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Practical Considerations for Researchers at Teaching-Focused Colleges

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Abstract

Growth in the discipline of behavior analysis depends on research production in basic, translational, and applied areas from a variety of perspectives and research groups. Although doctoral programs in behavior analysis prepare students to become productive researchers, leading behavior-analytic journals tend to publish articles from a more circumscribed set of researchers than might be expected given the recent growth in the field. One reason may be that as new researchers graduate from their training programs, they take positions in very different environments than those of their training, such as teaching-focused colleges or clinical settings. Establishing and maintaining research production in these settings may be challenging due to practical concerns that could be alleviated by recommendations from researchers with experience in those settings. In this paper, we identify some of the research challenges faced by early-career behavior analysts working at small teaching-focused colleges and offer practical advice for new researchers in those settings based on our experience. Additionally, we hope this paper serves as a catalyst for established researchers working in a variety of settings to share their experiences and wisdom with new researchers in the field.

Keywords: research productivity, teaching-focused colleges, mentorship, early-career behavior analysts, professional development

Practical Considerations for Researchers at Teaching-Focused Colleges

Research is an engine of innovation and advancement in scientific practices, including behavior analysis (Critchfield et al., 2015; Dixon et al., 2015; Weiss, 2018). One of the characteristics of a healthy scientific field is input from a wide array of perspectives and a move away from “academic silos” (e.g., Goodwin et al., 2019; Obradović, 2019; Wallace & Kuo, 2020). One way to encourage varied perspectives and research growth in behavior analysis is for early-career behavior analysts to publish in highly-regarded journals that are frequently read by behavior analysts and by researchers in other related disciplines. Although recent research has shown an increase in the number of new authors represented in a leading ABA journal (Kranak et al., 2020), contributions may still be limited to a select group of research networks and institutions (Dixon et al.; Kranak et al.; Malott, 2018).

Several resources have been created and disseminated to help increase the amount of research conducted in behavior analysis. To name a few examples, in 1977, Azrin discussed the failure to prepare students to conduct research and outlined applied considerations and models for conducting research. Bailey and Burch have published two editions of *Research Methods in Applied Behavior Analysis* (2002 & 2018), a practical step-by-step guide of conducting research and publishing it. Finally, Kelley and colleagues (2015) identified the most prolific practitioner authors and provided a list of their recommendations for increasing or maintaining research productivity.

Despite available resources, a disparity in research production still exists (Shawler, 2018). One reason that some groups of potential researchers may not contribute is setting specific complications not covered in their training. For example, someone trained to conduct research during their doctoral studies at a major research institution would experience a much

different research environment if they took a job at a small teaching-focused college where research productivity is not emphasized and possibly discouraged. Although the overall system and process of research are similar regardless of context, nuances exist that may interfere with research in some settings, such as small teaching-focused colleges, clinical practices, and international settings. Establishing and maintaining research production in these settings may be challenging due to practical concerns that could be alleviated by recommendations from researchers with experience in those settings.

The purpose of this paper is twofold. The first purpose is to provide practical advice for early-career behavior analysts interested in beginning research at small teaching-focused colleges. The second purpose is to call to action other researchers completing research in a variety of settings to help guide those seeking to contribute to the scientific endeavors of the field.

Recommendations

The recommendations provided in this paper are from the perspectives of two Board Certified Behavior Analysts (BCBAs) trained in different aspects of behavior analysis (applied and translational) who both currently hold positions at small, teaching-focused colleges. The first author completed his Ph.D. at a well-established behavior analytic program in a mid-sized state university and recently took a position as the sole BCBA at a small teaching-focused college. The second author completed her Ph.D. in experimental psychology with a focus on learning/behavior analysis at a large, research-oriented university and subsequently spent more than a decade conducting translational behavior-analytic research related to autism spectrum disorder in a research-faculty position at a state medical school. In addition, both authors direct master's programs in ABA at their respective institutions. Although their education prepared

them to establish and maintain research production, both experienced challenges when transitioning to the teaching-focused college research environment. Therefore, the following recommendations focus on the particular challenges likely to occur in similar contexts.

