

# Guiding the Way: Mentoring Graduate Students and Junior Faculty for Sustainable Academic Careers

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## Abstract

This article introduces the reader to literature, ideas, and processes the authors have used in mentoring graduate students and junior faculty of color, including women. The writing is based on an integrative review of literature engaging mentoring processes and the authors' collective experiences as they have worked to guide members of a mentoring collective as well as domestic graduate students and junior faculty from the above populations. Goals of our mentoring efforts are to provide graduate students and junior faculty who are from U.S. cultural communities historically excluded from higher education with experiences that help them complete the PhD and develop professional academic careers that are successful and have impact in their chosen disciplinary arena. The article presents a mentoring process model that prepares individuals for professional careers that integrate the work of knowledge production in research, teaching, and service that embraces the cultural heritages of the mentees' background.

## Keywords

mentoring, domestic populations of color, graduate students, post-doctoral scientists, junior faculty

## Introduction

In this article, the authors address issues of mentoring with domestic graduate students and junior faculty, particularly those of color, and including women. We are concerned with ways that strengthen their completion of the PhD for knowledge production. Our thinking is aligned with that of Donaldson and Crowley (1978) in that we seek to support students in becoming academically prepared in descriptive knowledge production, rather than prescriptive knowledge leading to practical implementation in professional disciplines. Our goal is to support junior researchers and scholars in ways that assist them in developing strong research and scholarly careers without compromising their cultural background. The article begins with an integrative review of the mentoring literature and moves to a discussion of our collective mentoring experiences to address how individuals and organizations in our society are deprived when members from cultural communities of our focus are not provided efficacious mentoring. The essay considers such issues as collective approaches to holistic mentoring that engage mentees' cultural foundations and completion of knowledge-production PhDs, while addressing the development of sustainable professional and scholarly research careers.

Students of color, which we use to refer collectively to the demographic groups of Native, African, and Chicano/Latin Americans, have been historically excluded from higher education and remain underrepresented in doctoral programs.

These students were awarded 13.8% of earned doctorates in 2011 (U.S. Department of Education, National Center for Education Statistics, 2012), although Native, African, and Chicano/Latin Americans comprise nearly 30% of the U.S. population (Humes, Jones, & Ramirez, 2011). In particular, post-baccalaureate African American women have been reported to have especially challenging and isolating experiences in primarily White institutions (Ellis, 2001; Johnson-Bailey, Valentine, Cervero, & Bowles, 2009; King & Chepyator-Thomson, 1996; Shavers & Moore, 2014; Turner & Thompson, 1993). In 2012, African American women made up 16.4% of all post-baccalaureate women (U.S. Department of Education, National Center for Education Statistics, 2012). By comparison, African American women faculty members represent a much lower percentage, that is, 3%, of all full-time faculty members (U.S. Department of Education, National Center for Education Statistics, 2013). These numbers confirm the reported dearth of available women of color to serve as faculty mentors for women of the same background (King & Chepyator-Thomson, 1996; Woods, 2001).

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Currently, our nation's professional and academic environments regularly reinforce self-promotion, competitive personal ambition, and individualized career advances (Casadevall & Fang, 2012). Most mentoring approaches in our country tend to focus on preparing individuals to single-mindedly compete in such environments with little acknowledgment of possible alternatives. This falsely promotes academia as an individualistic arena in which one seeks to make singular contributions to be worthy of individual merit and rewards. Such a posture goes against the very nature of the human species and the reality of scientific knowledge production as a "community effort comprising innumerable interdependent contributions" (Casadevall & Fang, 2012, p. 893). Furthermore, for students of color and women, individualistic approaches are largely contrary to more prevalent community-focused or collectivist approaches that may be active in their communities of origin and/or socialization (Coon & Kemmelmeier, 2001; Gaines et al., 1997; J. L. Smith, Cech, Metz, Huntoon, & Moyer, 2014; Su, Rounds, & Armstrong, 2009). We propose that there are more productive, successful, systematic, and integrated approaches to mentoring graduate students and junior faculty than the individualistic and competitive-oriented ideological posture currently operative in too many academic settings. In this article, we propose one such alternative mentoring model, particularly for domestic individuals of color and women, which aids in mentees' comprehending that their career of teaching, research, and service activities can be accomplished as integrated efforts. We maintain that such mentoring can encompass personal integrity as well as the mentees' cultural values (Dodson, Montgomery, & Brown, 2009).

## Rationale and Significance

No matter the economic phase, our democratic society has a continuing need for exceptionally well-educated, well-trained graduate students and junior faculty to assume pedagogical and leadership roles related to basic knowledge production and higher education. The need for such intellectual leadership is critical (Burns, 1978; Macfarlane, 2012; Pitre, 2008), and this is in addition to the acquired technical skills—data collection and analysis, mathematical manipulation and calculation, academic writing, and many more—that are related to specialized arenas of academic preparation. Even if every U.S. citizen were maximally employed, we would still need a well-prepared cadre of professionals responsible to think through, and train others to rigorously engage in basic social, biological, political, physical, economic, human services, and other issues of collective life within the global context of our complex 21st-century lives (Macfarlane, 2012). Equally needed is a well-prepared pool of professionals who represent the demographic distribution of our nation's citizen population, including persons whose cultural communities have historically been marginalized within U.S. higher education. It is a basic mandate of our

democratic ethos and societal values to achieve equitable participation from members of the total citizen population to seriously engage and train others to think deeply through basic issues associated with collective living (McGee Banks, 1995). This article focuses on these issues as we describe and discuss ways to enhance the preparation of domestic students and junior faculty of color, including women, through mentoring processes that assist in completing the PhD and preparing for a professional career that integrates the work of research, teaching, and service for knowledge production without compromising cultural heritages of their background.

## Literature Review: Advising for Completion Versus Mentoring for Career Sustainability

Within most literature, the framework for mentoring individuals toward academic careers that focuses on knowledge production has largely addressed a need to produce persons who can conduct "independent" investigations. Such research work has largely been understood as individualistic in nature and supposedly produces evidence of the researcher's ability to think independently and make his or her singular contributions to the discipline of choice (Bagillhole & Goode, 2001; Casadevall & Fang, 2012; Seonghee & Boryung, 2008). In so doing, such persons are, or more likely *may* be, deemed to be worthy of singularly focused recognition, with an ultimate reward being the granting of tenure in a department at a university or other academic organization based on such contributions to a discipline. Toward this end, many view mentoring students from citizen populations underrepresented in academia as primarily a transfer of "cultural capital" associated with educational arenas, as that is deemed needed to progress and demonstrate individual merit.

