs. Anyone can copy, add, remove and modify text or whole sections of this book. This is possible due to the copyright license (Creative Commons 4.0 - Attribution - Sharealike - Non-commercial).

The code is maintained through Cumulative Records Documentation Society (CRDS), a 501(c)(3) nonprofit. GitHub, a major software development organization, has generously provided CRDS with lifelong sponsorship for projects like this one.

Casual readers may expect that computer programming requires a special development environment on one's computer. It may not be surprising to consider that regular people cannot tinker with code from *proprietary software*, software for which the publisher does not make source code available to the public. It may be surprising to discover that a whole world exists around free and open source software (FOSS). Such software has huge communities with values compatible with the behavior analysis community. Both communities stemmed from a scientific tradition of opening their doors to welcome new practitioners. Major publishers use proprietary software to build their books and cannot not make changes to the interface themselves. As a punk-rock inspired, wannabe indie record label, CRDS publishes stood up to proprietary software and went the hard route of using open source tools that make source code available to the masses. It is not quite two-turntables and a microphone but damn if it isn't close.

What is the real harm of using proprietary software to write a book like this? Is there a real benefit to a FOSS book for supervision curriculum? The major benefits are below.

1. There is no loss of quality by using FOSS tools.

2. FOSS projects are organized. Developers must organize code nicely enough for random people to understand it or the project will not get much use. Proprietary software may or may not be organized. Nobody can see the code, so we do not know!

3. FOSS code is transparent. There is a safety aspect to FOSS code. You can see all the code so you know what it is doing. However, some people just

download and run code without reading it. In these cases, the safety of users of the FOSS project is determined by the maintainers.

4. FOSS is customizable. The biggest benefit is that one can write code to automatically generate customized versions of a main document (or multiple documents). Behavior analysis practitioners tend to customize things, so this can be a major benefit. There are many available ideas for do-it-yourself supervision curriculum that do not automatically generate materials. The contents of this book can be used for slideshows, posters, handouts, flashcards, and study materials. The license makes it possible to share the information. These are major advantages over do-it-yourself approaches. Through the GitHub website, it easy for individual practitioners and organizations to have their own versions of the supervision curriculum.

5. FOSS is practical. All typesetting software has a learning curve. Unlike proprietary software, which allows users to work on files in the end-user interface, FOSS code is written in a coding environment. are much better at training that generalize to other skills and settings. Most major publishers typeset books using expensive and complicated software. These programs are like word processors on steroids. The learning curve is high. Knowledge gained through learning the software does not generalize to other software, skills, and settings.

6. FOSS is better in the long term. The reward for long-term development of FOSS projects is better code (more stable, easier to use, great for long-term). The reward for using proprietary software is *feature creep*, where new versions add features to remain competitive but do not remove old features because it would upset legacy users. The changes were not requeted by the users, so every version comes with a new learning curve that fails to generalize to other skills and settings. ave changes to the interface or functionality that make the software hard to use. The software developers add features with new versions to compete in the industry.

What is the harm of using proprietary software? The harm is evident when considering these factors in context. Any software with a high learning is meant for specialized knowledge workers. In the publishing industry, people typeset as a full-time job. If it takes a few years to get the hang of it, that's okay because higher barriers to expertise increase the worker's value to the organization. What about the fancy features added each year? The new features run on new code, which takes more system resources. Eventually, new features clutter the interface. A laptop-sized monitor may no longer give enough space for the reader to see the important icons when laying out a book. Some developers solve this problem

with submenus and subsubmenus, meaning there are multiple layers of hidden features. This frustrates amateur users because they have to learn the underlying logic and idiosyncratic terminology of the proprietary software. In FOSS software, the community catches the idiosyncrasies and makes information as accessible as possible.

The software is designed to run on the two dominant proprietary operating systems, Windows and MacOS. As these operating systems grow in complexity, they require their own cycle of hardware upgrades. The point word processing technology choices for this book were a form of artistic expression. These tools promote community in the century-long development of behavior analytic services as a profession.

0.1 For the Rebellion

The act of using these tools was meant to be rebellious, if not subversive, against the way large books are usually developed. The tools came from the GNU/Linux programming environment. do-it-yourself spirit of Skinner's operant chambers. It was pure hip-hop with two turntables and a sampler. It was grunge rock singing love songs in an old garage. It was a $200 single-subject design study at a university where other departments held out for seven figure grants.

The computers used to build this book were a nod to the traditional applied behavior analysis studies, which could be conducted for cheap with a clipboard and some doctoral students. The best example was an old Lenovo ThinkPad X200, purchased second-hand from Craigslist with cash. This was a statement against consumerism. It said no to "upgrading" to next-generation CPUs that ran the telemetry nightmare known as Windows 10.

For this statement, the X200 was perfect. It was golden-era hip hop in all its sound sampling glory. The laptop had a battery life of 23 minutes and came pre-installed with Hello Kitty stickers on certain keys. The stickers said things like, "return," "shift," and "a." And yes, all stickers were placed correctly. The X200 ran a free and open source operating systems powered by GNU/Linux and approved by the Free Software Foundation.

This book was proudly typeset using LaTeX, a free and open source software (FOSS). The FOSS ideology was congruent with the ideas expressed in B.F. Skinner's writings on culture. Skinner lamented the difficulties of communicating non-physical technologies to new audiences because audiences would judge the technology by its creator's moral values. Audiences evaluate physical technologies independent of their creators, which was preferred.

Skinner's writings on culture inspired this book's maintainer resolved to learn computer programming skills for the second edition of the TrainABA Supervision

Curriculum Series. The goal was to add a layer of physical (through code) technology to a book whose subject was a non-physical technology. Hence, it built on Skinner's vision of better communicating the technology of behavior analysis to general audiences. The technology for the book will always be publicly available, allowing for modifications by any users. The version control notes remain public, so anyone could see the process of creating the book. Collaboration and issue tracking is displayed publicly. In general, the distribution technology increases the likelihood that people will use current releases.

