Observational Methods and Functional Assessment

EDG 6931.007
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Professor: Kwang-Sun Cho Blair, Ph.D.
Office location: MHC 2117A
Office phone: 974-2129
Office fax: 974-6115
E-mail: kwangsun@usf.edu (kblair@fmhi.usf.edu)
Office hours: By appointment

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Course Prerequisites

Enrollment in the Master's program in Applied Behavior Analysis or Special Education, or instructor permission

Course Description

This course is designed to meet the total academic requirements for board certification in behavior analysis. The course focuses on identifying and using appropriate observational methods based on individual cases, assessing individuals using functional assessment and functional analysis procedures, displaying and interpreting behavioral data, and designing behavior support plans. This course will cover Content Area 4 (behavioral assessment), Content Area 6 (measurement of behavior), and Content Area 7 (displaying and interpreting behavioral data) of the *Behavior Analysis Task List – Third Edition.* The students will participate in lecture, discussion, article review, in-class activities, and conducting and presenting a case study.

Course Objectives

After completion of this course, students will be able to:

1. Describe role and methods of assessment in applied behavior analysis
2. Identify measurable dimensions of behavior and define behavior in observable and measurable terms
3. Use various measurement procedures to collect reliable, direct observational data
4. Use graphs to display and interpret data
5. Describe the background of functional assessment and the functions of behavior
6. Conduct indirect and descriptive functional assessment
7. Interpret functional assessment results and formulate hypotheses
8. Test hypotheses
9. Design a behavior intervention plan based on functional assessment results

Textbooks

Cooper, J. O., Heron, T. E., & Heward, W. L. (2007). *Applied behavior analysis* (2nd ed). Upper Saddle River, NJ: Pearson Prentice Hall.

O'Neill, R. E., Horner, R. H., Albin, R. W., Sprague, J.R, Storey, K., & Newton, J.S. (1996). *Functional assessment of problem behavior: A practical assessment guide* (2nd ed). Pacific Grove, CA: Brookes/Cole Publishing.

Readings (Journal Articles)

All articles listed below are **required reading** and are available on-line via the USF Library database (http://www.lib.usf.edu/).

Week 2

Hawkins, R. (1979). The functions of assessment: implications for selection and development of devices for assessing repertoires in clinical, educational, and other settings. *Journal of Applied Behavior Analysis, 12*, 501-516.

Nelson, R. O., & Hayes, S. C. (1979). The nature of behavioral assessment: A commentary. *Journal of Applied Behavior Analysis, 12*, 491-500.

Week 3

Meany-Daboul, M. G., Roscoe, E. M., Bourret, J. C., & Ahearn, W. H. (2007). A comparison of momentary time sampling and partial-interval recording for evaluating functional relations. *Journal of Applied Behavior Analysis, 40*, 501-514.

Riley-Tillman, T. C., Christ, T.J., Chafouleas, S.M., Boice-Mallach, C.H., & Briesch, A. (2011). The impact of observation duration on the accuracy of data obtained from direct behavior rating (DBR). *Journal of Positive Behavior Interventions, 13*, 119-128.

Week 4

Riley-Tillman, T. C., Christ, T.J., Chafouleas, S.M., Boice-Mallach, C.H., & Briesch, A. (2011). The impact of observation duration on the accuracy of data obtained from direct behavior rating (DBR). *Journal of Positive Behavior Interventions, 13*, 119-128.

Rapp, J.T., Carroll, R.A., Stangeland, L., Swanson, G., & Higgins, W.J. (2011). A comparison of reliability measures for continuous and discontinuous recording methods: Inflated agreement scores with partial interval recording and momentary time sampling for duration events. *Behavior Modification, 35*, 389-402

Week 5

Figarola, P.M., Gunter, P., Reffel, J.M., Worth., S.R., Hummel, J., & Geger, B.L. (2008). Effects of self-graphing and goal setting on the math fact fluency of students with disabilities. *Behavior Analysis in Practice, 1*, 36-41. .

Lo, Y., Starling, A.L. (2009). Improving graduate student's graphing skills of multiple baseline designs with Microsoft® Excel 2007. *The Behavior Analyst Today, 10*, 83-121.

Week 6

Kahng, S. W., Chung, K., Gutshall, K., Pitts, S. C., Kao, J., & Girolami, K. (2010). Consitent visual analyses of intrasubject data. *Journal of Applied Behavior Analysis, 43*, 35-45.