The concept of cultural capital is frequently used to describe, but is not limited to, "knowledge and other advantages that people possess that help them to succeed in their endeavors, such as negotiating educational systems" (Chanderbhan-Forde, Heppner, & Borman, 2012; p. 180). It has been argued that increasing the cultural capital of individuals from underrepresented domestic populations within educational systems can be one outcome of faculty mentoring and developmental engagement with students and junior faculty members (Chanderbhan-Forde et al., 2012; Ovink & Veazey, 2011; Whittaker & Montgomery, 2012, 2014). Similarly, the lack of understanding about or access to such cultural capital has been viewed as a major impediment for such persons' career advancement (Chanderbhan-Forde et al., 2012; Ovink & Veazey, 2011; Whittaker & Montgomery, 2012, 2014). However, this argument could be viewed as encompassing the presumption that cultural heritages of our country's diverse populations should be abdicated for individuals to assume the presumed and often false value of a

universal “academic educational career.” The reality is that our diverse communities too have cultural capital that also can be included in educational processes of a democratic nation.

Even when speaking generally, effective mentoring with graduate students and junior faculty requires that we conceptualize and implement a process that extends beyond building early career individuals’ disciplinary knowledge and integrates socialization for future careers. This is even more critical when mentoring with individuals from U.S. domestic populations historically excluded from mainstream higher education as they regularly have little to no exposure to academia and its processes (e.g., Anglin & Wade, 2007; Dodson et al., 2009; Gasman, Hirschfeld, & Vultaggio, 2008; Johnson-Bailey, 2004). One implication of this understanding is that mentoring with the aforementioned groups requires extensive time investments by faculty members, who themselves are usually from populations underrepresented in academia (e.g., Antonio, 2002; Gilligan et al., 2007; Griffin, 2012b, 2013; Hayes, 2010; Hurtado et al., 2011; Merchant & Omary, 2010; O’Rourke, 2008; Whittaker & Montgomery, 2012). As we consider the “individual success” model and context of U.S. mentoring, the time a faculty person devotes to interacting with graduate students and/or junior faculty members can be, and often is, viewed as a distraction from the mentoring faculty’s personal research agenda and career progress (Griffin, 2012a, 2012b; Wall, 2009). Educational researchers and faculty members have acknowledged the potential impact on one’s career of serving as students’ *invested* and experienced senior advisor. Their findings suggest that faculty mentoring efforts are frequently not recognized or rewarded in the formal organizational review and promotion processes (Antonio, 2002; Gilligan et al., 2007; Hayes, 2010; Hurtado et al., 2011; Merchant & Omary, 2010; O’Rourke, 2008; Shavers & Moore, 2014; Whittaker & Montgomery, 2012, 2014).

Such findings and attitudes also suggest a strong need for enhanced socialization of existing faculty concerning ideas behind mentoring, as well as its practice (Gasman et al., 2008; Griffin, 2012b). Faculty need to comprehend that mentoring is an opportunity “to simultaneously counsel and collaborate” (Griffin, 2012a, p. 2). It is a faculty-engagement opportunity that can effectively promote the integration of research, teaching, and mentoring to leverage faculty members’ efforts as collaborating contributors in the larger organizational goals of student development and faculty success (Hart, Grogan, Litt, & Worthington, 2009; O’Meara & Braskamp, 2005; Whittaker & Montgomery, 2014). Mentoring is also an opportunity to demonstrate that faculty members are making strategic career choices that demonstrate successful integrative research, teaching, and service while strengthening the practice of a stronger higher education for our society’s next educating/pedagogical generation (Whittaker & Montgomery, 2014).

Contemporary, normative approaches for advising students contrast sharply with opportunities for expanding

faculty approaches to mentoring. The majority of current approaches for preparing faculty to be strong mentors are observational in nature wherein mentees are expected to intrinsically learn the skills and craft of mentoring from their experiences of having been carefully advised rather than from structured guidance in efficacious mentoring (Griffin, 2012b). Structured opportunities for developing and practicing successful career skills have been noted as lacking during graduate and post-doctoral training, and generally are left to individual observation and/or incorporation (Gibbs & Griffin, 2013). It is the structured guidance of graduate students and junior faculty that best prepares them to receive and benefit from comprehensive mentoring (Griffin & Toldson, 2012) and to prepare them with the ability to make informed decisions and strategic moves in developing and sustaining their careers (Gibbs & Griffin, 2013).

The committed relationship of structured guidance is much more in line with mentoring rather than the advising process of transferring information that *may* help an individual navigate a curriculum. A mentor should serve a deeper purpose that has been aptly described as “one who observes, calls out and cultivates unrealized potential in others” (Griffin & Toldson, 2012, p. 103). To accomplish this, a mentor must invest time in getting to know each mentee’s strengths and weaknesses so well that the mentor is able to identify “a glimmer of potential and . . . is willing to engage in ‘a fine archeological dig’ to move the student from average to excellent” (Dr. Harold Cheatham as quoted in Griffin & Toldson, 2012, p. 103).

The authors of this article propose a distinction between advising and mentoring that is *critical* for guiding graduate students, junior faculty, and women from underrepresented domestic populations toward PhD completion and embarking on sustainable and impactful professional academic careers. We contend that an advisor is one who provides general curriculum advice about adherence to rules and/or standards that apply for *any* student in a particular educational program (e.g., Baker & Griffin, 2010; Ramirez, 2012). However, mentoring is a significantly deeper relationship, one in which the mentor and mentee commit to meaningful and honest sharing to support a *particular* individual. The sharing allows the mentor to develop a multifaceted personal understanding of the mentee and provide committed assistance in order that the mentee progresses toward achieving his or her academic professional goals (Baker & Griffin, 2010; Kirchmeyer, 2005; Ramirez, 2012). Clearly, this understanding makes the mentoring relationship a dynamic bilateral exchange and transfer of knowledge in true collaborative thinking, planning, and action for the mentee’s career trajectory. We support this level of engagement as part of an integrated approach to creating sustainable careers. Based on our work with domestic graduate students and junior faculty from underrepresented populations, we present our experiences regarding specific activities, actions, and considerations that have proven valuable and effective for achieving such objectives.