LaTeX allowed modularization of the book's files. It separated files containing written content from those that generated the formatting. Any task list name, reference, or glossary item was tagged with a variable. The code ran through a compiler to assemble the PDF. The compiler's huge string of info messages was like witnessing live art. The creation process happened right before one's eyes.

The aspect of building the book was inspired by stories of Skinner's lab at Harvard. As legends go, one could hear the symphony of operant chambers clicking and clacking throughout the halls. The stories differ but common ground is that Skinner's lab ran concurrent experiments. In this book, no live animals were used but the modular design allowed for many files to operate at the same time. LaTeX runs procedurally, going step by step through every line of code and jumping to/from the files referenced. In Skinner's lab, experiments were modular such that whatever happened in one operant chamber without tampering with experiments in nearby operant chambers. For this book, the file system was modular such that any file could be added, removed, modified, or replaced without tampering with other files.

The books were assembled and written using Vim, a free and open source command line text editor. It was compiled using custom shell scripts in a Bash terminal. Git and GitHub were used for version control. The decision to use a command line editor was inspired by operant chambers. One need only peck at the keys to write, assemble, and distribute this book. No mouse, trackpad, eyes, or graphic user interface is involved. An experienced operator could complete the process blindfolded. The author suffered from tendonitis and frequent eyestrain from extensive computer use, so the command line technology was a welcome option.

While the specifics of the technology choices for this book may seem gratuitous, the purpose was to inspire behavior analysis professionals to indulge their curiosity in computer programming. The intended message is, roughly, that even an English major can learn to write code if the project is interesting. Perhaps others from non-programming backgrounds will consider this project as an invitation to download and tinker with code.

Please submit errors, additions, improvements, and suggested omissiongs us-

ing the GitHub Issue Tracker. Nothing posted in the modern day mead-halls of Facebook Groups will be read by those who maintain this book.

All readers may use, copy, modify, and distribute this book and its files. Hard copies are available. Custom builds are available for companies, universities, and others. Please contact CRDS for more information about how to use intellectual property for this book or make content contributions. The contact is postmaster(at)cumulativerecords.org.

The Behavior Analyst Certification Board provided a copyright license for use of the BCBA/BCaBA Task List, 4th and 5th editions. No reprinting of those materials are allowed without the express written consent of the BCBA/BCaBA. Statements of free and open source licensing of this book do not apply to the BCBA/BCaBA Task List, which is the sole property of the Behavior Analyst Certification Board. For more information, visit www.bacb.com.

Some of the content in this book builds upon work from contributors to its first edition. This book represents significant revision, rewriting, and reorganization, to the point that it is a completely different book representing original content. The first edition continues to be available through the GitHub repositories. It has been made publicly available under a Creative Commons 4.0 - Attribution - Sharealike - Noncommercial license since 2017.

Chapter 1

Introduction

"This book was made by
GNU/Linux computers under
supervision of a BCBA."

Host Name: gnu-recrdsX200
Ser. No. 9817325619287

The license and technology make a TrainABA book worth using. The benefit to TrainABA supervision curriculum is the freedoms its license provides. Behavior analysts can readily assign definitions, examples, performance measures, related tasks, and recommended readings for each task list item. Contents are available in plain text. Modifications are encouraged under the license terms. The book interiors are organized with the LaTeX typesetting system to compile custom PDF documents. Later sections of this book describe the Creative Commons 4.0 (CC 4.0) license and how to use it.

TrainABA supervision curriculum was designed in 2015 as a "vanilla base" to be customized by users for specific needs. At the time, the best available plan was to build a project that could distribute updates and releases. The vanilla model was an alternative to using random, apocryphal materials. Unknown sources use unknown licenses, inadvertently inviting infringement of intellectual property. Apocryphal materials are not distributed. When users cannot track modified versions, improved versions may go unnoticed because search engines prioritize older versions. For the second edition, TrainABA moved the project to Cumulative Records Documentation Society (CRDS), a 501(c)(3) nonprofit.

TrainABA has long-term support thanks to its licenses, CRDS, and GitHub. CRDS provides staff to manage the development of TrainABA materials. GitHub, a software development company, provided CRDS with a lifelong donation to its platform. GitHub's platform gives TrainABA a distribution platform, issue tracker, and version control with releases.

Customizations are expected in professional settings. Supervisors customize materials for cohorts. Interns modify sections as preparation for the exam. Behavioral service providers operate by service hours where speed counts. The license used by TrainABA allows users to bootstrap their own materials by repurposing TrainABA book content, add to it, and redistribute those modifications for non-commercial use. The modified contents can be made available to the general behavior analysis community. All of these activities are lawful under the freedoms specified in TrainABA's license. Organizations can rely on TrainABA curriculum as a long-term strategy due to the license. TrainABA relies on donations to CRDS to continue developing TrainABA.

The CC 4.0 license offers freedoms for professionals. Traditional copyright licenses require users to obtain written permission from publishers for every use of copyrighted materials. Behavior analysts tend to avoid this step in professional settings. The CC 4.0 license is a better fit. It allows anyone to copy, modify, and redistribute materials for non-commercial use.

This book represents a second edition of the TrainABA Supervision Curriculum system released in 2015.

The items listed below reflect the initial features of the TrainABA Supervision Curriculum systems. All of these have been made available for a number of years under open source licenses. The volumes include:

1. TrainABA Supervision Curriculum: BCBA Reference Manual (Volume 1)
2. TrainABA Supervision Curriculum: Independent Fieldwork (Volume 2)
3. TrainABA Supervision Curriculum: RBT Credential (Volume 3)

Target outcomes include:

- Grow management teams with less challenges
- Get from start to finish with a page-by-page, week-by-week program (from supervision contract to fieldwork to BACB® application)
- (Removed because the BACB® created an alternative) Find systems to help you track supervision hours and signature forms to email to the BACB®
- Use Individual and Group meeting agendas
- Save time by bootstrapping materials from TrainABA contents
- Check pre-assigned homework
- Track ongoing progress on the 4th Edition Task List™ assessment

- Prepare for BACB®-exam with test topics built into fieldwork
- Organize essential supervision materials and meetings in one place, accessible by mobile or desktop devices

TrainABA was a BACB®-Approved Continuing Education (ACE) provider from 2014-2016. It specialized in responding to supervision-related problems that were complex and time-consuming. A different ACE provider was selected to provide TrainABA-related continuing education events beginning in 2019. Its name is Cumulative Records Documentation Society (CRDS).