It should be noted that the issues and recommendations discussed in this paper are not exclusive to behavior analysis nor academics (e.g., Bakhai & Halbreich, 2014; Franks, 2018; Rush & Wheeler, 2011). Instead, research and writing productivity issues are common across disciplines and contexts, so helpful resources pulled from the wider higher-education literature and online (Jensen, 2017; Peterson et al., 2018; Santo et al. 2009; Tulley, 2020) will be referenced throughout this paper. Our goal here is to highlight the issues and recommendations we have found particularly relevant to our experience.

The recommendations provided in this paper are separated into seven categories: establish research goals, establish a system for working on research, create and manage collaborations, prepare for institutional review board review, identify funding and resource options, select doable projects, and find enjoyment and balance. Although each of the recommendations may help improve research productivity in isolation, it is more likely that a combination of these strategies is needed to help researchers maximize their research productivity. Therefore, we suggest that researchers review all the recommendations and implement the strategies that will best address their needs.

Establish Research Goals

The primary criteria for promotion and tenure for those in academia revolve around teaching, research, and service. The requirements for tenure are known to vary by institution, as are the clarity of the expectations (Gentry & Stokes, 2015). Teaching effectiveness typically carries the most weight at teaching-focused colleges. The balance differs at other types of

institutions. Nevertheless, it is crucial to identify the specific promotion and tenure requirements to help determine appropriate goals when accepting a faculty position. After determining what the school requires, faculty members can compare their college's expectations to their career goals. In some cases, the college's requirements may be sufficient, and in other cases, the researcher may want to set additional/higher goals for themselves.

Regardless of the specific overall goal, establishing intermediate goals set at appropriate intervals can be a helpful strategy for staying on track and identifying productivity concerns early. Helpful intermediate intervals could be annual or semesterly. In some situations, it may be helpful to set progressive goals. Meaning, the first year(s) goal can be set lower to account for the adjustment to the new position and subsequent years set progressively higher instead of setting a uniform goal for each year. However the annual goals are created, they should be realistic and account for competing contingencies likely to be especially strong at the beginning of a career. Additionally, goals should be documented and reviewed regularly to ensure progress toward meeting them.

There are several important considerations for researchers when setting productivity goals. The first consideration is the workload. At teaching-focused colleges, faculty are frequently assigned a course-load reduction their first year to aid in the transition. However, most faculty will be new to teaching and will likely have several new course preparations during the initial few semesters. After the first year, teaching loads increase, and it is unlikely the researcher will have further reductions for several years. Often, teaching loads may be reduced if the researcher is involved in a committee that involves a significant amount of service, but that too could reduce time spent on research.

A second consideration when setting productivity goals is the status of the program the faculty is joining. Already established programs will require a different amount of work and present different research opportunities than programs requiring development. For example, a researcher joining an established program may be able to connect immediately to clinical populations or other opportunities for research. Alternatively, a researcher joining a program requiring development will not likely have access to the same resources. In situations where access to resources will initially be limited, it may be helpful to first focus on publishing research completed during the researcher's graduate training (e.g., thesis and dissertation work) while creating opportunities and goals related to beginning new research.

A final consideration for setting goals is remembering that completing a project and submitting a manuscript does not always result in a publication. In some cases, the manuscript is accepted right away with little to no edits. In others, it may be rejected by multiple journals and/or require significant revisions before being published. At times the review process can be rather swift (just a month or two), and at others, it can be quite protracted (i.e., up to a year or longer). Therefore, it is important to allot time between the original submission and the need for publication when setting goals. For this reason, flexibility in goal setting may also be necessary. For example, a semester goal may be to write and submit a new manuscript, but if a previously submitted manuscript is returned after a long time under review, the semester goal may need to be adjusted.

Establish a System for Working on Research

A system must be created to support progress toward research goals once they are established. Although establishing systems to support research production is vital in any setting, researchers working at teaching-focused schools are likely to have stronger competing

contingencies that could potentially interfere with their productivity. As previously stated, teaching-focused colleges prioritize teaching as the primary criteria for performance evaluation. Because of this, teaching and related activities may distract from research productivity. For example, the school may promote a culture of an “open-door” policy in which students are accustomed to faculty being available for course-related support outside of posted office hours. This can result in many students dropping by the faculty’s office and disrupting work. Therefore, self-management systems may help counteract the competing contingencies associated with other activities and expectations.

