TRAINING AND MENTORING GRADUATE TEACHING ASSISTANTS: A REVIEW OF THE LITERATURE

Ryan Eller
California State University, Monterey Bay
Lecturer and Masters of Instructional Science and Technology Program Coordinator
California, USA
Email: reller@csumb.edu

Abstract: *Graduate Teaching Assistants (GTAs and TAs), at most four year universities in the United States, are both employees and students of their universities, but also make up the important next wave of teaching professionals in the higher education system. Graduate TAs gain valuable experience from being in the classroom as students of their respective programs, but arguably even more so through learning how to design curriculum, teaching undergraduate students, grading using constructive feedback, and in many cases, how to research a populous that they interact (the students that they teach) with on a day-to-day basis. As such, it is imperative that these future higher education faculty and professionals be supported in their development through routine mentoring and training practices. During this formative developmental period, it can be argued that building a strong and effective mentoring program should be guided using human resource theory principles. These principles include open communication and feedback, treating these future faculty members as an important and immediate investment of the academy, which ultimately leads to a more empowered and engaged workforce. Engaged GTAs ultimately will serve as not only better teachers for their undergraduate students, but will also provide a clearer articulation of what a successful graduate student is to the students that they teach.*

Keywords*: Graduate Teaching Assistant, Training, Mentoring, Program Development*

1. INTRODUCTION

Research into effective mentoring and training of GTAs has grown exponentially in recent years. However, while the research has grown in size, it has also given a varied insight into diverse perspectives amongst the faculty, institutions, and the students themselves, that are involved in helping to enhance GTA teaching skill sets. Due to the vast amount of recent research on this topic, this review will look at two primary forms of mentoring that takes place currently in the higher education system: faculty and peer-mentoring (GTA to GTA and faculty to GTA) and formalized GTA training programs (faculty or institutional staff led programming to GTA). Since the literature allows multiple fields of study to be investigated (in terms of what fields the GTAs are preparing to teach or are currently teaching), this review will try to synthesize broader, non-field specific, ideas that could be applicable to any field of study, any teaching environment, and at any institution of higher education.

Graduate teaching assistants come from a variety of backgrounds and teach in almost any field imaginable. On top of their requirements as a student, and teaching load, one might be tasked with setting up labs or leading in-class seminars for lead professors in other classes (or perform field specific tasks, such as GTAs in sport sciences, STEM, etc.). Others have a wide variety of research and conference presentation obligations, or have research grant writing as an additional

task. In many cases, these students are performing the above work for two primary reasons. Firstly, for many students, this work is how they are paying for their Masters or Doctoral degree, alongside their housing and other personal needs. Secondly, many students are learning how to perform as academics within their profession. Teaching, research, and publishing are all critical skills for a young, future professor, to develop in order to gain employment in academia after graduation.

Many graduate TAs are also new to the US higher education system, coming from a variety of countries, cultural, ethnic, and religious backgrounds (Meadows et al, 2015; Liu et al, 2006). For these students, self-efficacy can be greatly affected by how they are perceived by domestic students (regardless of their actual teaching skills) (Liu et al, 2006; Prieto & Altmaier, 1994). Other GTAs are simply switching fields from their previous undergraduate field of study, potentially being a step behind fellow students in theoretical (and practical) knowledge that they have to teach to undergraduates. Most importantly, no matter what background a graduate TA comes from, they most likely will make up a large portion of the teaching faculty at any given university (Young & Bippus, 2008; Liu et al, 2006; Prieto & Altmaeir, 1994). According to the Bureau of Labor Statistics, there are 125,100 GTAs in the United States as of 2015 (BLS, 2015). It is hard to quantify how much of the teaching population GTAs are at any given university, but estimates of GTAs teaching undergraduate courses ranges from 40 to 60% at large research universities (Liu et al, 2006; Wert, 1998). As such, exploring the plethora of current TA training initiatives is critical in developing a comprehensive model (or at minimum, reliably repeatable) that can be effective at one's institution, given the vast scale at which graduate students teach.