The 4th Edition Task List™ face sheets were organized by "segments" to make it easier to complete and check homework assignments. Segments were a special term created for the first edition. "Modules" is a more universal term conveying the same meaning. The second edition uses the term modules in place of segments.

TrainABA Supervision Curriculum: Independent Fieldwork contains exercises for the supervisee to complete in a week-by-week progression that cover all 168 items on the 4th Edition Task List with the following:

1. Individual meeting agendas
2. Group meeting agendas
3. Ongoing homework assignments
4. 4th Edition Task List™ assessment

Remember that documentation guidelines are not included in the TrainABA supervision curriculum. Follow procedures provided directly by the board.

1.1 About the Second Edition

The second edition has advantages over the first. Its user license guarantees the freedoms specified under the Creative Commons 4.0 - Attribution - Sharealike - Non-commercial (CC 4.0-BY-SA-NC). The license provides readers with the freedom to use, copy, modify, and distribute the book non-commercially. This is a good thing for behavior analysts because we like to customize everything. Modified and copied versions retain the same freedoms as the original work. There is no need to ask the publisher for permission to reprint the book's contents.

However, no amount of licensing is useful if users have difficulty accessing the full manuscript text in an editable format. This version uses a typesetting system that users can easily customize. It is maintained by Cumulative Records Documentation Society (CRDS), a 501(c)(3) nonprofit. The nonprofit has secured a lifelong sponsorship from GitHub to host the full manuscript and source code.

This means you can re-brand with your company name, change the contents or sections, etc. It also means the book can be improved by creating an Issue in GitHub, which a maintainer from the nonprofit can address. Such changes will improve the main version of the book, distributed to all. All previous versions will remain available. The technology has incredible applications for behavior analysts. CRDS is a BACB-authorized continuing education provider and will offer workshops to help users take advantage of these capabilities.

These advancements make the second edition far superior to the traditional "all rights reserved" copyright used in the first edition printings. This edition also offers superior typesetting technology. Content is better due to richer connections to the literature, more performance measures for assessment, and more generality in examples.

The book is distributed freely with paper copies sold at a reasonable price. The profits go to a public charity (CRDS) to advance the contents of the book.

1.2 History of the TrainABA Supervision Curriculum Series

This book originated from a project from TrainABA, a startup organization from 2013-2016. Its goal was to function as a publisher and resource for behavior analysis supervision. It was unsuccessful. When TrainABA closed, the publisher released its works under a Creative Commons 4.0 - Attribution - Sharealike - Noncommercial license. Some of its works survived as a project, such as the free Moodle Course, manuscripts, and SAFMEDs app. These works were donated to CRDS to be developed as a community edition for public use.

1.3 Publisher

The publisher is CRDS, a 501(c)(3) nonprofit based in Los Angeles, California, USA. CRDS produces archive-quality continuing education materials for public use. CRDS employs technical producers and project maintainers to develop and distribute works. CRDS survives on the generosity of its members. If your company uses these materials, we ask that you donate a reasonable amount to support the cause. The donation is to make sure these high-quality materials will continue to be available to your company in the future. To make a donation, or to become a member, please visit http://cumulativerecords.org.

1.4 Collaboration Tools

CRDS built this book using collaboration tools from software developers. Anyone can contribute or suggest changes for free. There will be a permanent public record of any such collaboration. We encourage readers to report errors using the Issue Tracker on our GitHub repository. The location is: https://github.com/cumulativerecords/trainaba-v1-ed2/issues

1.4.1 Creating New Materials from This Book

Readers can and should extend the book's contents (e.g., build a slideshow to be used where one works or teaches). All readers are invited to suggest changes to this book using the GitHub repository. For readers who have modified the contents to be used where they work or teach, we ask that you submit your materials to CRDS so that we can make them available to other readers. We believe this will afford us the opportunity to have one or two well-developed versions of a work, which are compatible with the original book. We believe one organized version is better than multiple partially-developed, incompatible but similar works.

1.5 Versions

The typesetting system used to compile this work is very flexible. It can compile a similar version for nearly any page size with a very simple change in code. It is designed to provide maximum flexibility to readers, who are often supervisors and educators with a need to use only certain sections of this work. By downloading the source code, readers are able to pick and choose which sections of the book to compile. They can rebrand the book to indicate that they modified the original version. Readers are invited to tinker with the source code to download modified versions of the work. It is surprisingly easy to make a mobile-friendly version of this book, for example. One can also make a new version for each month in a supervision setting. CRDS is available to provide customizations for organizations and universities. To request a custom version, contact CRDS at http://cumulativerecords.org/contact.

Chapter 2

Supervision Taxonomy

In this chapter:

1. What is ABA Supervision?
2. Taxonomy of ABA Supervision
3. BACB® Influence in the Development of Formal Behavior Analysis Supervision
4. Case Study: Associated Aardvarks for Autism
5. Resources for Supervised Experience

2.1 What is ABA Supervision?

Most definitions indicate that it is the act of providing supervision or oversight, involving directing in relation to execution and performance.

2.1.1 Supervision in Management

"Supervision" is most used in relation to business administration, in the realm of management. Human supervisors are employed to supervise humans and systems.

2.1.2 Supervision of Humans and Systems

It would be unusual to use the term "supervisor" to describe a machine that monitors information (including that generated by a human), or to describe a human that oversees information generated solely by a machine. The typical use of the

word, "supervisor" implies a human to human interaction related to execution or performance.

