



NEW PROGRAM PROPOSAL FORM

Sponsoring Institution(s): University of Missouri-Columbia

Program Title: Applied Behavior Analysis

Degree/Certificate: M.S.

Options: Click here to enter text.

Delivery Site(s): University of Missouri-Columbia Campus

CIP Classification: 422814

*CIP code can be cross-referenced with programs offered in your region on MDHE's program inventory highered.mo.gov/ProgramInventory/search.jsp

Implementation Date: Fall 2016

Cooperative Partners: SungWoo Kahng, Ph.D.

*If this is a collaborative program, form CL must be included with this proposal

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Master of Science in Applied Behavior Analysis

University of Missouri-Columbia

Table of Contents

Executive Summary	5
1. Introduction.....	6
2. Fit With University Mission and Other Academic Programs	8
2.A. Alignment With Mission and Goals.....	8
2.B. Duplication and Collaboration Within Campus and Across System	9
3. Business-Related Criteria and Justification.....	10
3.A. Market Analysis	10
3.B. Financial Projections.....	13
3.C. Business and Marketing Plan: Recruiting and Retaining Students	15
4. Institutional Capacity	16
5. Program Characteristics	17
5.A. Program Outcomes.....	17
5.B. Structure.....	17
5.C. Program Design and Content.....	19
5.D. Program Goals and Assessment	20
5.E. Student Preparation.....	20
5.F. Faculty and Administration	20
5.G. Alumni and Employer Survey.....	21
5.H. Program Accreditation.....	21
Appendices	22
Thompson Center for Autism & Neurodevelopmental Disorders - letter of support.....	221
Columbia Public Schools - letter of support.....	223
Department of Mental Health - letter of support.....	224

Executive Summary

This proposed Master of Science in Applied Behavior Analysis (ABA) program is designed to help address the state-wide and national shortage of health care providers by training practitioners to affect meaningful change. ABA is a discipline that relies upon evidenced-based behavioral interventions to improve socially significant behaviors. It has been used as an intervention to improve the quality of life for a variety of populations including, but not limited to, individuals with autism spectrum disorder (ASD). The goal of our master's program is to become a leading, accredited professional program that will train highly-skilled Behavior Analysts who apply behavioral science to address the behavioral challenges of individuals in need.

Our proposed master's program will be a full-pay master's program housed in the Department of Health Psychology in the MU School of Health Professions and is a collaboration with the MU Thompson Center for Autism and Neurodevelopmental Disorders. We will offer students the opportunity to learn through coursework, taught in collaboration with the MU College of Education, and practical experience including hands-on training in working with individuals with ASD and related disorders at the Thompson Center. Graduates of this program will be eligible for certification as a Board Certified Behavior Analyst (BCBA), which is a nationally recognized certification standard.

Our goal is to develop a nationally recognized program to train highly skilled behavior analysts who ultimately improve the lives of children, adolescents, and adults. To reach this goal, we have recruited a leading expert in ABA from the Johns Hopkins University School of Medicine and the Kennedy Krieger Institute, Dr. SungWoo Kahng, to lead the development, implementation, and growth of this program. In his brief time at MU, Dr. Kahng has developed a graduate certificate program in ABA – a collaborative effort with the MU College of Education. This program has provided an opportunity to build upon existing faculty expertise and develop new course content to respond to MU students' growing interest in learning about ABA.

We expect that there will be a strong interest in this master's program both within the MU community as well as throughout Missouri and the nation. We have conducted surveys revealing that numerous current MU students have an interest in pursuing a career as a behavior analyst. Additionally, as a direct result of the Program Director's (Dr. Kahng) national reputation as a leader in ABA, students from outside of the state of Missouri (e.g., Florida, Iowa) have expressed an interest in graduate training at MU. Importantly, there is a demonstrable state-wide and national workforce shortage of behavior analysts. A survey of potential employers in Missouri indicated 68% will increase their current level of behavior analysts. This mirrors national trends in which the demand for behavior analyst positions more than doubled between 2012 and 2014. This shortage, along with the clear indications of student interest, suggests that we will be able to meet or exceed our initial enrollment goals. In doing so, as detailed in the proposed program budget, we will be able to fund all costs for the program by the third year and offer a significant return of generated tuition revenues to MU.

Given the resources available for this proposed program and the University of Missouri's standing as the flagship campus of the UM System, we expect that this program will grow to become a leading program for graduate training for behavior analysts. This will be the only master's program in ABA within the UM System and one of five within the State of Missouri. Thus, our program will help to address the shortage of well-qualified behavior analysts in Missouri and throughout the nation who will make significant contributions that will help to improve the lives of many individuals.

April 14-15, 2016

1. Introduction

The new University of Missouri Masters in Science Applied Behavior Analysis (ABA) program will train students to become outstanding practitioners of ABA-based interventions to positively impact quality of life. ABA uses behavioral science to address diverse behavioral needs. This master's program will use MU's resources as a top-tier university to recruit and train highly qualified students to become exceptional health-care providers.

This is an opportune time to start a new graduate program in ABA because of high demand and an available supply. One area in which ABA interventions has made a significant impact is alleviating symptoms of autism spectrum disorder (ASD). This proposed program has been in development for several years, in large part because of the increased awareness of ASD and the benefits of effective ABA-based intervention. This awareness has increased access to services through third party reimbursement (e.g., private insurance, Medicaid) resulting in an increase in demand for well-qualified behavior analysts. As a result of this success, there is a significant demand for ABA practitioners (Behavior Analysts) in Missouri and throughout the nation. This demand parallels the general growth in the health care industry; thus, this is the right time to develop a new professional training program to meet the behavioral needs of Missouri citizens.