Luckily, higher education institutions around the world, and the faculty leaders within them, have identified the need for a variety of mentoring programs, albeit these potential solutions vary widely (many times varying widely even at the same institution). Many faculty are mentoring women (Bhatia & Shobha, 2010), students of color (Bonilla et al., 1994), international students (Meadows et al, 2015; Liu et al, 2006), and graduate students from the same field of study (Park, 2005; Pentecost et al, 2012) towards success in the classroom and beyond. In short, faculties are intent on finding ways at which GTAs can sometimes be their own best resource. Other methods include formal faculty-led training and mentoring programs (Pentecost et. al, 2012; Young & Bippus, 2008; Buerkel-Rothfuss & Gray, 1990) that take place before a TA begins instructing undergraduate students, either individually or alongside formative learning communities and mentoring programs that take place throughout the academic year (Linenberger et al, 2014; Buerkel-Rothfuss & Gray, 1990).

Reviewing the literature, and the best practices within them, is of paramount importance for faculty who work closely with GTAs. In human resource theory, it is believed that organizations benefit in the long term from the development of well-informed staff, which can contribute new ideas and help to create new talent (Shaffritz, Ott, Jang, 2011). In higher education, current faculty will eventually retire from their professions, leaving vacancies for current GTAs after they complete their education. As such, it is critical that mentoring GTAs to be highly competent in arguably their most important needed skill as a professor, teaching, be of paramount importance to academic units. Faculty can develop new TA training programs or informally mentor their TAs throughout the semester or academic year. Equally as important,

faculty can consider developing opportunities for strong GTAs to share their knowledge with new TAs or even setup ongoing peer-mentoring programs to supplement their own training programs. Through reading this literature review, and the ideas explored within it, the above possibilities will become clearer and more well-defined, allowing the reader to isolate factors and ideas that can best be implemented at their own institution. It can be argued that by mentoring GTAs, if even to build upon developing one's own self-efficacy, instruction will improve and undergraduate students will have better teachers placed before them.

Step 1: TA Background
GTAs come from a variety of backgrounds and educational foundations. Surveying new prospective TAs is critical in developing a training program that meets each person's needs.

Step 2: Peer Mentoring
Peer mentoring, or GTA-to-GTA level of interaction, allows TAs to work with those who are of similar backgrounds. Starting with this level of training can allow new TAs to lower their barrier to new instructional training.

Step 3: Faculty Training
Faculty-level training allows experienced instructors to mold new scholars. This process allows faculty members to share best practices, guide TAs on developing a comprehensive knowledge of the field, and allow TAs to be aware of difficult teaching situations, and how to best handle them.
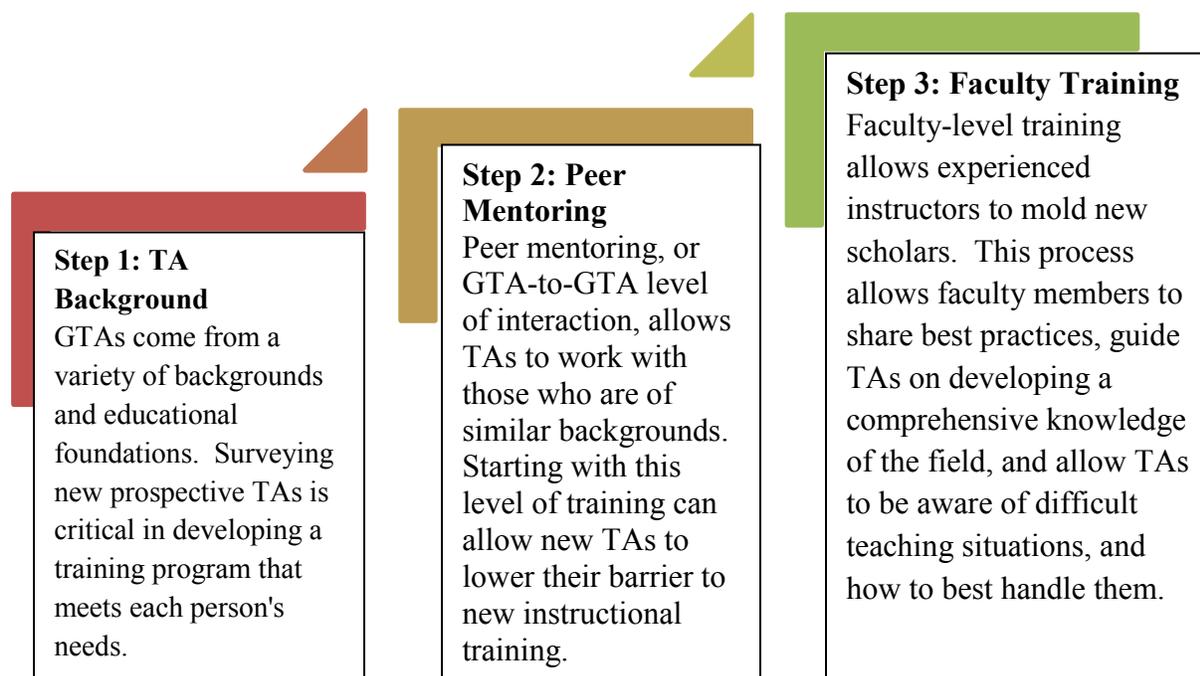
Figure-1: Background and Training Summary for Graduate TAs