## Major Concepts: Conceptualization of Career, Mentoring, and Social Capital

Without clarity in how we define major concepts that have guided our work, it is not possible to delve into complex details of how the authors have mentored with persons of color and women for successful careers in higher education. We begin with an alternative working definition of “*career*” as going beyond any particular “*job*” a person may have or do. We contend that career includes a job—even two or more, but *career is an arena of life work in which a person surrounds herself or himself; an arena in which they are sustained through all aspects and phases of their living; it is infinitely larger than “an individual job.”* A job may be working activities that allow for financial and material survival (Wrzesniewski, McCauley, Rozin, & Schwartz, 1997), but a career provides for physical survival even as it nurtures the professional soul, uplifts personal emotions, and enhances one’s intellect. Career has been described as “the pattern of work-related experiences that span the course of a person’s life” (Greenhaus, Callanan, & Godschalk, 2000, p. 9). However, career is not limited to single-minded focus on specific tasks or work activities (Porter, 2005). Rather, within our concept, an individual in the work of his or her career has acquired effective professional, social, and emotional skills, as well as a conscious awareness about the use of such skills to help balance career activities with other life arenas. Our concept of career can begin or end with a related or unrelated job that might be thought of as forming bookends around the longtime, life activities of career.

In addition to satisfying the need for employment, careers reflect individual interests and preferences, and are generally flexible enough to allow innovative changes within the career. Academic careers may be based in a university or other educational campuses, but they are not exclusive to that arena of service to society or societal functioning. Strong academic careers can be located in service sectors and/or be part of an entrepreneurial focus. Matrix measuring tools may be used to evaluate successful progression in career arenas, but the tools usually must be adjusted to particulars of individual goals and accomplishments rather than adjusting specifics of the career to matrix evaluating tools, particularly those established and imposed by external entities.

We have already eluded to distinctions between activities of “advising” and “mentoring,” and it must be remembered that all mentoring of graduate students and/or junior faculty includes advising but not all advising equates mentoring; indeed, most do not. For much of U.S. academic history, many university faculty members have been assigned one or more graduate students and/or junior faculty as advisees, but these academic professionals do not necessarily provide the more encompassing structured guidance of a *mentoring* assignment. Advisors are available to aid students and/or junior faculty in identifying appropriate courses, books, instructors, and other particulars regarding completion of an educational curriculum, or to navigate the bureaucracy of a

particular school or assignment. However, mentors provide students and junior faculty with guidance on the many social and political details of preparing for and implementing a successful and sustainable academic career. More important, mentors systematically make it a point to introduce their mentee(s) to people, places, attitudes, materials, and opportunities that serve as stepping stones to a successful and sustainable career; they share their professional skills and networks.

Unlike many if not most academic professionals, mentors conceptualize pursuit of the PhD well beyond boundaries of particularized curricula training and “skills acquisition” that is part and parcel of contemporary U.S. doctorate graduate education. Mentors see knowledge production as a much larger process and set of activities. Persons acquiring a PhD for knowledge production and using our concept of mentor and mentoring will obtain disciplinary skills and also have practical exposure and experience that has been integrated with appropriate social, political, and other cultural situations that occur and reoccur within arenas of academic careers. We contend that this type of knowledge and skills acquisition, often referred to as social capital (Bourdieu, 1986; Coleman, 1988; Putnam, 1995; White, 2002), is critical for those whose cultural communities have been historically and systematically excluded from the social context of higher education and those preparatory exposures that feed into that context. These individuals bring years of knowledge with and from their cultural heritage as they enter higher education but such knowledge is often not valued or used (Davidson & Foster-Johnson, 2001; Grant & Simmons, 2008). Often, there is conflict between higher education—process and atmosphere—and students’ cultural knowledge, and adjusting to specific behavioral information and practices of the educational environment can be arduous. There are additional concepts that inform our mentoring work; however, the conceptualization of career, mentoring, and social capital are felt to be the most salient for exploring issues of this article.

## What Experience Has Taught

The authors have brought experience and exposure from a variety of academic arenas partnered with work with a mentoring collective at Michigan State University, a large research university, which has helped stimulate this and other writings. The African Atlantic Research Team is a collective that was organized some 16 years ago. The intent has been to support students from communities traditionally excluded and/or underrepresented in the academy, as well as women in their pursuit of knowledge-production doctorate degrees. We have found that systems and efforts aimed at preparing these students as well as junior faculty are often deemed as suspect when the process of preparation does not support the pursuit of individualized competitive careers. A key principle that we have learned from years of our mentoring efforts is that human beings learn and work most effectively in a collective even as an individual’s well-being and development are of

primary focus (e.g., Gokhale, 1995; Johnson & Johnson, 1986; Montagu, 1966; Totten, Sills, Digby, & Russ, 1991). Similarly, open and honest communication between mentors and mentees has been demonstrated to be of utmost importance in order that guidance be appropriate to an individual's overall career vision (e.g., Patterson-Stewart, Ritchie, & Sanders, 1997). Given the intensity of time, energy, and resource commitment involved in the pursuit of the PhD and a career within the academy, good mentoring is usually a long-term collaboration and must be predicated on shared communication and understandings.

Best lessons learned and dispensed from our collective mentoring have been within the context of cross- and intergenerational efforts of a "critical community." The concept of "critical community" refers to a collective of individuals similarly dedicated to providing honest structured guidance and supporting opportunities to enhance their individual cultural capital to sustain and expand all members for their future careers (Dodson et al., 2009; Garrison & Archer, 2000; Thomas, Willis, & Davis, 2007). This attention to personalized mentoring as part of a critical collective allows each member to understand himself or herself as a humane professional, responsible for engaging with and contributing to their career community as well as to the local, national, and, eventually, international environments in which he or she will work. Some of the mentoring roles that emerge as part of one's membership in such a critical community are those of "confronter, clarifier, comforter and collaborator" as these persons are committed to be there if and as called on (L. Thomas, personal communication, April 4, 2014). These role labels, although not exhaustive, do capture the nature of how effective mentors function. Mentors will shift in and between these roles as the mentee grows and develops. The constant is the presence of and commitment to a critical community that will permeate almost all phases of a successful career. To learn how to function in such a collective is an indispensable need that is particularly significant for individuals whose cultural communities have been historically excluded from higher education and the U.S. academy (Davidson & Foster-Johnson, 2001; Dodson et al., 2009).

We have identified four distinct phases and specific activities that are associated with mentoring toward successful academic careers: *pre-career*, *early career*, *mid-career*, and *full or senior professional years*. We single out mentoring lessons associated with these divisions and devote this portion of the article to elucidating aspects of those phases. Even before a full mentoring relationship is established, mentee and mentor—together or separately—must discern the mentee's current phase. This can more effectively allow the integration of mentoring components.