Development of this master's program has recently gained traction because of a growing interest in education focused on jobs in health care. MU is well positioned to help meet this demand, in part, because of its highly qualified student body interested in the allied health professions. For example, the MU School of Health Profession's Bachelor's degree in Health Science is one of the fastest growing majors on campus. Development of this graduate program has also continued to move forward with the hiring of Dr. SungWoo Kahng. Dr. Kahng was recruited from the Johns Hopkins University School of Medicine and the Kennedy Krieger Institute to lead the development of this program. He is a prominent behavioral researcher who was formerly co-director of one of the nation's leading master's programs in ABA.

This proposed master's program is aligned with MU's mission to provide all Missourians the benefits of a world-class research and land-grant university by having students work side-by-side with outstanding faculty members. This graduate program will be housed in the Department of Health Psychology within the School of Health Professions (SHP) and will be a collaboration with the MU Thompson Center for Autism and Neurodevelopmental Disorders.

Applied Behavior Analysis

ABA is a well-developed discipline with standards for both experiential and educational practice, distinct methods of service, and a mature body of research. ABA originated in experimental psychology research in the 1930s by B. F. Skinner and with other developmental psychology researchers. **ABA uses scientifically validated behavioral principles (e.g., positive reinforcement) to develop, implement, and evaluate practical interventions to enhance the abilities and skills of children and adults in community, home, and educational settings.** ABA techniques have been successfully applied to treat symptoms related to ASD and related disorders. ABA techniques have also proven successful in helping individuals in other areas including education, business, industrial safety, substance abuse, self-management, and rehabilitation.

An example of the utility of ABA-based interventions is in the treatment of problem behaviors (e.g., aggression, self-injurious behavior, property destruction) exhibited by

April 14-15, 2016

individuals with developmental disabilities. ABA-based interventions rely upon identifying the triggers and reinforcers (e.g., access to attention or preferred items) for the problem behavior, which helps guide treatment development. With this information, the behavior analyst develops an individualized behavioral treatment focused on eliminating that trigger (e.g., no longer providing attention when engaging in problem behavior) and increasing more appropriate means of accessing those maintaining reinforcers (e.g., saying, “Excuse me,” to gain someone’s attention).

Successful ABA-based interventions rely upon individualized treatments developed by skilled behavior analysts. This level of complexity demands excellence in standards of training and practice. The State of Missouri’s flagship institution should take the lead in providing the state’s premier program for highly qualified ABA professionals.

Purpose

The proposed Master’s Program in ABA at the University of Missouri is designed to train students and professionals to be behavior analysts. Behavior analysts successfully use ABA techniques across a variety of populations and settings to bring about meaningful and positive change in behavior. Behavior analysts are employed in numerous fields, including general and special education, mental health, disability, business, and institutions of higher learning. Some individuals practice as independent educational specialists or clinicians. For example, Trumpet Behavioral Health, one of the nation’s leading providers of behavioral services for children and adults with ASD, is currently hiring behavior analysts in the Kansas City, MO area. They are seeking individuals with a master’s degree, training in ABA, and a Missouri license in ABA to work with children with special needs. Several other Missouri organizations (e.g., Washington University, Easter Seals Midwest, and Behavior Intervention Services) are seeking similarly trained individuals. And the call for appropriately trained providers in this field is not limited within the confines of the state.

The demand for well-trained behavior analysts is being driven, in part, by the need to provide ABA-based intervention, which is considered “best practice,” to children with ASD and related neurodevelopmental disorders. The Missouri Autism and Developmental Disabilities Monitoring Project estimates that 1 in 70 Missouri children is identified with ASD (this closely mirrors the CDC’s national estimate of 1 in 68). This prevalence rate has increased in recent years. From 1998-2008, there was a 398% increase in the occurrence of ASD in Missouri. Currently, there are approximately 7,800 children with ASD in Missouri public schools (this does not include children too young for school-based services who are in need of early intervention) and approximately 70% of parents of children with ASD report unmet behavioral therapy needs. As of November 2015, there are only 265 Missouri Licensed Behavior Analysts. (This shortage is magnified in rural areas where it is estimated that only 13% of the licensed behavior analysts actually provide services.)

In 2000, the Behavior Analyst Certification Board (BACB) developed standards for national board certification in ABA. National certification is the primary requirement to be a Licensed Behavior Analyst (LBA) in the State of Missouri (as well as 21 other states), and Missouri State regulations mandate that LBAs are, generally, the only providers of ABA services. The course sequence of our master’s program has been approved by the BACB. Once successfully completed, graduates of our master’s program will have met the academic and practical requirements to sit for the certification exam as a Board Certified Behavior Analyst[®] (BCBA).

April 14-15, 2016

Academic Component

The proposed 39-credit Master's program in ABA will draw from coursework spanning two divisions which house three related departments (Health Psychology; Special Education; and Educational, School, & Counseling Psychology). The program links existing and new courses to create a comprehensive degree program, which will emphasize cross-division and departmental cooperation. Students will be required to show proficiency in coursework and to complete a final capstone demonstrating their clinical competency or a research thesis. The core curriculum for this program focuses on (a) the methods, principles, and procedures of basic and applied behavior analytic practice and research, and (b) the application of behavior analysis and behavioral support in complex environments (e.g., home, school, work, other community settings, and institutional settings). We will take advantage of currently existing courses and create new courses in the School of Health Profession's Department of Health Psychology.