2. LITERATURE REVIEW AND DISCUSSION

Peer-mentoring is an integral GTA training style, informal or formal, at many universities. Firstly, it allows students from similar backgrounds to build strong working relationships and to have coworkers that they can directly relate to, in order to develop a community of working graduate students (Bhatia & Shobha, 2010). Secondly, peer-mentoring is less resource intensive for staff and faculty, as their time can be focused on developing a peer mentoring program at large, versus spending the time mentoring their students on an individually recurring basis (Park, 2004). Lastly, these peer-to-peer mentoring opportunities can be partnered with other forms of mentoring, to diversify the information being received by trainees (Bhatia & Shobha, 2010; Linenberger et al, 2014; Bonilla et al, 1994). In short, peer-mentoring can be the sole training opportunity offered by a university, or it can be used to enhance other training opportunities provided to GTAs.

Bhatia and Shobha (2010), explored the development of a peer-mentoring training program that was focused towards female graduate teaching assistants in engineering. The research study was conducted to see why women are disproportionately represented in STEM tenure-track

teaching positions in higher education institutions. To conduct their study, Bhatia and Shobha spent time at Syracuse University, which offers the Women in Science and Engineering – Future Professionals Program for female graduate students in STEM subjects. This program, which offers mentoring at the peer level, also includes a faculty and industry mentorship, concurrently providing academic and professional training on an individualized basis. In short, the GTAs were required to attend three lecture series, followed by meals for program participants with each speaker, two career planning sessions, and peer-to-peer coffee meetings (two minimum) throughout the academic year. For this specific program, the peer mentoring opportunities were still offered in formalized settings, usually on campus during a catered meal, with guided topics, such as career planning, current research goals, and other tasks related to academic and professional development. These peer-to-peer mentoring sessions allowed students with unique skills to share it with other students, but were mainly focused on community building and practicing articulating one's goals and aspirations.

To assess program outcomes and student's perceived feelings, Bhatia and Shobha conducted interviews with 17 of the 21 students in the WiSE-FPP program at Syracuse University (2010). Questions were broken up into six different categories, one of which being focused on the peer-mentoring aspect of the program. Unfortunately, the individual questions were not included in the study, nor were direct quotes from the students who participated. According to Bhatia and Shobha, GTAs found that peer-mentoring opportunities were the most effective, as it gave students time to interact and digest training material in a less formal matter (2010). Bhatia and Shobha, concluded that minority groups in academic fields need to be able to build support groups that can share effective teaching methods, develop support networks (Bonilla et al, 1994; Park, 2004; Linenberger et al; 2014) both academic and personal, and to find experts within their own academic cohort (to research and learn from).