Lieberman, R.G., Yoder, P.J., Reichow, B., & Wolery, M. (2010). Visual analysis of multiple baseline across participants graphs when change is delayed. *School Psychology Quarterly, 25*, 28-44.

Week 7

Carr, E. G. (1994). Emerging themes in the functional analysis of problem behavior. *Journal of Applied Behavior Analysis, 27*, 393-399.

Weber, K. P., Killu, K., Derby, M., & Barretto, A. (2005). The status of functional behavioral assessment (FBA): Adherence to standard practice in FBA methodology. *Psychology in the Schools, 42*, 737-744.

Week 8

Floyd, R. G., Phaneuf, R.L., & Wilczynski, S. M. (2005). Measurement properties of indirect assessment methods for functional behavioral assessment: A review of research. *School Psychology Review, 34*, 58-73**.**

Stage, S. A., Jackson, H. G., Moscovitz, K., Erickson, M. J., Thurman, S. O., Jessee, W., & Olson, E. M. (2006). Using multimethod-multisource functional behavioral assessment for students with behavioral disabilities. *School Psychology Review, 35*, 451-471.

Week 9

Bijou, S. W., Peterson, R. F., & Ault, M. H. (1968). A method to integrate descriptive and experimental field studies at the level of data and empirical concepts. *Journal of Applied Behavior Analysis*, *1*, 175-191.

Touchette, R. E., MacDonald, F., & Langer, S. N. (1985). A scatter plot for identifying stimulus control of problem behavior, *Applied Behavior Analysis, 18*, 343-351.

Tarbox, J., Wilke, A.E., Najdowski, A. C., Findel-Pyles, R. S., Balasanyan, S., Caveney, A. C……Tia, B. (2009). Comparing indirect, descriptive, and experimental functional assessments of challenging behavior in children with autism. *Journal of Developmental and Physical Disabilities, 21*, 493-514.

Week 10

Iwata, B. A., Dorsey, M. F., Slifer, K. J., Bauman, K. E., & Richman, G. S. (1994). Toward a functional analysis of self-injury. *Journal of Applied Behavior Analysis*, *27*, 197-210.

Northup, J., Wacker, D., Sasso, G., Steege, M., Cigrand, K., Cook, J., & DeRaad, A. (1991). A brief functional analysis of aggressive and alternative behavior in an outclinic setting. *Journal of Applied Behavior Analysis*, *24*, 509-522.

Volkert, V. M., Lerman, D. C., & Vorndran, C. (2005). The effects of reinforcement magnitude on functional analysis outcomes. *Journal of Applied Behavior Analysis*, *38*, 147-162.

Week 11

Dunlap, G., Kern-Dunlap, L., & Clarke, S., & Robbins, F. R. (1991). Functional assessment, curriculum revision, and severe behavior problems. *Journal of Applied Behavior Analysis*, *24*, 387-391.

Kennedy, C. H., & Itkonen, T. (1993). Effects of setting events on the problem behavior of students with severe disabilities. *Journal of Applied Behavior Analysis*, *26*, 321-327.

Stichter, J. P., Randolph, J. K., Kay, D., & Gage, N. (2009). The use of structural analysis to develop antecedent-based interventions for students with autism. *Journal of Autism and Developmental Disorders, 39*, 883-896.

Week 12

Carr, E. G., & Carlson, J. I. (1993). Reduction of severe behavior problems in the community using a multicomponent treatment approach. *Journal of Applied Behavior Analysis*, *26*, 157-172.

Wood, B. K., Ferro, J. B., Umbreit, J., & Liaupsin, C. J. (2011). Addressing the challenging behavior of young children through systematic function-based intervention. *Topics in Early Childhood Special Education, 30*, 221-232.

Week 13

Benazzi, L., Horner, R. H., & Good, R. H. (2006). Effects of behavior support team composition on the technical adequacy and contextual fit of behavior support plans. *The Journal of Special Education, 40,* 160-170.

Mindon, R., Wade, C., & Matthews, J. (2008). Considering the contextual fit of an intervention for families headed by parents with intellectual disability: An exploratory study. *Journal of Applied Research in Intellectual Disabilities, 21*, 377-387.

Schwartz, I. S., & Baer, D. M. (1991). Social validity assessments: Is current practices state of the art? *Journal of Applied Behavior Analysis*, *24*, 189-204.