All courses will be taught by instructors who meet the standards set forth by the certifying body, the BACB. These instructors will include faculty from the Department of Health Psychology, Special Education, and Educational, School, & Counseling psychology. Additionally, in order to meet the increased teaching load and supervision requirements, we expect to hire a full-time faculty in Year 2 of this program.

A Graduate Certificate in ABA program was approved in the summer of 2015 and is accepting its first students at MU during the spring semester of 2016. This graduate certificate program is a complement to our proposed master's program. Students enrolled in our graduate certificate program are (a) currently enrolled in other MU graduate programs (e.g., special education, school psychology) and aspire to add specialization in ABA or (b) individuals who already have graduate degrees in related areas and are also interested in specializing in ABA. Students in the master's program will share their first year of coursework with students in the graduate certificate program. Therefore, students in both programs will have the benefit of sharing their varied experiences with one another to enrich learning.

2. Fit With University Mission and Other Academic Programs

2.A. Alignment With Mission and Goals

The University of Missouri's mission statement states:

Our distinct mission, as Missouri's only state-supported member of the Association of American Universities, is to provide all Missourians the benefits of a world-class research university. We are stewards and builders of a priceless state resource, a unique physical infrastructure and scholarly environment in which our tightly interlocked missions of teaching, research, service and economic development work together on behalf of all citizens. Students work side by side with some of the world's best faculty to advance the arts and humanities, the sciences and the professions. Scholarship and teaching are daily driven by a commitment to public service — *the obligation to produce and disseminate knowledge that will improve the quality of life in the state, the nation and the world.* [Italics added]

This proposed Master's in ABA program is aligned with the MU mission of benefiting all Missourians through teaching, research, and service. Graduates of the program will become skilled practitioners who work to improve the lives of others. Additionally, we expect that our

April 14-15, 2016

graduates will assume leadership responsibilities as clinicians, researchers, and administrators. Students will work side-by-side with faculty to advance the science that underlies ABA and the profession. Students will be attracted to this program because of a commitment to public service, which will produce and disseminate knowledge that will improve the quality of life in the state, nation, and world.

Not only is this proposed program in line with MU's overall mission, but it also advances a key goal outlined in MU's current strategic plan – Mizzou 2020. Specifically, MU has committed to “Invest in new innovative degree programs that build on MU's strengths” as a strategy for recruiting and retaining students. The Master's in ABA program will result in additional graduate students at MU who will be prepared to meet current and future health care needs, and it will build on existing strengths of MU, such as the MU Thompson Center for Autism and Neurodevelopmental Disorders, in order to make MU a national and international leader in ABA training, research, and service.

Because it will expand and enhance the breadth of future training opportunities for MU's undergraduates, this program is a priority for the School of Health Professions and will provide an excellent opportunities for students from other academic units as well (e.g., Special Education; Educational, School and Counseling Psychology; Psychological Sciences). Currently, many of the School's approximately 1,700 Health Sciences undergraduate students seek career opportunities in which they can provide direct service to help improve the lives of individuals. A master's degree in ABA will provide another opportunity in the health care for these students in a growing field with excellent job prospects.

This proposed graduate program is also a priority for the MU Thompson Center for Autism and Neurodevelopmental Disorders. The Thompson Center is committed to serving families affected by autism and other neurodevelopmental disorders. This new graduate program will help to meet the family's demand for high-quality providers (i.e., behavior analysts) of evidenced-based therapy.

As the only public institution in Missouri selected for membership in the Association of American Universities (AAU), MU and its nationally recognized faculty should lead the charge in developing outstanding providers in this field. The high quality of the program faculty in conjunction with MU's status as Missouri's largest public university and the flagship campus of the University of Missouri System will allow us to attract the top students from Missouri and throughout the country.

2.B. Duplication and Collaboration Within Campus and Across System

Our new graduate program in ABA will be the only program of its kind in the UM System. Currently, there are four colleges or universities in Missouri that offer a master's degree in ABA approved by the BACB (Missouri State University, Southeast Missouri State University, St. Louis University, and University of Central Missouri). Our program is unique in that there will be a direct affiliation with the MU Thompson Center for Autism and Neurodevelopmental Disorders, a national leader in the field of ASD and related disorders. This collaboration will allow us to provide an exceptional field placement in which students can learn to provide direct behavioral intervention in an interdisciplinary environment. Our program will be based in the Department of Health Psychology, which will provide us the flexibility to offer training with a variety of populations and in multiple settings. As our program grows, we look forward to developing opportunities that capitalize on the strengths of MU's Department of Health Psychology by providing training on the behavioral health needs in rehabilitation psychology

April 14-15, 2016

(e.g., traumatic brain injury). Our long-term training vision includes training in many other areas such as psychiatric settings (e.g., child psychiatry units) and behavioral gerontology.

We have developed collaborations within the MU community. Our recently approved graduate certificate in ABA program is a collaboration between the Department of Health Psychology in the MU School of Health Professions and the Departments of Special Education and Educational, Counseling, and School Psychology in the MU College of Education. This new graduate certificate program will allow current and recently graduated students an opportunity to gain additional specialization in ABA. This collaboration will benefit students in our proposed master's in ABA program because the shared courses, with shared faculty, will provide a wider range of learning opportunities.