Many TAs are also students of color, yet they statistically are underrepresented in faculty positions across the country. As was shown in Bhatia and Shobha's study, having a peer mentor from a similar background can help take anxiety out of the training and learning process, especially for these students (2010). Bonilla, Pickron, and Tatum's (1994) conducted a qualitative case study, reflecting on their careers as scholars and how they helped students from different backgrounds develop as future teaching professionals and how peer mentoring can be an effective training tool. The case study reflected on their work at the University of Massachusetts, Amherst, and provides the reader with best practices for peer and faculty mentors. However, the researchers did not provide specifics as to what these students were studying, what courses they were teaching, and what specific activities they were completing for their teaching training. Instead, they opted to provide general guidelines for faculty wishing to setup their own peer mentoring programs in the future.

Bonilla, Pickron, and Tatum, found that regular meetings, constructive feedback, authentic conversations, peer support, small group size and intimate relationships helped students to improve teaching, publishing, and research skills over time. Regular meetings allowed consistent progress to be made toward learning goals, while also allowing certain deadlines to be met (focusing more on the GTAs' academic deadlines, then development as teaching assistants). Similar to Bhatia and Shobha's findings, these students were able to critique each other in a more authentic manner, due to sharing similar backgrounds, allowing the peer support

to feel organic. However, where Bonilla, Pickron, and Tatum differed with Bhatia and Shobha's findings is that they recommended keeping peer-mentoring within a specific cohort and not intermixing students from different stages of doctoral studies (i.e. dissertation versus coursework students).

Peer-mentoring can also take place in more formalized TA training programs, allowing TAs to learn both with and without faculty mentors. Linenberger, Slade, Addis, Elliot, Mynhardt, and Raker (2014) conducted a study at Iowa State University exploring their university-level initiative to have TAs trained in teaching inquiry-based laboratory exercises within the campus' STEM disciplines. What differed from previous studies was that even though these TAs came from a variety of disciplines, faculty from those various disciplines trained the TAs as one large group. Trainings lasted from one to two hours, with a mix of "individual reflections, small group activates and discussions, and whole community discussions" (Linenberger et al., 2014, p. 97), with required readings after each training session. While most sessions were faculty led (which allowed faculty and GTA mentoring relationships to be fostered), other sessions were peer-taught by GTA and postdoctoral research associate teams, which allowed these teams to design inquiry-based activities, find and propose readings in-between sessions, and lead group discussions.

One of the key distinctions of this faculty led program was solely student led, bi-weekly, discussion-based training days. Faculty was not allowed at these sessions, yet they were still overseen by doctoral candidates versus masters level students. However, as masters students progressed into their second semesters, they were allowed to team with doctoral candidates to lead inquiry-based discussions, essentially practicing directly what they would teach before teaching the subject. To measure the effectiveness of the training program, the researchers conducting a pre and posttest of thirty one teaching methods, relating directly back to what they were supposed to teach in upcoming classes for the following semester. What could be used more broadly is the TA Likert-scale questionnaire developed by the researchers to measure training effectiveness. Using this scale, and corresponding qualitative survey responses, the researchers found that while the students enjoyed having an open discussion away from their faculty, they also directly rated student-led training sessions as being less effective for learning new teaching methodologies (and the content they were directly going to be teaching). In fact, this led one respondent to recommend that all future trainings be led by faculty only, while also recommending guest faculty to come from outside of the set faculty training group (to diversify the information they were learning and to learn more soft skills that could be incorporated into the classroom), allowing students to learn from faculty across multiple disciplines.

Whether they are peer or formally trained, another key group of GTAs are international students from a wide set of foreign universities. These students come from higher education institutions that are not always similar to how the US higher education system is setup, and are new to graduate teaching assistant relationships with undergraduate students. Liu, Sellnow, and Venette (2006), conducted a study at a Midwestern US university training program for 24 foreign instructors (primarily from China) and 12 US native instructors on their classroom management techniques. To do this, the researchers used a behavior alteration technique (BAT) and behavior alteration management (BAM) Likert-scale questionnaire delivered to the GTAs' undergraduate students during the last week of their respective courses. Using this

questionnaire, a quantitative analysis was done to review the results between the foreign instructors and native instructors.