2.1.3 Supervision in ABA Settings

The words, "execution" and "performance" are commonly used in business settings and could be used within the context of behavior analysis. However, more precise language further locates "supervision" in the field of applied behavior analysis. A manager at a typical business corporation "supervises" an employee to monitor performance and execution of tasks. In ABA settings, managers would more likely say they, "supervise staff to measure how effectively they implement a behavioral plan."

2.1.4 Direct vs. Indirect ABA Supervision

One might also describe ABA supervision as, "Overseeing direct implementation" or "following the procedures. An ABA subordinate may be evaluated on procedural integrity, procedural drift, and other direct measures of staff performance. The client's progress may be a direct measure of the subordinate's performance. However, client progress is an indirect measure of supervision efficacy.

2.1.5 Management Problems in ABA Organizations

The proliferation of autism behavior services has accompanied the rise in management problems at private practice ABA agencies, centers, and special education school settings. Management at such organizations have not widely adopted management practices to solve the repetitive problems occurring at the workplace in daily operations. What maintains management problems? The organization's decision makers:

1. Do not know how to identify the problem.
2. Do not know how to solve it.
3. Have attempted solutions in the past, believing they exhausted possible solutions.
4. Lack resources such as consultants and management workshops.

The above reasons are potential barriers if all resources are equal. However, more important barriers include time constraints, lack of money to pay consultants, and a tendency to focus on work that is expressly billable as opposed to management strategies, which require time, creativity, and a willingness to gather

and analyze data over time to find "what works" at a particular organization using an experimental approach.

2.1.6 What Is Being Done

It is perhaps surprising that behavior analysis professionals are not leading the managerial movement to solve such problems, given the curious nature of behavior analysis professionals and their propensity for solving problems in the world around them.

2.2 A Taxonomy of ABA Supervision

In the 8 Hour Supervisor Training workshops, TrainABA moderators generally introduce the supervision taxonomy by addressing the "big picture" of policy-level issues governing the professional practice of applied behavior analysis. The presenter posits that such policy both necessitated and helped define how ABA supervision would be practiced. Policy varies across countries, states, and provinces, and various funding sources share properties with specific differences.

The development of ABA supervision is an ongoing, collaborative process. It has evolved along with growing numbers of behavioral service providers. ABA supervision existed prior to the formation of the Behavior Analyst Certification Board® (BACB®) in 1999. It has set the standard for professional ABA services.

After introductions, the workshop presenter often asks the following set of questions:

1. How Does Policy Influence How Funding Sources Choose Providers?

2. How do funding source requirements influence the professional practice of applied behavior analysis services?

In the USA, the answer is generally that policy is written and a licensing body enforces compliance. However, the professional practice of behavior analysis is currently experiencing an early stage developmental period. More states are passing legislation. Some states are still in the process of licensure for ABA professionals.

Generally, the process involves policy language for licensure that acknowledges the BACB® certification credential and identifies an established licensing board to regulate practitioners. Other practices, such as psychology, have their own licensing boards and may opt to include behavior analysts within their board.

Other service delivery professions, such as psychology, have similar requirements as the BACB®, such as required education, supervised experience (1500 hours), ethical compliance code, continuing education requirements, etc.

As states adapt to the growing demand for professional behavior analytic services, many have acknowledged the BACB® certification as a requirement for billing. The BACB® is not a licensing body but serves as the central regulatory body for certified professional behavior analysts. It is the authoritative body for certification and credentialing in professional ABA services around the world. The BACB® is an influential global organization. Its international impact has been possible, in part, because it is not bound by a specific state or federal government. Such would not be the case if the BACB® was created as a licensing organization in Florida, its state of origin. The BACB® is currently headquartered in Littleton, Colorado, USA. Its strong influence in shaping the practice of professional behavior analysis services merits a prominent role in a taxonomy for ABA supervision today.

- Licensing body standardizes practitioner KSAs, ethics, practice (medicine, psychology, counseling, etc.).
- If no licensing body available, some authoritative body for certification or credentialing assumes that role (BACB in 1998).

2.3 Development of Behavior Analysis Supervision

The BACB® established a model for the professional delivery of behavior analytic services for insurance providers in 2012. It involved a hierarchy upon which a BCBA or BCBA-D oversees a BCaBA, who supervises a behavior technician. It is common practice for companies to omit the BCaBA. In such cases, the BCBA or BCBA-D may oversee the behavior technicians directly.

Individuals with BACB® certification are not required to supervise. Some certified practitioners work directly with clients, particularly in group home settings and other consulting situations where monthly hours are low and hiring a direct implementation professional would not be appropriate. However, the global rise in autism diagnoses has warranted a high demand for appropriate structure of professional behavior analytic services that serve children with autism. Such services are delivered in homes, schools, and centers. Applied behavior analysis practitioners typically train and supervise professionals who implement behavior analytic programming directly with staff.

Generally, the certificant acts as a supervisor who analyzes data, conducts most or all elements of the assessment, designs and develops behavioral programming, and reports on progress. It is typical for ABA certificants to function in a supervisory role under such a service delivery model. However, not every certificant supervises staff.

Most, but not all certificants, supervise clinical staff. Some work directly with clients or in research roles.

The BACB® established the BCBA, BCBA-D and BCaBA credentials in its early years.

In the summer 2014, the BACB® introduced the Registered Behavior Technician (RBT) Credential. This was a standardized credential for individuals who provided direct implementation of behavior analysis programs.

It should be noted that some confusion over terminology has arisen among practitioners as the RBT credential is becoming more common.

A rule-of-thumb:

"Certification" is for Supervisors and "credentialing" is for Direct Implementation staff.

The ABA Supervision taxonomy, therefore, applies to individuals who either hold or are candidates for BACB® certification. RBT Credentialees are supervised by individuals who hold a BACB® certification. However, credentialees do not supervise.

We draw this distinction to help define and locate the meaning of an ABA supervisor. The following chart identifies the basic difference in requirements for supervisors – ABA certification – versus those they supervise – RBT credentialees.

(This book is NOT for developing behavior technicians.)