Given the demand for well-trained behavior analysts in Missouri, we hope to develop a consortium of ABA graduate training programs within Missouri. This could be done in conjunction with the Missouri Association for Behavior Analysis, the state professional organization for behavior analysts of which Dr. Kahng is a board member. Ideally, this will lead to regular meetings at the annual conference to share methods of improving training as well as service opportunities. Additionally, this will allow ABA graduate students and faculty in the State of Missouri to share research and, hopefully, collaborate on future research projects.

3. Business-Related Criteria and Justification

3.A. Market Analysis

3.A.1. Need for Program

There continues to be a tremendous external market for well-trained behavior analysts. We conducted a survey of potential employers in Missouri in the fall of 2014 and 19 organizations participated. The majority of the respondents represented non-profit organizations, which provided services to individuals with ASD. Ninety-five percent of the organizations indicated they were optimistic about the growth of job opportunities for BCBAs in Missouri (Figure 1). Sixty-eight percent of respondents indicated they will increase their current level of BCBA positions (the remainder will maintain their current levels). Approximately a third of the organizations indicated they attempted to fill a BCBA position but were unable to find a properly-trained applicant. Finally, over two-thirds of the organizations increased their BCBA staffing levels within the past year (the remainder maintained their level).

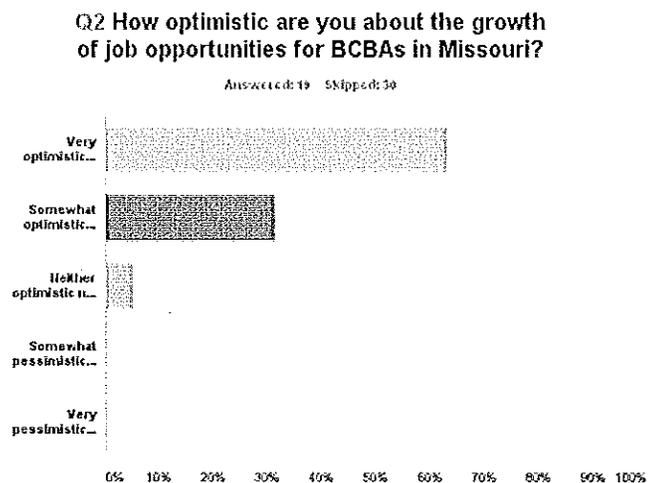


Figure 1. Percentage of respondents indicating their optimism for job growth in Missouri.

Although many behavior analysts are currently working with children with ASD, other behavior analysts are working with individuals with brain injuries, developmental disabilities

April 14-15, 2016

other than ASD (e.g., intellectual disabilities), typically developing children, substance abusers, and workplace/employees. It is important to note that the likely job prospects for behavior analysts in Missouri may be higher because we only surveyed those organizations with at least one filled BCBA on staff. Thus, those organizations with unfilled BCBA positions, or those without on-staff BCBAs who are considering hiring a behavior analysts were not included in this survey.

Behavior analysts are a critical link in a series of efforts within the State of Missouri to make progress in the area of ASD recognition and intervention. A Blue Ribbon Panel on ASD developed recommendations on best practice and a summary of evidence-based interventions, and included ABA interventions among these. The Department of Mental Health’s Division of Developmental Disabilities established the Office of Autism Services to guide and support the four Missouri Autism Centers and five regional ASD projects. In 2010, Gov. Nixon signed a law requiring private insurance companies operating in Missouri to provide up to \$41,000 per year of coverage under group health insurance policies for care to children diagnosed with ASD – including coverage for ABA-based intervention. Clearly, there is a growing support system for children with ASD in Missouri. Unfortunately, there continues to be a shortage of qualified behavior analysts.

This demand for behavior analysts in Missouri mirrors a national trend. The BACB commissioned a workforce demand survey. The authors reported that the demand for behavior analyst positions nationally more than doubled between 2012 and 2014. Additionally, they found

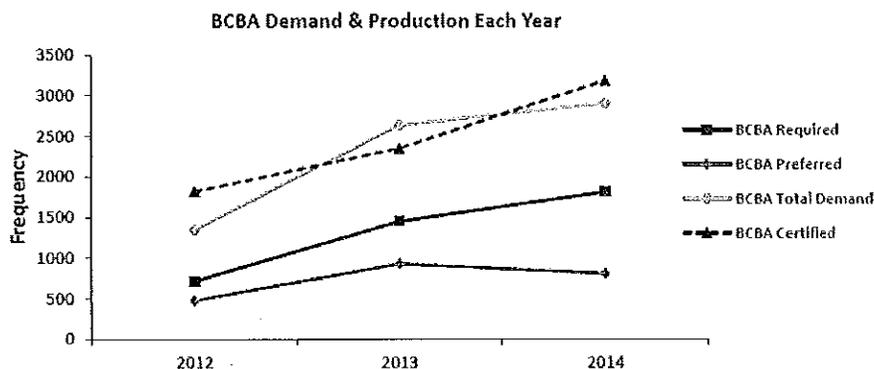


Figure 2. Frequency of job postings requiring or requesting the BCBA credential in relation to the number of newly credentialed BCBA certificant.

that the growth of the BCBA credential as a requirement for a job is also increasing (Figure 2). Finally, the majority of these positions fall into health care, educational services, or social assistance industries.