Interestingly, even though the researchers hypothesized that most Chinese instructors would struggle with behavior alteration and management, they were scored similar to native instructors. While the results were similar, the researchers still recommended verbal-compliance training for both sets of instructors. This recommendation came from all instructors being found to display at least one or more negative behavior management action or phrase in their classroom. As such, the researchers concluded that faculty led training programs on appropriate classroom management skills should be implemented before any GTA enters the classroom.

Meadows, Olsen, Dimitrov, and Dawson (2015) also conducted research on international teaching assistants (ITAs) who were going to teach STEM subjects, but they conducted their research at a Canadian university. The researchers, similar to Liu et al (2006), recommended that ITAs be trained on communication skills (as they would be new to teaching in English), such as non-verbal communication (Liu et al., 2006; Park 2004), being open to student and teacher interactions (which the researchers mentioned could be less common in foreign universities), and for difficult scenarios, such as a student challenging their course grade. By developing a training that focused on developing key competencies, alongside sound teaching practices, the researchers hypothesized that self-efficacy of ITAs would be improved.

The study was conducted during two TA training programs: TATP and TCC. TATP, an abbreviation for Teaching Assistant Training Program, is a twenty hour training program delivered over three days. In these sessions, TAs are taught how to design an "effective lesson and feedback strategies, marking practices, active learning, discussion facilitation and science teaching techniques, case studies of common TA teaching situations, and a ninety-minute session on facilitating learning in an intercultural classroom." (Meadows et al., 2015, p. 38) TCC, an abbreviation for Teaching in a Canadian Classroom, is offered solely to ITAs who are new to the Canadian higher education system. The researchers mention that the program is nearly identical to TATP, but also offers cultural lessons to help international students familiarize them to the new education system in Canada. Meadows et al, hypothesized that ITAs self-efficacy would increase if they participated in both programs and not if they solely attended TATP (which was required for all new TAs) (2015).

To conduct their study, the researchers used the Teaching Assistant Self-Efficacy Scale (a Likert-scale survey scored from one to five in terms of confidence for a specific teaching skill) and recorded videos of a demo teaching session, which was later coded for teaching behavior effectiveness. For comparative qualitative data, the researchers also conducted focus groups about the training programs. Those who participated in solely the TATP program scored, and perceived, a significant jump from their pre and posttest scores on perceived confidence; however those that participated in both TATP and TCC (the ITAs at the university) did not see a significant difference in their self-efficacy compared to those who only participated in just TATP. However, while the Likert-Scale results did not show a statistical difference, focus group participants did state that that their teaching practices were now going to be more student-centered and their perspective on what effective teaching entails changed due to the TCC

experience. ITAs that were recorded during teaching sessions also were found to have better interaction and class organization skills, than those who did not participate in TCC.

All of the previous studies were done at individual sites that the researchers had immediate access too. However, systematic literature reviews can also offer broader, and less field-specific, insights into how TA training can be improved. Chris Park (2004), a lecturer at Lancaster University in Britain, conducted a systematic literature review of articles across a thirty year period, which focused on the training practices of US graduate teaching assistants. In his paper, he focused on training and how it should be defined as an "agreed standard of proficiency by practice and instruction" (Park, 2004, p. 351). To do this, different universities have tried to develop a variety of training programs, focusing on everything from peer mentoring, to full-time professional trainers being brought-in, or by faculty led training programs. Regardless of how the training is done, most GTA training teaches how to teach, to help develop a "sound grounding in core skills" (Park, p. 351, 2004). Park recommends that training programs have constant follow-up of applied content, be adaptive to trainees needs, be somewhat content specific, and have summative and formative evaluations for program improvement.