### **Pre-Career Phase**

*Undergraduate years.* Undergraduate years are not often considered part of graduate and/or junior faculty mentoring. However, graduate students and junior faculty come from

the ranks of undergraduate students. More important, it is students of the baccalaureate who need exposure to larger views of higher education than their particular curricula usually offer. They also need an understanding that higher education—the academy—is intimately connected to the successful functioning of society. Such comprehension can better help students envision possibilities of a career in intellectual leadership.

Currently, our society is giving strong recognition to benefits of practicum, hands-on, experiential, or research-based experiences at this undergraduate phase (Russell, Hancock, & McCullough, 2007; Tai, Liu, Maltese, & Fan, 2006). Academic advisors in such support programs have the potential to serve as future mentors for students but that character of the relationships is not automatic and perhaps rarely equals the intensive mentoring investment these authors are advocating. Nevertheless, support program advisors can be helpful to undergraduate students in identifying outlines of professional networks and alerting them to the need for *self-care* as an intricate part of graduate education and an eventual sustainable career that is "respectful of the whole person" (Miller & Garcia, 2004, p. 197). Too often unaddressed self-care sensitivities can derail professional relationships (Ramirez, 2012).

*Graduate years.* At this phase of *pre-career* development, mentoring intensifies as mentees have identified that they wish to pursue a path that leads to professional functioning in the variety of knowledge-production careers. Students actively engage in learning the crafts of comprehensive reading, professional writing, design and data analysis of research, and dissemination. They also should be exposed to a higher level of professional structures even as they are meeting requirements of their curriculum. Strong mentoring is responsible to ensure that students are acquiring the highest levels of skills mastery in each of these categories.

It is in the graduate years that students need to refine their ability to function as conscious professionals who perform effectively within arenas of the career to which they aspire. Mentors are critical in this endeavor as they should be identifying professional events and activities in which mentees can participate. Mentors also should allow mentees to accompany them to professional gatherings and introduce the emerging professionals to members of the gatherings. Often, this means that mentors assist in finding travel support funds for graduate students to attend the events. Such efforts allow mentees to actually participate in activities of professional arenas and support their academic and social acculturation to support their progression toward successful careers (Dodson et al., 2009; Ramirez, 2012; Thomas et al., 2007).

Equally important is that these years provide graduate students with opportunities to help socialize younger individuals to the demands of the career arenas (Dodson et al., 2009; Gasman et al., 2008; Patterson-Stewart et al., 1997). This is where the critical community of cross generations, diverse

cultures, and diverse genders is significant. By engaging in peer advising and mentoring, students have an opportunity to observe and participate in clarifying the taken-for-granted, unspoken yet normative behaviors of professional responsibilities. This directly relates to arenas where many women and members of racial ethnic cultural communities have not been exposed. In fact, primarily White institutions are in great need of enhanced and culturally sensitive mentoring for students of color, particularly underserved African American women in these contexts (Grant & Simmons, 2008; Johnson-Bailey, 2004). For most graduate students of color attending such institutions, the focus is on promoting their assimilation into a predominantly White environment rather than promoting an environment that recognizes the cultures and contributions of all participants, or promoting “authentic cultural pluralism” (Davidson & Foster-Johnson, 2001, p. 554). Mentoring for students of color is likely to benefit from engaging collectivist perspectives (e.g., Blue, 2001; Davidson & Foster-Johnson, 2001; McGee, Saran, & Krulwich, 2012; J. L. Smith et al., 2014), which align more with these students’ cultures of origin. In this regard, a critical community, such as our mentoring collective, can help to reinforce students’ maintaining the cultural integrity of their background while prioritizing professional responsibilities. This is important and differs from the individual and short-term gains to which much of higher education currently socializes graduate students.

### **Early Career Phase: Post-Doctoral and Pre-Tenure Years**

The *early career* phase of an individual’s educational and learning life can be initiated by post-doctoral years and may extend into pre-tenure and/or years equivalent to those of junior faculty. We argue that a post-doctoral experience, most immediately after the award of the PhD, is vital for grounding an effective and sustainable career, regardless of one’s disciplinary focus. The post-doctorate affords the new PhD an opportunity to recover from the total fatigue of completing a graduate program and a dissertation. During this *early career* phase, mentors should be assisting their mentees in entering more deeply into professional arenas as well as helping them to assess and/or redesign career objectives and goals based on post-doctorate experiences.

We frame this guided period of professional maturation as a time for an individual to gain cognition, that is “knowing what they know” about their competence as a producer of knowledge and consciously identifying strategies to navigate macro- and micro-level career environments (Griffin, Muniz, & Espinosa, 2012). Individuals from U.S. domestic populations underrepresented in higher education and women are especially in need of mentoring during the *early career* phase. Mentors must assist in expanding socialization opportunities, and/or help assess expanded socialization experiences. For example, mentors will need to help early career

persons identify and learn to respond to encounters with micro aggressions that pervade professional lives of racial ethnic persons and women. These are the verbal, behavioral, and/or environmental affronts against people of color and women who are rarely deemed strong or visible enough to demand immediate responses (Constantine, Smith, Redington, & Owens, 2008; Hess, Gault, & Yi, 2013; Pittman, 2012; W. A. Smith, Hung, & Franklin, 2011). Mentors must help early career individuals learn how to recognize such actions, how to identify allies, and how to enact strategies to sustain their sense of effective and competent cultural self while continuing on a designated career trajectory (e.g., Williams, 2001). Productive strategies that have been suggested include the creation of “alternative microclimates” (p. 84), or “safe spaces” that provide environments where support, collegiality, and validation may be found within otherwise hostile environments (Ackelsberg, Hart, Miller, Queeney, & Van Dyne, 2009).

### **Mid-Career Phase: Immediate Post-Tenure Years**

The mid-career professorship years are distinguished by mentees bringing together *job* with career vision while continuing to expand knowledge-production foundations. Generally, the expansion occurs after one attains specific objectives toward goals of their vision. In an academic arena, this expansion usually occurs after tenure has been firmly established. The development can also occur in a multitude of arenas and through distinct participation in professional communities of a disciplinary field, through completion of a range of publications that reflect a selected expertise, by the mentoring of curriculum-based students and/or post-doctoral researchers, and through expansion of professional contacts and networks. It is through accomplishments in these areas at the mid-career level that an individual is able to continue expanding his or her influence at the institutional, national, and international levels.