In summary, the results of our Missouri survey as well as the BACB survey examining national trends shows that there

exists a high and growing demand for behavior analysts not only in Missouri but throughout the nation. One of the aims of this Master’s Program in ABA is to fill this shortage of highly trained behavior analysts. Recognizing this shortage of behavior analysts, Dr. Stephen Kanne (Executive Director of the MU Thompson Center for Autism and Neurodevelopmental Disorders), Ms. Valerie Huhn (Director of the Division of Developmental Disabilities in the State of Missouri’s Department of Mental Health), and Dr. Lou Ann Tanner-Jones (Special Services Director of the Columbia Public Schools) have provided letters of support indicating the importance of our proposed graduate program in meeting the needs of families of children with ASD in Missouri (see appendix).

3.A.2. Student Demand for Program

We surveyed undergraduate students from the MU College of Education and the MU School of Health Professions in the fall of 2014 to gauge their interest in a career in ABA. Of the 197 students who responded, approximately 75% indicated that a master's degree in ABA would be valuable to their future career, approximately 85% indicated interest in a career as a behavior analyst, and approximately 77% indicated interest in the master's degree program in ABA.

Table 1a. Student Enrollment Projections (anticipated total number of students enrolled in program during the fall semester of given year).

Year	1-startup	2 (AY16-17)	3 (AY17-18)	4 (AY18-19)	5-fully enrolled
Full-Time	0	10	26	35	39
1 st Yr	0	10	16	20	20
2 nd Yr	0	0	10	15	19
Part-Time	0	0	0	0	0
Total	0	10	26	35	39

Based on our survey of 197 undergraduate students, approximately 150 students expressed an interest in obtaining their master's degree in ABA. At a minimum, we expect **at least** 10% of those students will follow through with their expressed interest. Given the proposed number of faculty teaching and supervising in our program we feel it is necessary to cap annual enrollment at 20 students per class at program maturity. During the first few years, we will gradually increase enrollment until we are fully enrolled (20 students per class) by year 5 of the program. Factoring in student attrition, estimates are for a program total of 39 enrolled students during the fall semester of a given year at program maturity.

Table 1b. Student Enrollment Projections (anticipated number of students enrolled during the fall semester of given year who were new to campus or who were retained and would otherwise have left campus).

Year	1-startup	2 (AY16-17)	3 (AY17-18)	4 (AY18-19)	5 fully enrolled
Full-Time	0	10	26	35	39
Part-Time	0	0	0	0	0
Total	0	10	26	35	39

Because this is a professional graduate program in a new content area, all students enrolling in the program are expected to be new to MU or retained rather than leaving campus.

Table 1c. Projected Number of Degrees Awarded annually

Year	1startup	2	3	4	5	6	7	8	9	10
# of Degrees Awarded	0	0	10	15	19	19	19	19	19	19

3.B. Financial Projections

3.B.1. Additional Resources Needed

Because of the collaboration with Thompson Center, there are minimal one-time startup costs associated with the program. Additionally, this will be a full-pay master's program. The main expenses of the Master's in ABA program will be dedicated to academic salaries and benefits. These personnel costs will be substantially offset on a long-term commitment of resources from the Thompson Center. Primarily, the Thompson Center support will be utilized to offset salary indefinitely for the director, Dr. Kahng, and for the postdoctoral fellow during FY16.

April 14-15, 2016

- Advertisements on various regional and national professional organizations (e.g., Missouri Association for Behavior Analysis, Association for Professional Behavior Analysts, Association for Behavior Analysis International)
- Presenting at various regional and national professional conferences
- Mass emails to colleagues at universities with an undergraduate concentration in ABA (e.g., University of Florida, West Virginia University, University of Kansas)
- Mass emails to several cooperating departments
- MU campus open house
- Attending career fairs at regional universities

As the program grows, we expect to develop a national reputation for high-quality training. Additionally, we expect that our faculty will make significant contributions not only through training but also through research (presentations, publications, and grants). This increased exposure via research will further enhance the reputation of our proposed program – drawing interest from prospective undergraduate students who will be retained for graduate level education as well as professors at other institutions who will refer students to our program.

In order to help retain students within the program, each graduate student will be assigned a faculty mentor. The student will work with the faculty to ensure that the student develops a strong working knowledge of applied behavior analysis through coursework and practicum. Additionally, the student will work with the faculty mentor to develop a capstone project or thesis. It will be the responsibility of the faculty mentor to guide the student through the graduate program.

We will focus on recruitment and retention in order to meet our enrollment goal. Currently, Dr. Kahng has been presenting at several state, regional, and national applied behavior analysis conferences in order to let prospective students and their professors know about our plans for a new graduate program. Additionally, the news has been spreading about our planned program within the Mizzou community. This has occurred through Dr. Kahng teaching undergraduate courses, which is garnering interest among the undergraduate students who may stay at MU to obtain a master's degree in ABA. Dr. Kahng also met with the School of Health Profession's advising team in order to provide them with information about ABA. The academic advisors and recruiters will play an important role in identifying those students who may have an interest in ABA. Dr. Kahng has also reached out to other faculty within the Mizzou community to inform them of our prospective program. Dr. Kahng and the new program faculty member(s) will continue these efforts indefinitely to sustain future interest in this graduate program.