Pentecost, Langdon, Asirvatham, Robus, and Parson (2012), conducted a study at a large research university on the effectiveness of their two week, mandatory, TA training program for Chemistry GTAs. The program began with a review of common literature of their field, which was done through splitting major articles amongst groups and having these groups report back key information found within. Each training activity, like the one mentioned previously, was designed to show activities that could be used in the classroom with their students. The second major part of the training was a review of relevant learning theories. In these sessions, TAs were asked to share what was effective for them during their own undergraduate studies and what could have been better. Lastly, the training closed with each TA getting a chance to lead a demo teaching session, which resulted in each student receiving peer feedback.

To gauge effectiveness of the training, researchers surveyed students on the experience and how it related to their future as professional scholars, with each GTA being interviewed by two faculty trainers. Firstly, the researchers felt that the length of time was beneficial to developing GTA comradery, but that it would be too expensive to run each year. While GTAs felt that they did learn how to practice student-centered group activities in their own teaching experiences, they also reported that they did not see how they could implement learning theory into improving their instructional activities. Most importantly, the researchers suggested that the training program, and the one hour weekly follow-up TA meetings, have helped to create an environment where TAs, faculty, and the students that they teach, collectively improve the curriculum (and provide training suggestions for future TA training programming).

Young and Bippus (2008), conducted a case study of the communications department GTA training program at a university described as a large urban university of 37,000 students. The training was for all 30 GTAs that served the department, and consisted of a three day seminar with the first day being focused on best teaching practices, general issues that one could face in the classroom, and team-building activities. The training, while shorter than the one detailed in the Pentecost et al (2012) study, had similar faculty led programming. The second day of

training focused on conducting oneself as a professor and how to effectively lecture. The third day was an interactive session, where each GTA got to practice lecturing and were also placed into realistic classroom scenarios. Unlike other studies, Young and Bippus focused on the direct outcomes following the training, versus survey data collected after the GTAs had a chance to teach an actual class. As such, the findings focused on perceived competence as an instructor, not enacted competence.

To compare the efficacy of each GTA, the researchers gave each participant a pre and post survey that asked questions about instructional strategies, classroom management, and student engagement. One of the first areas of comparison was between new and returning GTAs. Second year GTAs were found to have higher efficacy for all three categories, similar to Prieto and Altmaier's study. However, all GTAs reported higher efficacy for all three categories as well. As such, the researchers recommended formalized training programs to help GTAs to feel more confident when they enter the classroom.

While both Pentecost et al (2012) and Young and Bippus (2008) outlined two effective training programs, neither had a direct outcome other than to prepare trainees for their teaching duties. In comparison, Prieto and Altmaier (1994) conducted a study on GTAs at the University of Iowa, comparing GTAs directly, specifically those who have taught previously compared to those who have not. The comparison focused on self-efficacy as an instructor, using the Self-Efficacy towards Teaching Inventory (SETI) questionnaire. Compared to other studies in this review, this particular study surveyed students across a variety of disciplines, as 150 participants were randomly selected from all 1400 GTAs at the university. The study found that GTAs did feel that they performed better in their classes, the more they taught, especially if they had been trained formally. While the researchers stated that they were unsure of how each individual was trained prior to their teaching assignments (noting that they only surveyed if they had or had not been trained), they came to the conclusion that formalized training programs could be correlated with an increase in confidence of GTAs in the classroom.

Lastly, Buerkel-Rothfuss and Gray (1990) conducted a national survey of department chairs and how they trained their GTAs. The survey asked for respondents to share data for what type of teaching experience their GTAs had, how long trainings were, what the training programs consisted of, and who was in charge of the trainings. As such, responses varied widely on how many GTAs had experience (with the average falling at 52%) and who was in charge of hiring and training. Some programs trained their GTAs for only one hour before they began teaching, while others made it mandatory to co-teach a course with a tenured faculty member before one could teach alone. Results were somewhat inconclusive of what training program was most effective, as the data collected was mixed from a variety of university settings.