One of the most significant barriers to research productivity is time allocation (Kelley et al., 2015). Often, faculty will attempt “binge writing” (Boice, 1989), such as devoting large chunks of time over several days to complete a writing project (e.g., over winter or spring break). While this practice may work for some faculty, published advice on academic writing supports the practice of writing in smaller, but more frequent, time blocks (e.g., Mayrath, 2008). B.F. Skinner (1981) also recommended making writing a consistent part of the schedule, completed at the same time of day. Although other responsibilities are likely to arise, protecting the scheduled writing/research will help ensure continued progress. One of the best strategies for avoiding significant disruptions in research involves scheduling time that is least likely to experience competing contingencies. For example, many researchers choose to write or complete other research activities very early in the morning before their families awake, and emails from colleagues begin to flood their inboxes. Engaging in self-management techniques to ensure adherence may be helpful once a writing time is selected. For example, the researcher could record that activity as an appointment in their calendar and treat it the same as other important scheduled activities (such as teaching class).

Selecting and protecting time is especially helpful for first-year assistant professors at teaching-focused schools because of the typically large teaching load and the preparations that come along with teaching them. A great deal of time and energy can be spent preparing courses because teaching preparation is the most significant and labor-intensive task required of first-year professors at teaching-focused colleges. It is crucial to protect research time above teaching preparations even though it might seem frightening. Parkinson's Law states that tasks will expand to fill the time allotted to them (Parkinson & Osborn, 1957). It is very likely that teaching preparations are susceptible to Parkinson's Law and that professors are likely to continuously prepare for class by attempting to create the "perfect" lecture. However, in most cases, the quality of the lecture remains the same, and time nitpicking a lecture could be better spent engaging in other essential activities like research. Although there is a risk that research distracts from teaching, the contingencies associated with teaching will likely protect it from significant diversions.

One advantage to conducting research at teaching-focused colleges is the flexibility often accorded to faculty in the summer because many faculty do not have teaching or serious university service obligations during that time. Although binge writing should still be avoided and research should not be completely reserved for summer breaks from teaching, the relative schedule freedom in the summer presents researchers the opportunity to expedite projects. For example, researchers could use the summer to concentrate data collection for experimental studies, travel to assist collaborators, and to plan/organize upcoming projects. To maintain consistency during the summer, researchers should continue their commitment to their designated research time while using their flexible schedule to add additional time they can

commit to research. One caveat to keep in mind for summer research is that student research assistants may not be as available as during the school year.

In addition to protecting research time, Skinner (1981) also emphasized the importance of setting daily goals by writing something every day regardless of quantity. Sometimes checklists of action items are helpful, especially when working on multiple projects simultaneously. By establishing a clear goal for daily productivity, stronger stimulus control over writing and research can be established to increase the likelihood of productive research time.

Arranging accountability to others also helps increase the probability that designated writing times are honored (Kelley et al. 2015). Accountability can be arranged by creating collaborations with others and setting strict deadlines for contributions. Additionally, arranging writing groups can help increase accountability (e.g., Brandon et al., 2015). Writing groups typically consist of various writers/researchers scheduling time to meet to work on their own research independently. The group can help hold each other accountable by arranging systems to support productivity in the meeting and contingencies to make attendance more likely.

Create and Manage Collaborations

There are many collaborations to foster and connections to consider for researchers transitioning to a teaching-focused college. The potential collaborators include new interdisciplinary colleagues, other behavior analysts in the area, students interested in research, and previous collaborative colleagues.

Connect to Interdisciplinary Colleagues

Behavior analysis researchers working at a small teaching-focused college are unlikely to have many, if any, other behavior analysts to collaborate with at the institution. Even if there are other behavior analysts on the faculty, segregating from the rest of the (non-behavior analytic)

faculty would still be problematic. Therefore, creating and establishing meaningful collaborations with colleagues outside the discipline is advantageous. To connect with other disciplines, it is important to remember to avoid jargon (see Critchfield & Reed, 2017), seek mutual interests, and foster an attitude that signals willingness to listen to varying perspectives on the research topic. Overlapping interests are obvious for some disciplines (e.g., psychology and special education), while other disciplines may require more creative connections. One suggestion for connecting to other fields is to review behavior analytic work on societal issues that will be of interest to many other disciplines. For example, many behavior analysts have worked on topics like sustainability (e.g., Seniuk et al., 2019), obesity (e.g., Hustyi, 2011), and diversity/inclusion (e.g., Connors et al., 2019). By taking an interest in broader topics, behavior analysts create options for collaborating with a wide array of other research groups.