Week 14

Hundert, J., & Hopkins, B. (1992). Training supervisors in a collaborative team approach to promote peer interaction of children with disabilities in integrated preschool. Journal of Applied Behavior Analysis, 25, 385-400.

Lucyshyn, J. M., Albin, R. W., & Nixon, C. D. (1997). Embedding comprehensive behavioral support in family ecology: An experimental, single-case analysis. *Journal of Counseling and Clinical psychology, 65*, 241-251.

Lutzker, J. R., & Whitaker, D. J. (2005). The expanding role of behavior analysis and support: Current status and future directions. *Behavior Modification, 29,* 575-594.

Topics and Readings

Class Date	Topics and Associated Assignments	Readings for Class
Week 1 (8/23)	Overview of syllabus and course requirements	
Week 2 (8/30)	• Role and methods of assessment in ABA • Assessing social significance/prioritizing target behaviors • Defining target behaviors	Cooper et al. Ch. 3 (pp. 48-71) Hawkins (1979) Nelson & Hayes (1979)
Week 3 (9/6)	• Measuring behavior: measurable dimensions Procedures for measuring behavior: - Event recording, timing, time sampling Quiz 1 (covers weeks 2-3)	Cooper et al. Ch. 4 (pp.72-95) Meany-Daboul et al. (2007) Sanson-Fisher et al. (1980)
Week 4 (9/13)	• Permanent product recording • Using checklists and rating scales • Improving and assessing the quality of behavioral measurement	Cooper et al. Ch. 4-5(pp. 95-125) Riley-Tillman et al. (2011) Rapp et al. (2011)
Week 5 (9/20)	• Constructing graphic display of behavioral data - Purpose and benefits of graphic display - Types of graphs - Constructing line graph Quiz 2 (covers weeks 4-5)	Cooper et al. Ch. 6 (pp.126-149) Figarola et al. (2008) Lo & Starling (2009)
Week 6 (9/27)	• Interpreting data in graph - Steps in visual analysis - Variables for consideration - Methods to improve visual analysis	Cooper et al. Ch.6 (pp.149-157) Kahng et al. (2010) Lieberman et al. (2010)
Week 7 (10/4)	• Functional behavior assessment (FBA) - Functions of behavior - Role of FBA • Overview of FBA methods Quiz 3 (covers weeks 6-7)	Cooper et al. Ch.24 (pp.500-512) O'Neill et al. Ch.1 (pp.1-8; pp35-54) Carr (1994) Weber et al. (2005)
Week 8 (10/11)	• Conducting indirect FBA **Case study participant approval deadline 10/11*	O'Neill et al. Ch.2 (pp.9-35) Floyd et al. (2005) Stage et al. (2006)
Week 9 (10/18)	• Conducting descriptive FBA • Formulating hypotheses Quiz 4 (covers weeks 8-9)	O'Neill et al. Ch.2 (pp.35-54) Bijou et al. (1968) Touchette et al. (1985) Tarbox et al. (2009)
Week 10 (10/25)	• Testing hypothesis - Functional analysis * *FBA Report Due 10/25*	Cooper et al. Ch.24 (pp.512-513) O'Neill et al. Ch.2 (pp.54-58) Iwata et al. (1994) Northup et al. (1991) Volkert et al. (2005)
Week 11 (11/1)	• Testing hypothesis - Structural analysis Quiz 5 (covers weeks 10-11) **Hypothesis testing plan approval deadline 11/4*	Dunlap et al. (1991) Kennedy & Itkonen, (1993) Stichter et al. (2009)

Week 12 (11/8)	• Developing function-based, multi-component interventions	Cooper et al. Ch.24 (pp.513-524) O'Neill et al. Ch.3-4 (pp.65-84) Carr & Carlson (1993) Wood et al. (2009)
Week 13 (11/15)	Writing behavior intervention plans • Contextual fit of behavior intervention plans **Hypothesis testing report due 11/18*	O'Neill et al. Ch.3-4 (pp.85-89) Benazzi et al. (2006) Midon et al. (2008) Schwartz & Baer (1991)
Week 14 (11/22)	• Collaboration among professionals and with families **Quiz 6 –** covers weeks 12-14	Hundert & Hopkins (1992) Lucyshyn et al. (1997) Lutzker & Whitaker (2005)
Week 15 (11/29)	• Poster presentation of the case study project **Behavior Intervention Plan due 12/6*	

Course Requirements

Students are expected to check Blackboard regularly for general information and updates concerning assignments, quizzes, and classes.