Particular challenges can arise for women and faculty of color during the mid-career phase because of increasing requests and/or demands on time for service activities and increasing requests to mentor junior colleagues of color and women (Baldwin, DeZure, Shaw, & Moretto, 2008; Rockquemore, 2011; Wheeler & Wheeler, 1994). Therefore, whereas mid-career faculty are guiding mentees, they simultaneously remain in need of mentoring to help them successfully approach continued and new challenges (Canale, Herdklotz, & Wild, 2013; Rockquemore, 2011). Whereas formal programs for mentoring of mid-career faculty continue to emerge, specific attention to the needs of women and faculty of color at the mid-career phase lag far behind such developments (Baldwin & Chang, 2006; Baldwin et al., 2008).

During this phase, mentors should guide mentees to seek opportunities to serve on editorial boards of various national and international publications and to serve with governing

committees of professional organizations, accrediting units, and other committees to which they are active and contributing members. Beyond advancing their own career, such service activities are important for identifying places where mid-career persons can insert mentees and students. Equally important is that these service activities help to establish the reputation of the mid-career person.

### **Senior Career Phase: Full Professional Years**

When arriving at this phase of senior professional, an individual should have assumed the beginnings of a leadership role in his or her chosen arenas and/or research fields. Such a position should be national and international in scope with a full range of memberships in specialty professional organizations. The leadership positions may include but are not limited to membership and/or directorship on editorial boards of journals and/or book series; membership in the nuclei relationships that guide professional associations and/or societies; being regularly called on to assess graduate writing, professional promotions, and personnel hiring; being invited to make key-note presentations; being selected to conduct program/departmental accreditation reviews; leading the organizing of specialized professional gatherings and publications; and many other such activities.

We see this phase as one where the individual stands well positioned to challenge these same professional spaces to be more inclusive and reflective of populations and social issues historically excluded from U.S. higher education (e.g., Foreman, 2013). This is not necessarily how many researchers, scholars, or other accomplished professionals contemporarily envision their responsibility, in positions as they are developing their career or as a senior scholar. Too often, such persons, particularly those who are part of an academic departmental faculty at U.S. colleges and universities, are focused and advised to focus on advancing their individual careers to achieve promotion. The aspiration for promotion, with its specific processes and tasks cannot be denied, but if everyone is myopically concerned with securing positions and status as individuals, we are not truly fulfilling our collective and individual responsibility to our democratic society (Pitre, 2008).

These authors have learned that a significant goal and important career responsibility of all who serve in research, scholarship, and/or other professional roles are that they/we are mandated to contribute to the improvement of our society and all humankind. The ability to sustain and succeed in this responsibility is definitely built on an individual's move into increasingly secure employment positions. However, the larger, overall goal is not merely individual success but the inclusive improvement of our democratic society and assisting in enhancing the quality of life for human beings as we participate in our ecological environment.

We also have learned that senior professionals have an added obligation to help insert their cadre of student and

junior faculty mentees, into integrated pathways that lead to their chosen professional arena(s). The importance of this critical role of senior faculty in introducing mentees to members of their professional networks and key academic and professional opportunities has been noted by others (Ramirez, 2012). Successful implementation of this role responsibility leads back to our earlier propositional stance that a prerequisite for strong mentoring is full knowledge of mentees. Mentors who have achieved senior status and have knowledge about their mentees will be well informed of a mentee's chosen professional arena(s). It also is here that a functioning critical community allows each member to help identify and share supportive materials and opportunities for other members at their particular phase of growth and development. The need for such a community has been referred to by others as "alternative microclimates" (Ackelsberg et al., 2009), supportive or functional "relationship constellations" (Thomas et al., 2007), or "collectivism mentoring" (Davidson & Foster-Johnson, 2001). Such communities have been purported to align more with the cultures of mentees of color, as opposed to the prevailing approach by many senior scholars of mentoring and cultivation of individuals who largely mirror the mentor (i.e., homosocial reproduction) in academia (Davidson & Foster-Johnson, 2001; Thomas et al., 2007).

We do not assume that senior status allows a professional, researcher, and/or scholar to cease their development. Even in the senior phase, an individual must continue contributing to knowledge production in his or her professional areas. Each individual must continue designing fundable research projects, conducting investigations, analyzing and publishing from their investigations, and presenting findings in professional contexts of significant others. An implication of such activities in this phase of a career should mean that seniors help expand their professional arenas and ensure that standards for bringing in aspiring new professionals do not lapse into the return of prior inequalities. The senior phase of mentoring work includes serving as critical advocates for junior and mid-career professionals as they progress through their respective phases.

Finally, given the political nature of knowledge production and dissemination, we strongly recommend that scholars with such seniority identify a reliable and accessible location for depositing their professional papers, data, other research, and accomplishments, including specific instructions for its entire usage. The choice should be one that ensures the materials will be processed quickly, made available for research scholars, and does not impose restrictive fees for use of the materials. This can help ensure that the materials are effectively preserved and accessible to future generations.

### **Perspectives on the Way Forward**

There is a growing recognition of the need for scholars, particularly of color, to contribute to efficacious mentoring to support junior scholars in building and sustaining thriving

careers inclusive of overall personal and professional well-being (e.g., Rivera Maulucci & Mensah, 2013). Important for mentoring junior scholars is modeling the close connection that some faculty maintain between their personally developed identities as part of their cultural grounding and their intellectual lives (Moore, Shinew, Sternod, Merk, & Saul, 2013), as the perceived inability to have such connections is an impediment to some students selecting to pursue careers in knowledge production (Austin, 2002; A. Smith, 2013). Our integrative review of the literature and mentoring experiences suggest that it is possible to implement a process that allows students and junior faculty of color, as well as women, to understand and prepare for the many challenges and opportunities that come with a professional academic career. Such processes require significant input of time, effort, and commitment on the part of mentees and mentors. However, when viewed as a collaborative effort, such intensive processes can be successful and add value to the experience of each participant. The success and value are manifested in the traditional sense of productivity and in the non-traditional sense of enrichment to the life of all parties involved in the mentoring exchange.

There are environmental factors that affect the potential efficacy of such mentoring of developing scholars of color and women. Potential mentors of like backgrounds with these young scholars and women remain low in number; for example, the number of African American women faculty and instructors has remained virtually unchanged since at least 2007 (U.S. Department of Education, National Center for Education Statistics, 2012). In addition, some colleges and universities continue to maintain cultures and/or environments that, although “legally” open to all students, persist in maintaining closed doors that actively impede participation of people of color and women (Ellis, 2001, p. 42). These and other factors suggest an urgent need to reform environments into ones that support effective faculty mentoring and reward the efforts of strong, efficacious mentors (Gasman et al., 2008; Shavers & Moore, 2014; Turner & Thompson, 1993; Whittaker & Montgomery, 2014).