Researchers who trained at research-focused universities may be accustomed to setups in which research faculty each had a lab (i.e., space, equipment, diagnostic, and other assessments). The setup will likely be different at a small teaching-focused school. The most considerable difference may be that lab space and equipment may be shared by all department members currently conducting research. While this offers another avenue to potential collaboration, researchers need to plan to conduct research while working with multiple schedules across different faculty-members' projects.

Connect to Other Behavior Analysts

Because teaching-focused colleges are traditionally smaller, there may be a higher likelihood of being the sole behavior analyst. Establishing productive lines of research will likely be difficult without connections to other behavior analysts. So, connecting to other behavior analysts should always be a priority. One of the best strategies for establishing connections when

moving to a new area is service. One potentially fruitful way of connecting is to volunteer to serve the local/regional associations. If time commitment is a concern, existing members of the associations can typically recommend projects that allow more flexibility. Additional volunteering opportunities may be available at local agencies that provide behavior-analytic services to clients, which may allow the researcher to collaborate with clinicians in designing research projects relevant to current issues in the field. Some service providers have a research department or a behavior analyst whose primary function is to direct clinical research and collaborating in those areas would allow a new researcher to begin to craft a research program.

In addition to volunteering at regional associations, presenting at annual conferences and/or other events is recommended. Presentations are an ideal medium for advertising research interests and hopefully drawing others in. Networking at association events is also especially helpful. Many regional associations hold social events a couple of times a year. Making the time to attend these will allow the researcher to make a variety of new connections in the area. Finally, other strategies for connecting to other behavior analysts could include asking for recommendations from existing networks and cold-calling clinics that employ behavior analysts.

Connect to Students Interested in Research

At teaching-focused colleges, the most important research collaborations occur with students. To facilitate students' involvement in research, create roles for them in existing research projects, and mentor them in pursuing their own interests. Researchers new to a college may initially find contacting interested students to be challenging. One reason it may be challenging to connect to students is their naivety of the importance of research. Therefore, clear communication around the benefits is crucial when talking with students who are not otherwise exposed to research projects.

Another reason it can be challenging to connect students to research is that student interest in working with faculty typically comes from recent classroom experiences with the researcher and word-of-mouth from other students. It may be several semesters before establishing this sort of rapport with the student body at a new institution. One way in which researchers can connect with potential students is to invite strong performing students who have taken classes with them to work on a project. If researchers have difficulty attracting students from their classes, they could also find students by attending student-led department events (e.g., Psi Chi or club events) or becoming an academic advisor for student clubs.

An alternative method to increase student involvement in research is to establish a scientist-practitioner training model. Through scientist-practitioner training, research methodology is emphasized as a critical component of addressing clinical problems (Kelley et al., 2015). One strategy for establishing a scientist-practitioner model is requiring that students complete a thesis (undergraduate or graduate). By requiring students to complete research as part of their degree requirements, faculty members are guaranteed a steady stream of research projects. However, obtaining the resources and support necessary to establish a scientist-practitioner training model may be beyond the scope of many researchers at teaching-focused colleges. Additionally, it may be challenging to establish publication caliber projects from student researchers.

Regardless of the specific strategy for attracting student researchers, it is advisable to seek out underclassman who may not yet be working with other faculty. This allows more time in the student's academic career to plan for research, as students often have many competing activities to consider. It can also help improve the quality and consistency of available help. The earlier a student begins helping with research, the longer they can be involved and the most

experience they can gain. More experienced research assistants will have more technical skills to help the researcher, and they may be able to serve as a peer-mentor to other research assistants in a tiered-mentorship model.