4. Institutional Capacity

The primary burden will be on Dr. Kahng's time. It will require a significant investment of time toward teaching courses and mentoring graduate students. (Please note that Dr. Kahng looks forward to this opportunity.) We expect this program will primarily draw interest from new students and those students who stay at MU for post-graduate work because of this program. There is no expectation that this program will draw students away from other MU graduate programs.

Our goal is to have a high quality, nationally recognized graduate program in ABA. We have had several students from within the MU community reach out to us to ask about the development of this master's program. We have also had students from other Missouri schools as well as schools as far away at the University of Florida reach out to us. The fact that prospective

April 14-15, 2016

students have already started to inquire about this potential master's program in ABA at MU is a positive indication that recruitment targets are attainable.

5. Program Characteristics

5.A. Program Outcomes

Students are required to show proficiency in coursework and to complete a research thesis, which will emphasize cross-division and departmental cooperation. Upon completion, students will have mastered all the topics in the BACB 4th Edition Task list. This includes basic concepts and principles of behavior analysis, the practice/application of behavior analysis, and client centered responsibilities. We expect that the graduate will take the knowledge learned in graduate school and apply it to improving the behavioral health in a variety of populations (e.g., children with ASD, adults with intellectual disabilities, etc.). The graduate will demonstrate proficiency in assessing the target behavior and developing an intervention plan to improve that behavior. Additionally, the graduate will be able to train caregivers to implement the behavioral plan and develop a monitoring plan in order to ensure long-term maintenance.

5.B. Structure

The proposed 39-credit Master's program in ABA will draw from coursework across three departments (Health Psychology, Special Education, and School Psychology). The program links existing and new courses to create a comprehensive degree program. The core curriculum for this program focuses on (a) the methods, principles, and procedures of basic and applied behavior analysis practice and research, and (b) the application of behavior analysis and behavioral support in complex environments (i.e., home, school, work, other community settings, and institutional settings).

Students will be required to complete a capstone or thesis in their second year (6 credits). Students will work with their faculty mentor to develop a capstone project that encapsulates all the steps necessary to improve behavior. Thus, the student will identify a problem to address, develop a plan for how to measure change, evaluate an evidenced-based intervention, and report on its outcome. Alternatively, students may choose to complete a thesis in which they develop an empirical research question, investigate the current research literature relevant to that question, develop a formal research proposal, collect data, write a manuscript, and defend the thesis.

In addition to the coursework requirement, students will need to meet experience standards in order to be eligible to sit for the BCBA exam. The BACB has three experience categories: (a) supervised independent fieldwork (1,500 hrs), (b) practicum (1,000 hrs), or (c) intensive practicum (750 hrs). Students in the Master's in ABA program will be required to complete a practicum or intensive practicum at the MU Thompson Center for Autism and Related Disorders for credit (6 credits total). Depending on which university-based experience category the student chooses, the student will complete the experience requirement in 25 to 100 weeks.

Residency requirements, if any: None

General education

Total credits for general education courses: NA

Courses (specific course or distribution area and credit hours):

Course	Hrs	Course	Hrs	Course	Hrs
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April 14-15, 2016

Major requirements

Total credits specific to degree: 39

Courses (specific course or distribution area and credit hours):

Course	Hrs	Course	Hrs	Course	Hrs
Ethical & Professional Conduct in ABA	3	Verbal Behavior	3	Capstone/Thesis II	3
Concepts & Principles of Behavior Analysis	3	Theoretical Foundations in Behavior Analysis	3		
ABA: Behavioral Assessment & Evaluation	3	Special Topics in ABA	3		
Single Subject Design	3	Practicum I	3		
Individualized Behavioral Assessments & Interventions	3	Practicum II	3		
Survey of ABA	3	Capstone/Thesis I	3		

Free elective credits

Total free elective credits: NA

The sum of hours required for general education, major requirements and free electives should equal the total credits required for graduation.

Requirement for thesis, internship or other capstone experience:

All students will be required to complete and defend a capstone or thesis. The capstone will provide an opportunity to apply their knowledge to a behavior change project. The student will work with the faculty mentor to identify a problem to address. Once identified, the student will conduct a literature review of that problem, develop an evidenced-based intervention, implement the change, and measure progress. Students will have to develop a measurement method to detect behavioral change and incorporate single-case experimental design in order to demonstrate treatment efficacy. Students will write a complete manuscript to defend before a capstone committee.

Some students may choose to complete a research-based thesis. Those students will work with their faculty mentor to develop a research question. The student will complete a thorough literature review, develop the methodology to answer the question, collect data, and measure change. Once data are collected, the student will write a manuscript to defend before the thesis committee.

Any unique features such as interdepartmental cooperation:

We will leverage the resources of the MU College of Education so that we can offer education classes relevant to the students in this program. Furthermore, we will partner with the MU Thompson Center as a financial partner and practicum site. These linkages will form collaboration which will become a national model, and will provide opportunities to students, to obtain exceptional experience in a nationally recognized program.

5.C. Program Design and Content

We will take advantage of currently existing courses and create new courses in the School of Health Professions' Department of Health Psychology. The courses are as follows:

1. Ethical and Professional Conduct in ABA (3 credits: HLTHPSYC*)
2. Concepts and Principles of Behavior Analysis (3 credits: HLTHPSYC*)
3. Applied Behavior Analysis: Behavioral Assessment & Evaluation (3 credits ESCP 8087)
4. Single Subject Design (3 credits: SPED 8353)
5. Individualized Assessment & Intervention (3 credits: HLTHPSYC*)
6. Survey of Applied Behavior Analysis (3 credits: HLTHPSYC*)
7. Verbal Behavior (3 credits: HLTHPSYC*)
8. Theoretical Foundations in Behavior Analysis (3 credits: HLTHPSYC*)
9. Special Topics in Applied Behavior Analysis (3 credits: HLTHPSYC*)

*Denotes a new course

Some of these courses are designed to meet the requirements of the BACB's Fourth Edition Task List (18 credits) so that the student will be eligible to sit for the BCBA exam upon success completion of the master's program.