We have outlined some effective mentoring practices based on the literature and our collective personal experiences. One such effective model includes mentoring in critical collective communities. Such a collective approach draws on the combined strengths of the participating individuals; mitigates the prevalent isolation of students and faculty of color, especially African American women; and can provide some relief to the problem of limited access to mentors. Such arrangements promote beneficial peer interactions, and address the need for an environment wherein the cultural foundations of students and junior faculty are integrated in the mentoring process. All of these are identifiable as factors contributing to or detracting from the success of the aforementioned populations (Ackelsberg et al., 2009; Davidson & Foster-Johnson, 2001; Dodson et al., 2009; Ellis, 2001; Gasman et al., 2008; Johnson-Bailey, 2004;

Johnson-Bailey et al., 2009; King & Chepyator-Thomson, 1996; Patterson-Stewart et al., 1997; J. L. Smith et al., 2014; Thomas et al., 2007).

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### References

- Ackelsberg, M., Hart, J., Miller, N. J., Queeney, K., & Van Dyne, S. (2009). Faculty microclimate change at Smith College. In W. R. Brown-Glaude (Ed.), *Doing diversity in higher education: Faculty leaders share challenges and strategies* (pp. 83-102). New Brunswick, NJ: Rutgers University Press.
- Anglin, D. M., & Wade, J. C. (2007). Racial socialization, racial identity, and Black students' adjustment to college. *Cultural Diversity & Ethnic Minority Psychology, 13*, 207-215. doi:10.1037/1099-9809.13.3.207
- Antonio, A. L. (2002). Faculty of color reconsidered: Reassessing contributions to scholarship. *The Journal of Higher Education, 73*, 582-602. doi:10.1353/jhe.2002.0043
- Austin, A. E. (2002). Preparing the next generation of faculty: Graduate school as socialization to the academic career. *The Journal of Higher Education, 73*, 94-122. doi:10.1353/jhe.2002.0001
- Bagilhole, B., & Goode, J. (2001). The contradiction of the myth of individual merit, and the reality of a patriarchal support system in academic careers: A feminist investigation. *European Journal of Women's Studies, 8*, 161-180. doi:10.1177/135050680100800203
- Baker, V. L., & Griffin, K. A. (2010). Beyond mentoring and advising: Toward understanding the role of faculty “developers” in student success. *About Campus, 14*, 2-8. doi:10.1002/abc.20002
- Baldwin, R. G., DeZure, D., Shaw, A., & Moretto, K. (2008). Mapping the terrain of mid-career faculty at a research university: Implications for faculty and academic leaders. *Change, 40*, 46-55. doi:10.3200/CHNG.40.5.46-55
- Baldwin, R. G., & Chang, D. A. (2006). Reinforcing our “keystone” faculty: Strategies to support faculty in the middle years of academic life. *Liberal Education, 92*, 28-35.
- Blue, D. A. (2001). Breaking the silence: Racial identity development of post-baccalaureate African American women. In R. O. Mabokela & A. L. Green (Eds.), *Sisters of the academy: Emergent black women scholars in higher education* (pp. 117-137). Sterling, VA: Stylus.
- Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York, NY: Greenwood.
- Burns, J. M. (1978). *Leadership*. New York, NY: Harper.
- Canale, A. M., Herdklotz, C., & Wild, L. (2013). *Mid-career faculty support: The middle years of the academic profession*. Rochester, NY: Faculty Career Development Services, the Wallace Center, Rochester Institute of Technology.