Assignments:

This class involves completing a case study project, during which the student will submit 4 assignments. The case study project includes: (1) functional assessment, (2) hypothesis testing, (3) poster presentation, and (4) behavior intervention plan design. In addition, each student will review an assigned research article and present it in class.

1. *Functional Assessment (40 points):* Each student will identify an individual who has behavioral challenges and conduct functional assessment of the individual's problem behavior using indirect and descriptive functional assessment procedures. Sample indirect and descriptive assessment tools provided on Blackboard can be used for this assignment. Students will write and submit a 4-5 page (double-spaced) report on the assessment project. The report should provide the following information:
    a. Introduction: purpose or reasons for functional assessment with the individual assessed
    b. Participant: background information on the individual assessed including name (pseudonym), age, gender, diagnosed condition (if any), target problem behavior (types, history, and characteristics), educational or intervention services being received (if any), and other relevant information that will help understand characteristics and needs of the individual.
    c. Functional assessment procedures: (1) Indirect assessment (when, where, how, and with whom the functional assessment interview was conducted and the interview form used; other indirect assessment instruments used) and (2) Descriptive assessment (setting or target routines where the observations were conducted, number of observational sessions, and duration of each session).

       *Note: The observation should occur on a minimum of 2 separate occasions.

d. Functional assessment results: (1) identified problematic routines or situations; (2) identified environmental events that are associated with problem behavior (setting events, antecedents, and consequences); (3) identified function(s) of the problem behavior, and (4) summary statement or hypotheses of the problem behavior.

e. Discussion: reflective comments on the assessment activity or learning experiences through the assignment.

Students will submit the report with copies of the completed interview, observation, and other indirect assessment forms (if used) to Blackboard. Hard copies of the completed forms can be submitted in class.

*Note: The case study participant will be identified and approved by the instructor not later than 10/11. Report due: Week 10 (10/25)

2. *Hypothesis Testing (40 points):* Students will define target behaviors of the individual assessed, select a data recording procedure, test hypotheses (using a functional analysis or structural analysis procedure), and summarize and display data in a graph(s). Students will write and submit a 4-5 page report (double spaced) on the testing procedures and results. The written report will include the following information:

   a. Definitions of target behavior(s)

   b. Data recording procedure

   c. Design and hypothesis testing procedures: setting, design, experimental analysis conditions, duration and number of sessions, and individuals involved

   d. Results: descriptive summary and graphical data

   e. Discussion: recommendations for developing a behavior intervention plan and lessons learned from the project.

   *Note: The hypothesis testing plan (design, experimental conditions, and testing procedures) will be approved by the instructor no later than 11/2. Report due: Week 13 (11/18)

4. *Poster Presentation (30 points):* The students will present the case study to the class using a poster format. The focus will be on presenting the results of indirect and descriptive functional assessment and hypothesis testing. The poster should include information on the participant and target behaviors, brief descriptions of function assessment and hypothesis testing procedures and results (graphical data), and discussion or recommendation for intervention strategies. Students will use a tri-fold poster board (35" x 48") to present the case study.

   *Note: Draft poster content (PowerPoint slides) can be submitted for feedback, if submitted by 11/25. Presentation: Week 15 (11/29)

3. *Behavior Intervention Plan (30 points):* Students will design a behavior intervention plan (2-3 page, single-spaced) for the case study participant based on the functional assessment results. The plan should include at least the following components:

   a. Identifying information: name of the individual assessed (pseudonym)

   b. Problem behavior: description of the target problem behavior

   d. Functional assessment summary

c. Intervention goals

d. Target setting(s) where the intervention plan will be implemented

e. Multicomponent intervention strategies

f. Monitoring and evaluation procedures

Specific components of the behavior intervention plan will be described in class. Sample plans are provided on Blackboard. Assignment due 12/6

5. Journal Article Review and Discussion (10 points): Each student will lead one classroom discussion on one of the weekly journal article readings. Students will present a summary of the article and facilitate discussion based on what they found most interesting, the questions they have, and the applicability of the research, topical concepts, or principles to their professional work.