Reinforcing student involvement is important for sustainable contributions from the student body. Reinforcing student involvement in research can be accomplished through connecting the student to resources not otherwise available, like student grants and special statuses. Many colleges already have established mechanisms for supporting faculty-student research, including credit earning options, grants, and honors programs. Another strategy for reinforcing student involvement in research is publicly highlighting student contributions. This can be achieved through advertising the product of any work with students and highlight the students' achievements. For example, displaying posters in the hallway walls and posting any publications with student authors on departmental bulletin boards. Finally, students can be encouraged to present the research as co-authors on posters or presentations at regional conferences. This will help students gain presentation skills and contribute toward a strong undergraduate resume.

Maintain Connections to Colleagues

One of the most significant difficulties for applied and some translational researchers when moving to a new job is maintaining contact with clinical populations. Issues with maintaining contact are especially pronounced when taking positions at teaching-focused colleges that do not have associated clinics. Therefore, maintaining contact with colleagues who have access to clinical populations is especially helpful for researchers beginning their work at teaching-focused colleges where access to clinical populations may take time to cultivate. Strategies for maintaining collaborations with colleagues when moving include assisting them

with the conceptualization of a research project, helping them analyze and interpret findings, and participating in the write-up.

Another benefit to maintaining connections is related to ongoing mentorship with graduate school advisors. Graduate school advisors are often happy to continue their mentorship of new researchers while they continue their professional development. New researchers can utilize their relationship with their graduate school advisors by continuing research collaborations with them, asking their mentor to advise projects, and asking for their help with troubleshooting issues with research.

Prepare for Institutional Review Board (IRB) Review

Survey data indicate that only 66.9% of behavior analysts who completed a thesis or dissertation submitted their research to an IRB for review (Shawler, 2018). This may be because they were researching under their mentor's approved IRB projects, or their projects fell under exempt categories. Whatever the reason graduate training programs did not require IRB review, it can result in researchers who may not understand the IRB review process due to inexperience. In addition to limited experience navigating the IRB, institutional interpretation of the regulations can also lead to complications. The Federal Policy for Protection of Human Subjects (otherwise known as Common Rule) requires interpretation of its guidelines like any other legal document. When interpretation is required, there is room for disagreement and inconsistencies. Therefore, researchers with IRB experience who relocate to a new research environment may encounter different IRB standards than they previously experienced. Researchers can better advocate for appropriate review of their research by thoroughly reviewing the government issued guidelines for all IRBs (see <https://www.hhs.gov>).

Possessing the ability to advocate for appropriate review of research is especially crucial at colleges unaccustomed to reviewing behavior analytic studies. Two frequently reported issues are said to occur when working with IRBs who are unfamiliar with behavior analytic research. The first issue that can arise is related to research design. It is possible that many small IRBs have not encountered single-subject designs and may be overly apprehensive as a result. To prepare for issues related to design, researchers working with teaching-focused college IRBs should review literature focused on communicating single-subject methodology to neophyte audiences (see Horner et al., 2005; Kratochwill et al., 2013).

The second issue that may occur when working with IRBs that are unfamiliar with behavior analytic research is concern around reviewing research conducted with clinical populations. Much of the applied work in behavior analysis focuses on at-risk populations, which may make IRBs hesitant. For example, IRBs may be particularly uneasy with aspects related to functional analysis research, or research that might bring undergraduate student research assistants into contact with participants who potentially engage in dangerous behavior. So, as with addressing the single-subject design issue, researchers need to familiarize themselves with language and communication to clearly articulate the parameters of the research targeting clinical populations (see LeBlanc et al., 2018) and the protections put in place for both the participants and the researchers.

Identify Funding and Resource Options

Obtaining significant grants may be difficult in teaching-focused colleges. However, funding options still exist. Many colleges, even teaching-focused schools, have some form of a Grants and Contracts Office with staff who may be able to help identify and obtain selected grants. In teaching-focused colleges, local/regional grants, as well as contracts, may be the best

fit. Therefore, searching for local agencies independently or with the help of the Grants and Contracts Office may help narrow a list of potential funding options. Additionally, many small colleges and universities support faculty scholarship with small research grants that may provide a budget for research materials and a stipend to support summer work. The grants may apply to conducting the research, preparing a manuscript for publication, or both. It is also crucial for new faculty to anticipate materials that might be needed to establish a research program (e.g., laptops dedicated to research, software programs) before accepting a position so they can estimate a materials budget to request. Some teaching-focused colleges do include start-up funds as part of a hiring package.