Behavior Technicians

ABA Credential

- RBT Training
- High school diploma
- RBT 40 hour Training
- RBT Assessment
- Fingerprints/RBT application

Ongoing Quality Assurance

- Ethical/Disciplinary Standards
- Ongoing supervision

*BCaBAs require ongoing supervision from a BCBA or BCBA-D

The following chart depicts the typical arrangement for ABA service delivery for an organization whose staff hold BACB® credentials.

In the above list, where is the candidate? *Hint: "Candidate" refers to the intern accruing hours toward credential requirements.*

Suppose the position is called the supervisor intern. Is the supervisor intern billable? Herein lies the problem – or solution – for many ABA professionals around the world.

Consider an *intern supervisor*, a clinical supervisor who does not hold a certification and is actively accruing supervision hours while working for a behavioral services provider. The position exists in underserved areas where demand for behavioral services is higher than the supply of certified practitioners.

How does a behavioral service provider establish billing practices for the worker? Policy may be available to guide decision-making. Funding sources may offer guidelines. The challenge at the policy-level is to provide enough legislation to safeguard clients with qualified service providers. Legislation that is too rigid makes it difficult for companies to "keep the lights on," or meet minimum expenses to turn a profit. Often, practitioners assume that a company is making a lot of money because they see clients, employees, laptops, trainings, catered lunches, and office space. Yet organizations in the ABA industry must exercise restraint and deliberation for their business practices. For example, what happens when a company can only be paid for services provided by a BCBA, yet all the BCBAs in the area are gainfully employed?

Say a local university observes the growing demand for professional behavior analysts has increased. That university creates a certification program as a hybrid or standalone master's degree that satisfies the university hours required by the BACB. A few years pass. The university has graduated its first class. Yet the university does not have a practicum and it is the responsibility of the graduates to complete their supervised experience hours. What would the students do? They would reach out to local companies for employment – after all, it will soon be time to repay student loans – in hopes that a company can provide a training system for the individual.

The recent graduate may face a mixed landscape, shaped by the contingencies the company faces for promoting and/or billing for that supervisor intern. There are a few common scenarios:

- Two local funding sources reimburses companies ONLY for supervision hours performed by a BCBA.

- One source formally allows the agency to have the supervision hours performed at the rate of a Behavior Technician (lower rate).

- The other source does not reimburse work performed by a non-credentialed supervisor. They will discontinue services unless all supervisor hours are performed by a credential holder.

2.4 Case Study: Associated Aardvarks for Autism (AAA)

Associated Aardvarks for Autism (AAA) was a fictitious ABA agency. Their director was tasked with designing an internship program for recent graduates of a local ABA master's program. AAA would select one intern to pilot the program. The internship was meant to provide 100 percent of hours toward supervised experience for the BCBA® credential.

AAA had certain outcomes in mind. At a minimum, they expected the internship program to produce one supervisor. AAA hoped the supervisor, learn the company culture through internship, would indirectly help with personnel issues. This connection was clear to the CEO and HR managers, though it was harder to explain to clinical leadership. Through internship, upper management expected the new supervisor to learn the "AAA way" technicians should perform the job. Examples included customer service behaviors. Upper management expected the intern to remain grateful to the company for its investment in their professional development. Recruitment attempts failed to find a comparable supervisor. A good behavior analyst supervisor was hard to find.

2.4.1 AAA's Accountant

AAA's director asked the accounting department to create Table 2.1, which summarized cashflow for the internship. The accountant assumed they would hire the intern at $45,000. That included a 50-week year at 30 hour/week, for which half of the hours were to be provided as direct implementation of behavioral programming. The engagement culminated in a complete 1,500-hour internship, satisfying the requirements toward the BACB®'s credentialing application.

The 30 hours per week led to the quickest possible completion of the supervised experience hours for the ABA credential internship. The accountant interviewed the clinical director and was informed that the BACB® permitted up to 50% of intern hours for direct implementation. What were the other hours? The accountant asked about scheduling meetings, billing, drive-time, and planning meetings that were not clinical. Unfortunately, those things were considered "non-clinical" of "administrative" hours. They could not be counted toward the intern's credentialing hours.

The accountant knew that at least half of the intern's hours needed to be clinical but could not be direct implementation of behavioral programming. For that reason, the accountant only calculated 15 hours per week of billable work for the intern to serve as a behavior technician. He knew the other half included program development, report writing, parent education, and staff training. The

company had one funding source that allowed interns to bill for these services. However, two other funding sources required the full credential for reimbursement. For that reason, the accountant described the "other 50%," as he called it, as a gray area category that may or may not be billable. But how could he help offset more of the cost of internship, so the company would not have to pay so much money out of pocket?

2.4.2 Funding Sources

The accountant considered the types of reimbursement contingencies the company faced. The most lenient funding sources allowed the company to bill for the intern's program development and report writing, generally under the supervision of a credentialed individual. Other funding sources will not pay for any supervisor hours performed by a non-credentialed ABA professional. The most conservative funding sources only reimburse for supervision performed in the presence of the client by a credentialed ABA professional.

In the AAA Company for Table 2.1, the funding source allowed only direct implementation hours to be billed by the intern. These hours are performed by a behavior technician and take the form of direct service.

The accountant recommended AAA to minimize the out-of-pocket expense of the internship by assigning a salaried individual as the supervisor for the 75 hours a supervisor would need to spend supervising that intern. The director asked how much money that would save.

2.4.3 Estimating Supervision Costs

The accountant created Table 2.2 to estimate costs if the intern's supervisor would have been paid hourly. The table reflected $45 per hour for the supervisor wage. It was a safe estimate considering the BACB® and Association of Professional Behavior Analysts (APBA) 2012 study which showed that most supervisor hours were reimbursed $40-50 per hour. The accountant found those data in a BACB® newsletter from 2012. The director forwarded those emails to him regularly. He was glad to have the opportunity to show he had read them.

Billing for Parent Education Groups

AAA also recognized that the intern could run Parent Education Groups as part of their 50% of non-direct implementation hours. Fortunately, AAA could be reimbursed for these hours. It was not a huge savings, but it neutralized some of the costs of the intern's hourly rate. The Parent Education Groups only added 4 hours per week to the Intern's workload.