- Casadevall, A., & Fang, F. C. (2012). Reforming science: Methodological and cultural reforms. *Infection and Immunity*, 80, 891-896. doi:10.1128/iai.06183-11
- Chanderbhan-Forde, S., Heppner, R. S., & Borman, K. M. (2012). "The doors are open" but they don't come in: Cultural capital and the pathway to engineering degrees for women. *Journal of Women and Minorities in Science and Engineering*, 18, 179-198. doi:10.1615/JWomenMinorScienEng.2012004190
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, S95-S120.
- Constantine, M. G., Smith, L., Redington, R. M., & Owens, D. (2008). Racial microaggressions against black counseling and counseling psychology faculty: A central challenge in the multicultural counseling movement. *Journal of Counseling & Development*, 86, 348-355. doi:10.1002/j.1556-6678.2008.tb00519.x
- Coon, H. M., & Kimmelmeier, M. (2001). Cultural orientations in the United States: (Re)examining differences among ethnic groups. *Journal of Cross-Cultural Psychology*, 32, 348-364. doi:10.1177/0022022101032003006
- Davidson, M. N., & Foster-Johnson, L. (2001). Mentoring in the preparation of graduate researchers of color. *Review of Educational Research*, 71, 549-574. doi:10.3102/003465430-71004549
- Dodson, J. E., Montgomery, B. L., & Brown, L. J. (2009). "Take the fifth": Mentoring students whose cultural communities were not historically structured into U.S. higher education. *Innovative Higher Education*, 34, 185-199. doi:10.1007/s10755-009-9099-y
- Donaldson, S. K., & Crowley, D. M. (1978). The discipline of nursing. *Nursing Outlook*, 26, 113-120.
- Ellis, E. M. (2001). The impact of race and gender on graduate school socialization, satisfaction with doctoral study, and commitment to degree completion. *The Western Journal of Black Studies*, 25, 30-45.
- Foreman, P. G. (2013). A Riff, a call, and a response: Reframing the problem that led to our being tokens in ethnic and gender studies; or where are we going anyway and with whom will we travel? *Legacy*, 30, 306-322. doi:10.5250/legacy.30.2.0306
- Gaines, S. O., Jr., Marelich, W. D., Bledsoe, K. L., Steers, W. N., Henderson, M. C., Granrose, C. S., . . . Page, M. S. (1997). Links between race/ethnicity and cultural values as mediated by racial/ethnic identity and moderated by gender. *Journal of Personality and Social Psychology*, 72, 1460-1476. doi:10.1037/0022-3514.72.6.1460
- Garrison, D. R., & Archer, W. (2000). *A transactional perspective on teaching and learning: A framework for adult and higher education*. Oxford, UK: Pergamon.
- Gasman, M., Hirschfeld, A., & Vultaggio, J. (2008). "Difficult yet rewarding": The experiences of African American graduate students in education at an Ivy League institution. *Journal of Diversity in Higher Education*, 1, 126-138. doi:10.1037/1938-8926.1.2.126
- Gibbs, K. D., & Griffin, K. A. (2013). What do I want to be with my PhD? The roles of personal values and structural dynamics in shaping the career interests of recent biomedical science PhD graduates. *CBE—Life Sciences Education*, 12, 711-723. doi:10.1187/cbe.13-02-0021
- Gilligan, M. R., Verity, P. G., Cook, C. B., Cook, S. B., Booth, M. G., & Frischer, M. E. (2007). Building a diverse and innovative ocean workforce through collaboration and partnerships that integrate research and education: HBCUs and Marine Laboratories. *Journal of Geoscience Education*, 55, 531-540.
- Gokhale, A. A. (1995). Collaborative learning enhances critical thinking. *Journal of Technology Education*, 7, 22-30.
- Grant, C. M., & Simmons, J. C. (2008). Narratives on experiences of African-American women in the academy: Conceptualizing effective mentoring relationships of doctoral student and faculty. *International Journal of Qualitative Studies in Education*, 21, 501-517. doi:10.1080/09518390802297789
- Greenhaus, J. H., Callanan, G. A., & Godschalk, V. M. (2000). *Career management*. London, England: The Dryden Press.
- Griffin, K. A. (2012a). Black professors managing mentorship: Implications of applying social exchange frameworks to our understanding of the influence of student interaction on scholarly productivity. *Teachers College Record*, 114, 1-37.
- Griffin, K. A. (2012b). Learning to mentor: A mixed methods study of the nature and influence of Black professors' socialization into their roles as mentors. *Journal of the Professoriate*, 6, 27-58.
- Griffin, K. A. (2013). The calculus of yes and no: How one professor makes decisions about academic service. *Thought & Action*, 29, 35-44.
- Griffin, K. A., Muniz, M. M., & Espinosa, L. (2012). The influence of campus racial climate on diversity in graduate education. *Review of Higher Education*, 35, 535-566. doi:10.1353/rhe.2012.0031
- Griffin, K. A., & Toldson, I. A. (2012). Reflections on mentoring for blacks in academia (Editor's commentary). *The Journal of Negro Education*, 81, 103-105. doi:10.7709/jnegroeducation.81.2.0103
- Hart, J., Grogan, M., Litt, J., & Worthington, R. (2009). Institution diversity work as intellectual work at the University of Missouri—Columbia. In W. R. Brown-Glaude (Ed.), *Doing diversity in higher education: Faculty leaders share challenges and strategies* (pp. 61-80). New Brunswick, NJ: Rutgers University Press.
- Hayes, T. B. (2010). Diversifying the biological sciences: Past efforts and future challenges. *Molecular Biology of the Cell*, 21, 3767-3769. doi:10.1091/mbc.E10-05-0414
- Hess, C., Gault, B., & Yi, Y. (2013). *Accelerating change for women faculty of color in STEM: Policy, action, and collaboration*. Washington, DC: Institute for Women's Policy Research. Retrieved from <http://www.iwpr.org/publications/pubs/accelerating-change-for-women-faculty-of-color-in-stem-policy-action-and-collaboration>
- Humes, K. R., Jones, N. A., & Ramirez, R. R. (2011). *Overview of race and Hispanic origin: 2010*. Washington, DC: U.S. Department of Commerce, Economics, and Statistics Administration, U.S. Census Bureau.
- Hurtado, S., Eagan, M. K., Tran, M. C., Newman, C. B., Chang, M. J., & Velasco, P. (2011). "We do science here": Underrepresented students' interactions with faculty in different college contexts. *Journal of Social Issues*, 67, 553-579. doi:10.1111/j.1540-4560.2011.01714.x
- Johnson, R. T., & Johnson, D. W. (1986). Action research: Cooperative learning in the science classroom. *Science & Children*, 24, 31-32.
- Johnson-Bailey, J. (2004). Hitting and climbing the proverbial wall: Participation and retention issues for Black