   The students will be responsible for preparing a PowerPoint presentation to help with the discussion process. The presentation should be maximum 10 minutes long, including time to address questions from students. Presentations are to include tables or graphs (if applicable) from the article along with the textural slides. In most cases, 5 to 8 slides are sufficient. Students will be responsible to post the presentation material into Discussion Board of Blackboard at least one day before the class. The Discussion Board will provide threads for posting, responding, and downloading. Due: Weeks 3-14

Quizzes:

Instructor will administer 6 short answer and multiple-choice quizzes on required reading materials (text books and articles) and lecture. Each quiz will cover materials from previous 2-3 weeks. The quizzes will be delivered via Blackboard and will be available for 4 days during that assigned week (Friday, 8:00 am through the following Monday, 5:00 pm). The students can take quizzes at their convenience so long as each is completed by Monday. The quizzes will be timed, and the students will have 2 hours to complete them. No make-up quizzes will be given unless prior arrangements are made with the instructor. (6 quizzes at 20 points = 120 points total)

Attendance/Participation:

Students earn points for class attendance and participation. Please call or email instructor ahead of time for absence, late arrival, or early departure. Being absent without valid documentation or explanation will result in no point for that week. The students are also expected to actively participation in discussion and activities. (30 points total)

Total possible course points = 300

Missing Work

Missing work requires an excuse of illness or extenuating circumstances. In this event the student must work with the instructor to arrange within an agreed upon time frame, a time to complete the assignment. For unexcused missing assignments, the student will lose 10 pts each week. No grade below "C" will be accepted toward a graduate degree.

Cheating and plagiarism

See the policy in the USF Graduate Catalog. If you are caught cheating or plagiarizing in this course, you will receive a "0" for the assignment and possible termination from the course with a letter grade of F. Disruption of the classroom or teaching environment is also unacceptable. The University of South Florida has very specific policies and procedures regarding academic dishonesty or disruption of academic process. Cheating and plagiarizing are defined as follows:

Cheating: This includes, but is not limited to copying from your neighbor on assignments, during a quiz, etc. It also involves talking during a quiz. Cheating also means using a previous or another student's project and turning it in as your own. In addition, fabricating the case study project falls under the guise of "cheating".

Plagiarizing: This means turning in written work that includes copyrighted material taken from someone else, without using quote marks or otherwise giving proper credit to the true author. In other words, plagiarism is the presentation of an author's work in a way that the material might be mistaken to be your own.

USF's Policy on Religious Observances

"No student shall be compelled to attend class or sit for an examination at a day or time prohibited by his or her religious belief in accordance with the University policy on observance of religious holy days. Students who anticipate the necessity of being absent from class due to the observation of a major religious observance must provide notice of the dates to the instructor, in writing, by the second class meeting. "

Audio or Video Recording Policy

You must obtain advance written permission from the Instructor prior to audio recording or video recording any lecture or discussion with the Instructor. Suitable reasons may include a reasonable accommodation for a disability. However, students are not permitted to sell notes or tapes of class lectures.

Grading System

The course will use a percentage of points out of 300 possible points. Each required assignment has been assigned points and deadlines. All written assignments will be submitted to Blackboard by the specified date. The evaluation system is:

A^+/A = 94% or more of total points
A^- = 90-93% of total points
B^+/B = 84%-89% of total points
B^- = 80-83% of total points
C^+/C = 76-79% of total points
C^- = 70-73% of total points

Scoring for Functional Assessment, Hypothesis Testing, and Behavior Intervention Plan

30 or 40 pts each - All elements present, paper is well organized, no spelling or grammatical errors, each element reflects good understanding of the task, provides thoughtful discussion (functional assessment and hypothesis testing), and student shows mastery of the concepts in application to the assignment.

Point loss
-5 points for each missing element
-5 points for disorganization
-2 points for each grammatical or spelling error

Scoring for Article Presentation

10 points - PowerPoint used effectively (font size 24^{+}, not too wordy), article summary was clear and concise, showed an understanding of the material, facilitated discussion, able to answer questions from audience, and presented in efficient and organized manner.

Point loss
-2 points for failing to attend to each presentation element (up to 5 pts based on % missed)

Scoring for Poster Presentation

30 points – Title is clear and enhance the readability, contains all required information, layout of the poster is organized and easy to follow, easily readable from 4 ft away, has excellent visual appeal, facilitated participation of audience, and participated in peer presentations.

Point loss
-5 points for each missing required item
-5 points for disorganization of the poster
-5 points for disengagement in interaction with audience
-2 points for inappropriate poster format