2.4.4 Consulting the Clinical Director

The accountant approached the clinical director for ideas on the rest of the internship hours. It looked like AAA needed to meet the 30 hours per week in the agreement but they were short. Adding 1.5 hours per week of supervision, 4 hours for parent education, and 15 hours of direct implementation left a deficit pf 9.5 hours to fill. The company met those hours by scheduling the intern for staff training, along with program development and report writing for clients on the intern's direct implementation caseload.

2.4.5 Putting It Together

As a result, the intern was able to satisfy a requirement toward the BACB® credential application and was paid $45,000 for the year. Admittedly, it was not a huge amount of money for someone with a master's degree. The intern felt it was fair because she was only asked to work 30 hours per week. There were some travel time hours and expenses, which were handled separately in compliance with law. The company ultimately lost $12,750 for the year.

AAA knew they would lose the money this year but hoped the intern would pass the credentialing exam soon and stay with AAA, billing at a full supervisor rate. That would allow AAA to earn a higher reimbursement rate for the hours the supervisor worked. More importantly, it meant AAA could add some clients from their waiting list, placing these clients on the new supervisor's caseload.

2.4.6 A Risk for the Company

AAA recognized that the main incentive for a company to sponsor an intern was the possibility of serving more clients once the intern earned the credential. It was a gamble for AAA. Not every intern passed the credentialing exam. In this case, they requested transcripts from the possible interns they were considering. They wanted an intern with the highest possible grades because they believed previous academic performance suggested a history of work habits and a higher likelihood of having acquired the skills needed to pass the credential exam.

2.4.7 Final Decision

AAA knew that other ABA agencies in the area were using contracts to keep interns at their companies for long enough to recoup the cost of the internship. They weighed the pros and cons of contracts but chose to revisit that issue at a later date.

Ultimately, upper management was ambivalent about the internship. The director said, "If someone told you to pay $12,750 today and there was only a 58% you could get that money back in 2 years, would you invest?" She was referring to passing rates on the exam. The clinical director looked up the university pass rates for graduates of that local program and found that 60% of graduates passed the exam on the first try.

These data did not impress the director. The decision was made to offer the internship as a trial. The clinical director selected a salaried supervisor and put pressure on her to make sure the intern learned the BACB® 4th Edition Task List fully. "If she doesn't pass the exam, I'm holding you responsible," said the clinical director. The supervisor accepted the challenge and implemented the procedures in Section 2 of the TrainABA supervised experience book. Years later, the intern had passed the exam on her first attempt and was successfully managing a caseload of 12 clients. She was a success story. AAA realized that not all internship stories have happy endings.

2.5 Resources for Supervised Experience

See the following pages for Table 2.1 and 2.2 to see what the accountant gave the director at AAA. Resources for the Supervised Experience Process Items in Bold are required by the BACB® for credentialing. Non-bold items are supplemental materials.

Supervisee

1. Contract
2. BACB.com module (see notes on registration)
3. Clients (generally)
4. 4th Ed. Task List
5. Experience Verification Forms
6. Supplementary Materials
7. Homework

Supervisor

1. Contract
2. BACB.com module
3. Clients
4. 4th Ed. Task List (Assessment and Meeting Agendas)
5. Experience Verification Forms
6. Supplementary Materials
7. Homework
8. Create Performance Management Plan (Professional Development)
9. Ongoing Payment (from employer, university, contractor)
10. Time Retainer
11. Technology (journals, online videos, etc.)
12. Communication (synchronous and/or asynchronous)

2.5.1 Beyond the Taxonomy

Have you located yourself as an ABA supervisor in the taxonomy? Can you write the steps of the Supervised Experience Process? If not, please review the charts above. The goal of this chapter was to identify the type of supervision you offer, or plan to offer, as a supervisor in the field of applied behavior analysis.

The first edition TrainABA book listed prerequisites needed for supervising certification candidates. It included checklists to identify requirements. After publication, the BACB® disseminated more supervision materials. Use the BACB® materials for official purposes, as they are subject to change without warning at the BACB®'s sole discretion.

Information below reflects the BACB®'s recent supervision standards, effective January 1, 2015.

BACB® Rules for Supervision

1. Each supervisee must have a valid supervision contract. Multiple exemplars and comprehensive guidelines are available at bacb.com®
2. 2. Each supervisor must have completed both of the following by December 31, 2014.

   (a) Complete 8 Hour Supervisor Training from a BACB® ACE provider (Available from TrainABA as a live webinar)
   (b) Complete an online, competency-based supervision module on BACB.com
   (c) Complete 3 CEUs for supervision for every recertification cycle

3. Each supervision period is 2 consecutive weeks
4. Ratio of Independent Fieldwork to Direct Supervision must be no less than 5% by the end of the 2 week period (You MUST provide Direct Supervision 5% or more of their Independent Fieldwork by the end of each 2-week period.)
5. Per 2 week supervision period, no more than 50% of supervision can be direct care. The other 50%+ must be behavior analytic in nature
6. Start/end dates may not be more than 5 years apart.
7. Supervision must be face to face. Real-time video is okay. Think of Google Hangouts, FaceTime, Skype, etc.
8. 5% of 1500 hours = 75 hours of independent fieldwork experience
9. Supervision hours may be counted toward total experience hours
10. No more than 50 percent of supervision (per 2-week period) can be in a group format
11. Group maximum = 10 supervisees
12. You do not need to provide Direct Supervision every week
13. Must meet at least once for every 2 week period
14. Content must be behavior analytic (Do not discuss billing, travel time, non-clinical scheduling, etc.)