- graduate women. *Race Ethnicity and Education*, 7, 331-349. doi:10.1080/1361332042000303360
- Johnson-Bailey, J., Valentine, T., Cervero, R. M., & Bowles, T. A. (2009). Rooted in the soil: The social experiences of Black graduate students at a southern research university. *The Journal of Higher Education*, 80, 178-203. doi:10.1353/jhe.0.0040
- King, S. E., & Chepyator-Thomson, J. (1996). Factors affecting the enrollment and persistence of African-American doctoral students. *Physical Educator*, 53, 170-180.
- Kirchmeyer, C. (2005). The effects of mentoring on academic careers over time: Testing performance and political perspectives. *Human Relations*, 58, 637-660. doi:10.1177/0018726705055966
- Macfarlane, B. (2012). *Intellectual leadership in higher education: Renewing the role of the university professor*. New York, NY: Routledge.
- McGee, R., Jr., Saran, S., & Krulwich, T. A. (2012). Diversity in the biomedical research workforce: Developing talent. *Mount Sinai Journal of Medicine, New York*, 79, 397-411. doi:10.1002/msj.21310
- McGee Banks, C. A. (1995). Intellectual leadership and the influence of early African American scholars on multicultural education. *Educational Policy*, 9, 260-280. doi:10.1177/0895904895009003003
- Merchant, J. L., & Omary, M. B. (2010). Underrepresentation of underrepresented minorities in academic medicine: The need to enhance the pipeline and the pipe. *Gastroenterology*, 138, 19-26. doi:10.1053/j.gastro.2009.11.017
- Miller, L. S., & Garcia, E. E. (2004). Better informing efforts to increase Latino student success in higher education. *Education and Urban Society*, 36, 189-204. doi:10.1177/001312450-3261329
- Montagu, A. (1966). *On being human*. New York, NY: Hawthorn.
- Moore, T. L., Shinew, D., Sternod, B., Merk, H., & Saul, M. (2013). Faculty epistemologies and academic life: Implications for the professoriate. *Journal of the Professoriate*, 7, 26-50.
- O'Meara, K., & Braskamp, L. (2005). Aligning faculty reward systems and development to promote faculty and student growth. *NASPA Journal*, 42, 223-240.
- O'Rourke, S. (2008, September 26). Diversity and merit: How one university rewards faculty work that promotes equity. *The Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/DiversityMerit-How-One/12351>
- Ovink, S. M., & Veazey, B. D. (2011). More than "getting us through": A case study in cultural capital enrichment of underrepresented minority undergraduates. *Research in Higher Education*, 52, 370-394. doi:10.1007/s11162-010-9198-8
- Patterson-Stewart, K. E., Ritchie, M. H., & Sanders, E. T. (1997). Interpersonal dynamics of African American persistence in doctoral programs at predominantly White universities. *Journal of College Student Development*, 38, 489-498.
- Pitre, P. E. (2008). Transcending boundaries: Toward an ethical philosophy for new Black leadership in the American college. *Journal of Thought*, 43, 59-70.
- Pittman, C. T. (2012). Racial microaggressions: The narratives of African American faculty at a predominantly white university. *The Journal of Negro Education*, 81, 82-92.
- Porter, G. (2005). A "career" work ethic versus just a job. *Journal of European Industrial Training*, 29, 336-352. doi:10.1108/03090590510597160
- Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, 6, 65-78.
- Ramirez, J. J. (2012). The intentional mentor: Effective mentorship of undergraduate science students. *Journal of Undergraduate Neuroscience Education*, 11, A55-A63.
- Rivera Maulucci, M. S., & Mensah, F. M. (2013). NARST equity and ethics committee: Mentoring scholars of color in the organization and in the academy. In J. A. Bianchini, V. L. Akerson, A. Calabrese Barton, O. Lee, & A. J. Rodriguez (Eds.), *Moving the equity agenda forward: Equity research, practice, and policy in science education* (Vol. 5, pp. 295-315). Dordrecht, The Netherlands: Springer. doi:10.1007/978-94-007-4467-7\_18
- Rockquemore, K. (2011, November 28). Mid-career mentoring. *Inside Higher Ed*. Retrieved from <http://www.insidehighered.com/advice/2011/11/28/essay-need-tenured-faculty-members-have-mentoring>
- Russell, S. H., Hancock, M. P., & McCullough, J. (2007). Benefits of undergraduate research experiences. *Science*, 316, 548-549. doi:10.1126/science.1140384
- Seonghee, K., & Boryung, J. (2008). An analysis of faculty perceptions: Attitudes toward knowledge sharing and collaboration in an academic institution. *Library & Information Science Research*, 30, 282-290. doi:10.1016/j.lisr.2008.04.003
- Shavers, M. C., & Moore, J. L., III. (2014). Black female voices: Self-presentation strategies in doctoral programs at predominantly White institutions. *Journal of College Student Development*, 55, 391-407. doi:10.1353/csd.2014.0040
- Smith, A. (2013). Life after tenure denial. In D. Mack, E. D. Watson, & M. M. Camacho (Eds.), *Mentoring faculty of color: Essays on professional development and advancement in colleges and universities* (pp. 195-204). Jefferson, NC: McFarland.
- Smith, J. L., Cech, E., Metz, A., Huntoon, M., & Moyer, C. (2014). Giving back or giving up: Native American student experiences in science and engineering. *Cultural Diversity & Ethnic Minority Psychology*, 20, 413-429. doi:10.1037/a0036945
- Smith, W. A., Hung, M., & Franklin, J. D. (2011). Racial battle fatigue and the miseducation of black men: Racial microaggressions, societal problems, and environmental stress. *The Journal of Negro Education*, 80, 63-82.
- Su, R., Rounds, J., & Armstrong, P. I. (2009). Men and things, women and people: A meta-analysis of sex differences in interests. *Psychological Bulletin*, 135, 859-884. doi:10.1037/a0017364
- Tai, R. H., Liu, C. Q., Maltese, A. V., & Fan, X. (2006). Planning early for careers in science. *Science*, 312, 1143-1144. doi:10.1126/science.1128690
- Thomas, K. M., Willis, L. A., & Davis, J. (2007). Mentoring minority graduate students: Issues and strategies for institutions, faculty, and students. *Equal Opportunities International*, 26, 178-192. doi:10.1108/02610150710735471
- Totten, S., Sills, T., Digby, A., & Russ, P. (1991). *Cooperative learning: A guide to research*. New York, NY: Garland.
- Turner, C. S. V., & Thompson, J. R. (1993). Socializing women doctoral students: Minority and majority experiences. *The Review of Higher Education*, 16, 355-370.
- U.S. Department of Education, National Center for Education Statistics. (2012). *The condition of education 2012* (NCES 2012-045, Indicator 47). Retrieved from <http://nces.ed.gov/fastfacts/display.asp?id=72>

- U.S. Department of Education, National Center for Education Statistics. (2013). *Full-time instructional faculty in degree-granting postsecondary institutions, by race/ethnicity, sex, and academic rank: Fall 2007, fall 2009, and fall 2011*. Retrieved from [http://nces.ed.gov/programs/digest/d13/tables/dt13\\_315.20.asp](http://nces.ed.gov/programs/digest/d13/tables/dt13_315.20.asp)
- Wall, C. A. (2009). Faculty as change agents-reflections on my academic life. In W. R. Brown-Glaude (Ed.), *Doing diversity in higher education: Faculty leaders share challenges and strategies* (pp. ix-xiv). New Brunswick, NJ: Rutgers University Press.
- Wheeler, D. W., & Wheeler, B. J. (1994). Mentoring faculty for midcareer issues. *New Directions for Teaching and Learning*, 1994, 91-98. doi:10.1002/tl.37219945712
- White, L. (2002). Connection matters: Exploring the implications of social capital and social networks for social policy. *Systems Research and Behavioral Science*, 19, 255-269. doi:10.1002/sres.464
- Whittaker, J. A., & Montgomery, B. L. (2012). Cultivating diversity and competency in STEM: Challenges and remedies for removing virtual barriers to constructing diverse higher education communities of success. *Journal of Undergraduate Neuroscience Education*, 11, A44-A51.
- Whittaker, J. A., & Montgomery, B. L. (2014). Cultivating institutional transformation and sustainable STEM diversity in higher education through integrative faculty development. *Innovative Higher Education*, 39, 263-275. doi:10.1007/s10755-013-9277-9
- Williams, L. D. (2001). Coming to terms with being a young, black female academic in U.S. higher education. In R. O. Mabokela & A. L. Green (Eds.), *Sisters of the academy: Emergent Black women scholars in higher education* (pp. 93-102). Sterling, VA: Stylus.
- Woods, R. L. (2001). Invisible women: The experiences of black female doctoral students at the University of Michigan. In R. O. Mabokela & A. L. Green (Eds.), *Sisters of the academy: Emergent Black women scholars in higher education* (pp. 105-115). Sterling, VA: Stylus.
- Wrzesniewski, A., McCauley, C., Rozin, P., & Schwartz, B. (1997). Jobs, careers, and callings: People's relations to their work. *Journal of Research in Personality*, 31, 21-33. doi:10.1006/jrpe.1997.2162

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