We expect the coursework will take a minimum of two years to complete. The following is a sample program:

1. Fall Semester 1
Concepts and Principles of Behavior Analysis (3 credits)
ABA: Behavioral Assessment & Evaluation (3 credits)
Practicum I (3 credits)
2. Spring Semester 1
Single Subject Design (3 credits)
Individualized Assessment & Intervention (3 credits)
Practicum II (3 credits)
3. Summer Session (First 4-week session)
Ethical and Professional Conduct in ABA (3 credits)
4. Fall Semester 2
Survey of Applied Behavior Analysis (3 credits)
Verbal Behavior (3 credits)
Capstone or Thesis I (3 credits)
5. Spring Semester 2
Special Topics in Applied Behavior Analysis (3 credits)
Theoretical Foundations in Behavior Analysis (3 credits)

April 14-15, 2016

Capstone or Thesis II (3 credits)

5.D. Program Goals and Assessment

Learning outcomes will be assessed through coursework and the capstone or thesis. Additionally, we will develop a competency-based evaluation in which the student demonstrates the key skills of behavior analysts. This evaluation will measure the student's ability to implement behavioral assessments of skill deficits and behavior excesses. Furthermore, students will demonstrate the implementation of treatment for skill building and behavioral reduction. The competency-based evaluation will be monitored by a faculty member.

All graduates will be expected to sit for the BACB's BCBA exam. This certification has become the standard in our field and is required by most employers. Additionally, the State of Missouri uses that certification as a basis for its licensure of behavior analysts. The BACB publishes the results of each school's "pass rate" on this certification exam. Based on Dr. Kahng's previous experience as co-director of one of the nation's leading master's programs in ABA at the Johns Hopkins University School of Medicine and the Kennedy Krieger Institute, we expect that at least 90% of our graduates will pass the certification exam on their first try. We expect that 100% of our graduates will pass the certification exam by their second attempt.

We expect to have 26 students enrolled in year 3 of the program. By year 5 of the program, we expect to be fully enrolled with 39 students. Given the large demand for well-qualified behavior analysts, we expect that 100% of our graduates will obtain positions in our field within the first year of graduation.

5.E. Student Preparation

We expect that prospective students will have some experience in ABA when applying to our graduate program. This can take the form of work experience (e.g., providing direct service) or coursework. (Dr. Kahng has begun teaching undergraduate courses in ABA at MU in order to expose students to ABA.)

5.F. Faculty and Administration

Instructors

The BACB requires faculty members instructing the courses listed above to have the following qualifications:

- A. a BCBA or a BCBA-D **or**
- B. a doctorate and meets eligibility requirements for the "Coursework Option" under the BACB's Fourth Edition Task List in the above mentioned content areas **or**
- C. has a doctorate and meets the "College Teaching Option" eligibility requirements indicated by the BACB. The instructor has completed a one-year, full-time faculty appointment at a college or university during which the instructor
 - a. has taught classes on basic principles of behavior analysis, single-subject research methods, applications of basic principles in applied settings, and ethical issues **and**
 - b. conducted and published research in behavior analysis

Dr. SungWoo Kahng (Associate Professor, Department of Health Psychology) will serve as the Director and primary faculty in this program. Seventy percent of his time will be dedicated to this program. Dr. Timothy Lewis (Special Education), Dr. Kelly Schieltz (School Psychology), and other faculty at the Thompson Center will teach courses in this program.

April 14-15, 2016

Additionally, we have recruited a post-doctoral fellow with a background in ABA to assist with course development and instruction. It is expected that at least one additional full-time program faculty member will be hired. This faculty will dedicate 100% of his/her time to this program.

In addition to teaching courses, Dr. Kahng and the new faculty member(s) will mentor students and supervise their practicum experience. Additionally, they will conduct research in topics relevant to their interests.

5.G. Alumni and Employer Survey

We will survey graduates 1 and 5 years after completion. We will seek to learn how satisfied they are with their graduate experience and how well it prepared them for the workforce. We will also survey a select number of employers to determine how well the employees' graduate training prepared them for the job.

5.H. Program Accreditation

We will seek approval of our course sequence by the Behavior Analyst Certification Board (BACB), which will make our graduates eligible to sit for the BCBA exam. This involves submitting our syllabi, CVs of the teaching faculty, and ensuring that our course sequence aligns with the learning objectives set forth by the BACB.

Appendices

Thompson Center for Autism & Neurodevelopmental Disorders - letter of support

Columbia Public Schools - letter of support

Department of Mental Health - letter of support



Thompson Center for Autism &
Neurodevelopmental Disorders

University of Missouri-Columbia

205 Portland Street
Columbia, MO 65211

PHONE (573) 882-0595
FAX (573) 884-1151
Web site <http://thompsoncenter.missouri.edu/>

November 10, 2014

SungWoo Kahng, Ph.D.
Associate Professor, Department of Health Psychology
University of Missouri
205 Portland Street
Columbia, MO 65211

RE: Master's Degree in Applied Behavior Analysis

Dear Dr. Kahng:

It is with great pleasure that I write this letter of support for your Master's Degree in Applied Behavior Analysis program.