3. HUMAN RESOURCES THEORY AND TEACHING ASSISTANT TRAINING

Research into the use of human resource theory in higher education is quite broad and is also quite new. Brewer and Brewer (2010), argue that leaders who continually evaluate how knowledge is shared collaboratively within a higher education institution help to better develop other staff and faculty. Very few universities took a university-wide approach to training (Buerkel-Rothfuss & Gray, 1990; Linenberger et al, 2014), based on the literature reviewed in this piece. Where a university level approach may be most salient would be with international

students becoming TAs (Park, 2004; Liu et al, 2006; Meadows et al, 2015). While many students will be culturally fluent, they may not be academically fluent with the United States system is run. In *Classics of Organization Theory* by Shafritz, Ott, and Jang (2011), the authors mention that organizations and their respective employees are in a symbiotic relationship. A short training session with ITAs would allow university personnel to hear thoughts about what works academically outside the US, while trainees would be given access to best practices that are also relevant to the new system they find themselves within.

If one takes Brewer and Brewer's (2010) stance, then it would stand to reason that faculty and senior TA mentoring programs would be critical to training success. This would relate directly back to the Linenberger et al (2014) study, where doctoral students were the primary peer mentors, when faculty led training sessions weren't being conducted. Shafritz, Ott, and Jang argue that "from this perspective [human resources], it is assumed that organizational creativity, flexibility, and prosperity flow naturally from employee growth and development" (2011, p. 149). In that particular study, not only were TAs being informed how to improve, but the activities helped them to develop how to train and how to improve teaching practices for everyone in their group. While not every TA was allowed to create training sessions in the first semester, as they developed from the previous faculty and senior TA training sessions, they too began to have insights that they could then share out. In short, it became a collective effort (similar to other peer mentoring studies in this review) that showed that everyone in the organization has something to contribute. This shows that it is not only faculty that holds the key to better teaching: every TA has a skill, past experience, or insight that can also improve someone around him or her.

A closer analysis of the literature shows that a majority of human resource theory exploration is done at foreign universities, which allows new perspectives to be brought into the United States higher education system (from a research perspective). In relation to graduate teaching assistants, and the improvement of faculty in general, Decramer, Smolders, Vanderstraeten, and Christiaens (2012), found that performance improvement should follow a cyclical model of "planning, monitoring, evaluation and reward." (89) Since human resource theory stresses that organizations and their employees are constantly developing new ideas and methods for improvement (Shaffritz, Ott, Jang, 2011), developing a defined GTA training plan, while monitoring and evaluating their teaching (through observed sessions and collected student evaluations), will be rewarding for the university and the GTA. As such, if universities look past GTAs and ITAs as primarily being a cheap labor force (Liu et al, 2006; Park, 2004) and instead focus on developing the growing intellectual, undergraduates will be given a more rewarding teaching experience (and the TAs themselves will be better prepared to be academics in the future).

4. SUMMARY AND CONCLUSION

While training programs will clearly differ between schools (Buerkal-Rothfuss & Gray, 1990); Park 2004), a review of the research has shown the importance of training GTAs to help not only improve their teaching practices, but to also build confidence before entering the classroom (Young & Bippus, 2008; Prieto & Altmaier, 1994; Meadows et al., 2015; Park; 2004). This becomes even more important when training new teaching assistants, who have no experience teaching, minority groups that are underrepresented in faculty (Liu et al, 2006; Bonilla et al,

1994; Bhatia & Shobha, 2010), and for international teaching assistants who are trying to prepare both culturally and academically (Liu, 2006; Park, 2004; Meadows et al., 2015).