Another valuable resource to consider when researching at teaching-focused colleges is the Center for Teaching Excellence (or equivalent). Although these centers primarily focus on assisting faculty in improving their teaching, research may be viewed as part of teaching and otherwise supporting faculty and therefore targeted by that office.

Select Doable Projects

Selecting appropriate research projects from the myriad potential projects is one of the most important skills for novice researchers. Considerations for researchers at teaching-focused colleges include the time commitment (remember that competing contingencies will be strong), access to clinical populations, and/or the need to set up an experimental laboratory. When starting at a new teaching-focused college, selecting and working on projects that do not require access to clinical populations or extensive equipment setup (e.g., literature reviews & conceptual papers) may help maintain productivity. Embedding research into teaching is another way to improve teaching effectiveness and maintain research productivity. However, it is essential to be careful not to lose the quality of either (for recent examples, see Dalfen et al., 2018; Mahoney,

2017; Parry-Cruwys & MacDonald, 2020). It is also important to consider the skill-level of available research assistants. For instance, if student assistants are new to research, it is unlikely they will be able to complete complex tasks independently, and, thus, the primary investigator will have to devote a significant amount of time and attention to training (which is another reason to focus on recruiting students who are in the early stages of the undergraduate degree, in the hopes that they will continue to work with the researcher for more than one semester).

Finally, because it can take a significant amount of time to go from beginning research to publishing, it is a good idea to maintain multiple research projects simultaneously. Staggering research projects so that phases complement one another helps with ensuring that productivity will be stable and consistent. When staggering projects, first targeting smaller/quicker projects will buy researchers the lead-way to also begin work on projects likely to be drawn out and take considerable time to complete.

Find Enjoyment and Balance

Pressures exist in all career paths. Most teaching-focused colleges expect faculty to perform well as a teacher, serve the community/school, and establish some sort of research productivity. Under those conditions, it is easy to get caught up in the numbers (i.e., needing X amounts of publications, Y amount of presentations, and Z grant dollars). Although maintaining productivity is important and goals help that process, it is helpful to stay connected to the original inspiration to conduct research. Most people go into research because they love behavior analysis and are interested in contributing to the field's growth and development. However, pressures and stress can draw attention away from the positive reinforcers to the negative reinforcers (cf. Perone, 2003). For this reason, researchers should be aware of their negative responses to those pressures and engage in self-care (e.g., exercise, scheduled vacations,

hobbies) for a reasonable time in order to maintain a healthy balance between teaching, research, service, and their outside lives.

Conclusion

Science is an iterative process that benefits from a diverse array of inputs. Therefore, potential researchers must be cultivated, encouraged, and supported in completing research in a variety of settings. Although resources to help understand and establish research programs exist, little guidance targeting early-career behavior analyst researchers has been provided on identifying and overcoming setting-specific issues. To that end, this paper provided a number of recommendations for maintaining research productivity at teaching-focused colleges.

We are not claiming to be the authorities on research productivity in teaching-focused colleges or asserting the final word on the topic. There is no exact formula to establishing research productivity and it is unlikely that every suggestion in this paper will be necessary for all researchers at teaching-focused colleges. However, the strategies described here should help inform new or potential researchers about the context specific challenges they are likely to face at teaching-focused colleges and give them some tools to address them.

The strategies provided in this paper were focused on the very specific research context of teaching-focused colleges. Although many of the suggestions are likely applicable in many research settings, it is beyond this scope of the paper and the authors to fully review nuanced, setting specific complexities beyond teaching-focused colleges. For instance, all potential researchers may need to establish a system for working on research. This paper focused on challenges likely to arise at teaching-focuses colleges that would interfere with a researcher

establishing a system for working on research. In other settings, like clinics, an entirely different set of problems are likely. For example, a clinician attempting to conduct research at a clinic would likely need to permission from administrators to devote time to research.

Although this paper could not address every nuanced consideration for establishing research in all possible settings, it provides a model of providing practical research productivity recommendations. Other researchers with expertise in specific research settings should contribute to this cause by providing similar considerations for research in their settings. Important research contexts with limited existing guidance include clinical and international settings. By providing resources to new and potential researchers targeting setting specific complexities, behavior analysts will enable more contributors to our science and thereby enrich the entire behavior analytic community.

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