This aim of this new program is to train students in the use of ABA-based interventions. Given the significant demand for ABA practitioners within Missouri, as well as throughout the nation, this Master's Degree program will recruit and train the best students to become top-tier behavior analysts. In addition to being aligned with MU's mission to provide all Missourians the benefits of a world-class research university this certificate program aligns well with the mission of the Thompson Center to train new professionals to work with families and their children with neurodevelopmental disorders.

As the Executive Director of the Thompson Center, I can contribute resources that will ensure the success of your program. For example, The Thompson Center will provide administrative and infrastructure support, including personnel and space. We will also support dissemination of information regarding the program at the state and national levels through our website and newsletters. The Thompson Center is a part of the Autism Treatment Network and statewide outreach training efforts, so we have the potential to widely disseminate information about this project to researchers, clinicians and policy makers.

We are pleased to have the opportunity to partner with you to promote the early detection of autism and other developmental concerns.

I look forward to watching this program grow and develop.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. M. Kanne', written in a cursive style.

Stephen M. Kanne, Ph.D., ABPP
Executive Director, Associate Professor
Thompson Center for Autism & Neurodevelopmental Disorders
University of Missouri
205 Portland Street
Columbia, MO 65211

573-882-0595
573-884-1151 (fax)

April 14-15, 2016



Dr. Peter Stlepleman
Superintendent

1818 W. Worley (573) 214-3462

Columbia, Missouri 65203

Fax: (573) 214-3402

Dr. Lou Ann Tanner-Jones
Director of Special Services

11/5/2014

Greetings,

The Columbia Public Schools District (CPS) serves a large number of students with Autism Spectrum Disorders (ASD) and related diagnoses. It is imperative that we have professionals who are knowledgeable about evidence-based interventions so that they can educate these students effectively.

According to the Missouri Autism Guidelines Initiative, one of the most effective approaches to educating students with ASD involves using Applied Behavior Analysis (ABA). This well-researched approach can be successfully integrated in a variety of settings. ABA is effective in both reducing problem behavior and increasing social and academic skills, making it a valuable approach in a wide variety of special education settings.

The CPS Special Services Department supports the effort to establish an Applied Behavior Analysis program at the University of Missouri's Columbia campus. The district and our students would benefit from more professionals with an understanding of ABA techniques and who are Board Certified Behavior Analysts (BCBA). There is a well-documented national shortage of BCBA's that makes it difficult to recruit educators with these credentials. The presence of an ABA program leading to BCBA certification in Columbia would help recruit competent professionals to work locally with our ever-growing population of students with ASD and behavior disorders.

In addition to bringing more professionals to our community and district, there are several current CPS Special Services educators who have expressed interest in enrolling in the program. These teachers are interested in a classroom-based program that would expand their knowledge and give them the opportunity to earn the BCBA credential. CPS welcomes this opportunity to help our district and community become leaders in ASD education at the state and national level.

Thank you for your time,

Lou Ann Tanner-Jones, Ph.D., NCSP
Special Services Director

Lukin T. Murphy, BCBA, LBA
District Autism Support Specialist

Tracy N. Crowe M.Ed., CCC/SLP
District Autism Support Specialist

April 14-15, 2016

JEREMIAH W. (JAY) NIXON
GOVERNOR



VALERIE HUHNS
DIVISION DIRECTOR

KEITH SCHAFER, Ed.D.
DEPARTMENT DIRECTOR

STATE OF MISSOURI
DEPARTMENT OF MENTAL HEALTH
DIVISION OF DEVELOPMENTAL
DISABILITIES

1706 EAST ELM STREET, P.O. BOX 687
JEFFERSON CITY, MISSOURI 65102

<http://dmh.mo.gov/dd/>

PHONE: (573) 751-4054
FAX: (573) 751-9207

November 13, 2014

To Whom It May Concern:

I am writing in support of the proposal to implement Board Certified Behavior Analysis certification and Masters programming in applied behavior analysis at the University of Missouri – Columbia. The Division of Developmental Disabilities has a long standing relationship with the university, dating back to 1991 with the creation of multi-disciplinary diagnostic services with a genetic corollary focused on identifying subtypes of ASD. Dr. Judith Myles was the PI on this contract, and it is now part of the Autism Medical Clinic, housed within the Thompson Center for Autism and Neurodevelopmental Disorders.

In 2008, the Thompson Center was awarded a contract to expand diagnostic services in order to reduce the length of time children wait before receiving an evaluation for ASD. As important as establishing and sustaining that infrastructure is, the ability to provide best practice intervention for those diagnosed cannot be ignored.

I am delighted that the Thompson Center has had the good fortune to add Dr. SungWoo Kahng to its ranks and equally delighted to support him in his efforts to establish secondary education programming and certification that lead to board certification in applied behavior analysis.

While Missouri has made gains in the number of credentialed BCBAs in the state, the need for qualified practitioners far exceeds the capacity.

It is only appropriate that Missouri's flagship public institution of higher education embrace this discipline and play the vital role of advancing the system of care for those with ASD and neurodevelopmental disabilities.

Sincerely,

A handwritten signature in cursive script, appearing to read "Valerie Huhn".

Valerie Huhn, Director
Division of Developmental Disabilities