One of the broadest takeaways from this research is that there is no one right way to train graduate students to become successful teaching assistants. However, it is arguable that an effective training program should include both faculty and peer mentoring alongside a formalized training program that develops core content mastery alongside core teaching skills (such as behavior management, lecturing, inquiry-based activities, and collaborative lessons). Peer-mentoring will allow students to bounce ideas off of those who are from similar backgrounds and those who are also going through the same struggle of entering the academic profession. Formalized training programs can allow new and returning GTAs to explore relevant learning theories and practice scenarios that could likely happen in their classrooms. These training programs can also allow for GTAs to learn from experience faculty and implement peer activities for team-building. Lastly, direct faculty mentoring can introduce GTAs to real-world experience that can be integrated into their classroom teaching and research activities. As such, and from a Human Resources perspective, it is recommended that those in charge of GTA training look to develop comprehensive training programs that see each GTA as a positive contributor to their organizations. While it will take time to create completely new, or revise older training programs, improving GTA skillsets will pay immediate dividends to every university that decides to collectively implement strong, research-validated, training programs.

REFERENCES

Bhatia, J., & Shobha, A. (2010). "If these women can do it, I can do it, too": Building women engineering leaders through graduate peer mentoring. *Leadership and Management in Engineering*, 10(4), 174-184.

Bolman, L., & Deal, T. (1997). Reframing organizations: Artistry, choice, and leadership. San Francisco: Jossey-Bass Publishers.

Bolman, L., & Deal, T. (2002). Reframing the path to school leadership: A guide for teachers and principals. Thousand Oaks, Calif.: Corwin Press.

Bonilla, J., Pickron, C., & Tatum, T. (1994). Peer mentoring among graduate students of color: Expanding the mentoring relationship. *New Directions for Teaching and Learning*, 1994(57), 101-113.

Brewer P., Brewer K. Knowledge management, human resource management, and higher education: A theoretical model. *Journal of Education for Business*, 85(6):330-335.

Buerkel-Rothfuss, N., & Gray, P. (1990). Graduate teaching assistant training in speech communication and non-communication departments: A national survey. *Communication Education*, 39(4), 292-307.

Decramer, A., Smolders, C., Vanderstraeten, A., & Christiaens, J. (2012). The impact of institutional pressures on employee performance management systems in higher education in the
low countries. *British Journal Of Management*, 23S88-S103.

Graduate Teaching Assistants. (2015). Bureau of Labor Statistics. Retrieved August 12, 2016, from http://www.bls.gov/oes/current/oes251191.htm

Linenberger, K., Slade, M., Addis, E., Elliot, E., Mynhardt, G., Raker, J. (2014). Research and teaching: Training the foot soldiers of inquiry: Development and evaluation of a graduate

teaching assistant learning community. *Journal of College Science Teaching*, 044(01).

Liu, M. , Sellnow, D., & Venette, S. (2006). Integrating nonnatives as teachers: Patterns and perceptions of compliance-gaining strategies. *Communication Education*, 55(2), 208-217.

Meadows, K., Olsen, K., Dimitrov, N., & Dawson, D. (2015). Evaluating the differential impact of teaching assistant training programs on international graduate student teaching. *Canadian Journal of Higher Education*, 45(3), 34-55.

Park, C. (2005). The graduate teaching assistant (GTA): Lessons from North American experience. *Teaching in Higher Education*, 9(3), 349-361.

Pentecost, T. C., Langdon, L. S., Asirvatham, M., Robus, H., & Parson, R. (2012). Graduate teaching assistant training that fosters student-centered instruction and professional development.

Journal of College Science Teaching, 41(6), 68.

Prieto, L. , & Altmaier, E. (1994). The relationship of prior training and previous teaching experience to self-efficacy among graduate teaching assistants. *Research in Higher Education*, *35*(4), 481-497.

Shafritz, J. M., Ott J. S., & Jang, Y. S. (2011). *Classics of organization theory* (7th ed.). MA: Wadsworth Publishing.

Wert, E. (1998). Foreward. In M. Marincovich, J. Prostko, & F. Stout (Eds.), The professional development of graduate teaching assistants. Bolton, MA: Anker

Young, S. L., & Bippus, A. M. (2008). Assessment of graduate teaching assistant (GTA) training: A case study of a training program and its impact on GTAs. *Communication Teacher*, 22(4), 116-129.