Mathematical Assumptions

- Supervisors must provide 5% of 1,500 Independent Fieldwork hours = 75 hours
- Supervision period is two weeks in duration
- (75 hours total) DIVIDED BY (maximum of 3 hours per 2-week period) = 25 meetings, one per 2 weeks

- Up to 50% of supervised experience hours can be delivered in group format
- Therefore, deliver group supervision meetings that are 1.5 hours in duration, once per 2 week period
- Also provide individual supervision for 1.5 hours in duration for each 2 week period
- Given the math above, Train ABA recommends you make group supervision meetings 1.5 hours long (90 minutes) for full time staff. We built the agendas around the 90 minute model
- If your supervisees do not work 30 hours per week during both weeks of the 2-week supervision period, you will need to adjust the math to provide exactly 5% of the hours they provided. See rules below.

Rules for Calculating How Many Hours Your Supervisee Has Completed

1. Your supervisee must work at least 10 and up to 30 hours during both weeks of each 2-week supervision period
2. You must provide supervision for 5% of these hours
3. You do not need to provide exactly 50% of group supervision every 2-week period, but we use that model for this protocol because it makes the math easier
4. When your supervisee works less than the expected amount of hours for a week or 2-week period, adjust your supervision hours to equal 5% of their hours worked
5. If they work more than 30 hours in one week, the company can pay wages but the BACB® will not recognize extra hours

2.5.2 Registration Process

As of the first edition of this book, the BACB® requirement for interns to "register" before beginning experience hours was considered new. Registration was first mentioned in the BACB®'s September 2012 Newsletter. By the date of this second edition book, all supervisors are likely registered and know to advise supervisees to register.

As of January 1, 2015, the registration process had two steps.

1. Create a login at bacb.com®

2. In that login, complete the same Supervision Policies Module required by individuals who wish to supervise those accruing Experience Hours. In plain English, your supervisees must complete the same supervision module as you. Additionally, they are expected to do it at the outset of supervision. Some supervises may not know of this requirement. Please advise your supervisees to complete this module immediately. It takes approximately 1.5 hours and is available free of charge.

NOTE: Interns complete the module only once.

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Chapter 3

Refresher: Supervisor Workshop

This chapter contains key takeaways from the general 8-Hour Supervisor Training Workshop curriculum.

The BACB® 8-Hour Supervisor Training Workshop curriculum has 6 sections:

1. Purpose of Supervision
2. Features of Supervision
3. Behavioral Skills Training
4. Delivering Performance Feedback
5. Evaluating the Effects of Supervision
6. Ongoing Professional Feedback

These sections are summarized briefly in visuals and charts below. This chapter is meant to serve as a refresher for the concepts presented in the 8-Hour Supervisor Training workshop. It is not a substitute for the workshop. These materials were taken from the TrainABA 8-Hour Supervisor Training Workshop.

3.1 Purpose of Supervision

> "*The purpose of supervision is to improve and maintain the behavior-analytic, professional and ethical repertoires of the supervisee and facilitate the delivery of high-quality services to his/her clients.*"
> –BACB® 8-Hour Curriculum Training Outline, 2012

3.2 Features of Supervision

The following items were considered appropriate supervision activities according to the BACB's initial supervision curriculum.

- Focus on developing new ABA skills
- Use BACB® Fourth Edition Task List
- Follow 7 Dimensions of Behavior Analysis (BATCAGE) (Baer, Wolf, & Risley, 1968)
- Give supervisees multiple sites, varied experiences, different supervisors
- Conducting assessments to determine the need for behavioral intervention
- Designing, implementing, & systematically monitoring skill-acquisition and behavior- reduction programs
- Oversee implementation of behavior-analytic programs by others
- Training, designing behavioral systems, and performance management
- Using behavioral skills training to Model and rehearse various behavior analytic skills and procedures.
- Engaging in role-play scenarios in natural and contrived situations for various skills
- Other items directly related to ABA

The following items were considered inappropriate supervision activities according to the BACB's initial supervision curriculum. These items represent inappropriate supervision activities. They are non-examples of content for group supervision meetings.

- Attending meetings with little or no behavior-analytic content
- Scheduling, travel time, billing
- Using unproven or non-behavior analytic interventions
- Non-behavioral administrative activities, non-behavioral assessments (diagnostic or intellectual assessments)

3.3 Features of Supervision

(Chart pending).

3.4 Using Behavioral Skills Training

Why is Behavioral Skills Training (BST) popular in ABA supervision now?

In 2012, the Behavior Analyst Certification Board® created a document called the "Supervision Training Curriculum Outline." It contained the required topics for Approved-Continuing Education (ACE) providers who would provide the 8-Hour Supervisor Training curriculum. Section (3) of this (6) section document was titled, "Behavioral Skills Training (BST)."

BST is found in various JABA articles and books by behavior analysts. Perhaps the best example of BST is found in Raymond Miltenberger's 2011 textbook, "Behavior Modification Principles and Procedures."

An 8-step BST procedure is outlined on the following page.

3.4.1 Behavioral Skills Training

(Note: This chart needs to be revised for the LaTeX edition.)

1. Provide a rationale for why the target skills are to be trained
2. Provide a succinct, written description (instructions) of the target skills
3. Scripts are included in this document. Be sure to provide a script to employees.
4. Provide a detailed, vocal description (instructions) of the target skills
5. a. Trainer reads script aloud to trainee
6. 4. Demonstrate (model) each of the target skills
7. a. Trainer is first to role play, demonstrating correct behavior for trainee
8. b. Include examples and non-examples
9. c. If training scenario is a non-example, trainer deviates from script and scenario is terminated with positive feedback.
10. 5. Require trainee to practice (rehearse) each target skill
11. a. Trainee role plays scenarios from the list

12. b. Include examples and non-examples
13. c. If training scenario is a non-example, trainee deviates from script and scenario is terminated with positive feedback
14. 6. Provide positive and corrective feedback to supervisee
15. a. Provide it vocally, immediately following trainee role play
16. b. Deliver positive feedback to trainee throughout training, aiming for 4:1 ratio
17. c. Deliver corrective feedback directly.
18. 7. Repeat the previous step until supervisee performs each target skill correctly
19. 8. Assess application and generalization of skills to new targets, clients, and settings, when appropriate

3.5 Delivering Performance Feedback

Corrective Feedback

1. 1. Provide an empathy statement
2. 2. Describe ineffective performance
3. 3. Provide a rationale for desired change in performance
4. 4. Provide instructions and demonstration for how to improve designated performance
5. 5. Provide opportunities to practice the desired performance
6. 6. Provide immediate feedback

3.6 Evaluating the Effects of Supervision

Evaluate supervision with evidence-based, intervention specific criteria for:

- • Client performance
- • Staff performance
- • Supervisory behavior

3.6.1 Ongoing Professional Development

1.03 Professional Development (+RBT) *Behavior analysts who engage in assessment, therapy, teaching, research, organizational consulting, or other professional activities maintain a reasonable level of awareness of current scientific and professional information in their fields of activity, and undertake ongoing efforts to maintain competence in the skills they use by reading the appropriate literature, attending conferences and conventions, participating in workshops, and/or obtaining Behavior Analyst Certification Board certification.* –BACB Professional and Ethical Compliance Code, Ver. 9/23/2014. The supervisor should be able to describe the following methods for his/her ongoing professional development as a supervisor

- Creating a continuous learning community to enhance supervisory and training behavior
- Regular review of resources and research for best practices in supervision

The supervisor should be able to describe the following methods for his/her ongoing professional development as a supervisor and to the supervisee:

- Supervisory study groups
- Attending conferences
- Seeking peer review
- Seeking mentorship
- Regular review of resources and research relevant to supervisee's area of practice
- Seeking consultation when necessary

Chapter 4

A. Measurement

4.1 A-01 Measure frequency (i.e., count).

4.1.1 Definition

Frequency - "A ratio of count per observation time; often expressed as count per standard unit of time and calculated by dividing the number of responses recorded by the number of standard units of time in which observations were conducted (Cooper, Heron, & Heward, 2007, p. 85)."*

4.1.2 Examples

1. Hand Raising - A student is sitting in an hour long class. The student raises his hand 3 times to ask and answer questions during the class. The bell rings once and the student goes to his next class. Frequency of hand raising is 3 per hour.

4.1.3 Assessment

1. Ask your supervisee to identify the frequency of hand raising above.

2. Ask your supervisee to create another example and non-example of his/her own.

3. Have supervisee measure a frequency of a behavior on the job or in a role play.

4. Have supervisee graph the frequency measured on the job or in a role play.

4.1.4 Relevant Literature

Catania, C. A. (2013). *Learning.* Sloan.
Cooper, J. O., Heron, T. E., Heward, W. L., et al. (2007). *Applied behavior analysis.* Pearson.

4.1.5 Related Tasks

I-01 Define behavior in observable and measurable terms.
H-01 Select a measurement system to obtain representative data given the dimensions of the behavior and the logistics of observing and recording.
FK-47 Identify the measurable dimensions of behavior (e.g., rate, duration, latency, interresponse time).

4.1.6 Footnotes

* Alternatively, frequency is not always defined synonymously with rate throughout the discipline of behavior analysis. Catania (2013, p. 443) defines frequency as "total responses over a fixed time, over a session of variable duration or, in trial procedure, over a fixed number of trials." Cooper, Heron, & Heward (2007) functionally defines "count" as Catania defines "frequency."

4.2 A-02 Measure rate (i.e., count per unit time).

4.2.1 Definition

Rate - "A ratio of count per observation time; often expressed as count per standard unit of time and calculated by dividing the number of responses recorded by the number of number of standard units of time in which observations were conducted" (Cooper, Heron, & Heward, 2007, p. 85).*

4.2.2 Examples

1. Eating Chips: A young child is sitting at a table where there is a bag of potato chips. They eat 8 chips, stand up, and walk to the living room to watch TV for the rest of the hour. Rate of chip eating is 8 per hour.

2. Basketball Dribbles: Child is playing basketball for 30 minutes. Dribbles 7 times and then practices foul shots. He shoots 15 times and between each shot he dribbles 3 times. Frequency of dribbling is 52 dribbles per 30 minutes.

4.2.3 Assessment

1. Ask your supervisee to identify the frequency of chip eating or basketball dribbles in examples.

2. Have supervisee measure a frequency of a behavior on the job or in a role play.

4.2.4 Relevant Literature

Catania, C. A. (2013). *Learning.* Sloan.
Cooper, J. O., Heron, T. E., Heward, W. L., et al. (2007). *Applied behavior analysis.* Pearson.

4.2.5 Related Tasks

I-01 Define behavior in observable and measurable terms.
H-01 Select a measurement system to obtain representative data given the dimensions of the behavior and the logistics of observing and recording.
FK-47 Identify the measurable dimensions of behavior (e.g., rate, duration, latency, interresponse time).

4.2.6 Footnotes

* Alternatively, rate is not always defined synonymously with frequency throughout the discipline of behavior analysis. Catania (2013) defines rate as "responses per unit time" (p. 458) but frequency as "total responses over a fixed time, over a session of variable duration or, in trial procedure, over a fixed number of trials" (p. 443) Cooper, Heron, & Heward (2007) functionally defines "count" whereas Catania defines "frequency."

Chapter 5

After Internship

The technical guide is now complete. If the guide was effective, you should now have enough knowledge and system tools to do the following:

1. Identify and reference the rules for providing supervised experience hours
2. Identify and calculate the proper hours for supervising independent fieldwork in applied settings
3. Assess supervisees as practitioners
4. Assess supervisee's Foundational Knowledge of ABA
5. Structure Group Meetings using the Agenda for Group Meetings
6. Use the Fourth Edition Task List™ with your group
7. Apply the Fourth Edition Task List™ to improve, expand, and maintain each supervisee's repertoire
8. Balance individual and group supervision to improve and maintain the supervisee's behavior analytic repertoire
9. Identify homework assignments
10. Choose from a variety of possible presentation delivery modes for supervisees (i.e., calendar, assigned vs. requested topics)
11. Incorporate Behavioral Skills Training into group supervision

Glossary

Applied Refers to selection of socially significant behaviors when designing interventions.

Behavior Refers to an observable act or response from a living organism.

CAT A sleepy animal.

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