From Obstacle Course to Launching Pad:
Advising High Achievers, Gifted Learners and Creative Thinkers

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Abstract

Advising strategies have been developed for many groups, principally by demographic characteristic, as a way to expediently serve large numbers of students with similar needs. There is, however, a wide range of ability in the undergraduate population and within demographic groups and the institution is responsible for sensitively addressing the needs of students who perform at a variety of levels. Although much has been offered to effectively meet the needs of students who struggle, no coherent advising strategy exists for high achievers – students with advanced academic abilities working on complex academic plans involving high-level intellectual synthesis. Although these students are generally self-directed, high achievers also have special characteristics and needs requiring thoughtful attention. Based on interviews with programs that attract high achievers, ten advising strategies; five in the delivery of individual advising, and five programmatic strategies have been identified as being particularly effective for working with this group. As the desire to work multiple curricular and co-curricular objectives is at the core of the high achievers academic plan, a new schedule-planning tool that allows for complex, long-range academic planning is also introduced. Ultimately, the goal is to deliver advising in ways that are more holistic, personalized and based on the unique interests, talents and abilities of individual students.

Introduction

Scarce advising resources are often directed toward the most at risk populations: students who are struggling, in transition, underprepared, in crisis, or experiencing academic difficulty. Heavy caseloads, and other resourcing problems may also shift service toward triage arrangements where procedural and transactional service becomes the norm. Given the reality of limited resources, why should advising time be directed toward students who are performing well? Advanced students often possess the skills and abilities to self-direct in meaningful ways and many students are able to get the most out of their undergraduate education without ever seeking more than routine advising.

At an elite public university, however, the responsibility to offer service consistent with individual needs across a wide ability spectrum is now more important than ever given the new focus on institutional performance and undergraduate learning outcomes. Although they may appear less urgent, the needs of high performing students and the institutional responsibility toward supporting their full development is no less real than for other student populations. The needs of high performers seem especially relevant since these are the very students the institution aims to attract and develop. Despite this, the characteristics and needs of college-level high achievers are underexplored in the advising literature and no identifiable strategy exists for working with these students. To address this

lack of clarity, this paper offers approaches to advising which have proven effective in programs that attract high achievers. These strategies can be integrated into individual advising sessions and can be adapted to programs that may or may not be specifically designed for high performing students.

Identifying High Achievers

While it may appear expedient to identify high achievers through formal predictive indicators such as test scores and GPA, these are not fully reliable for a number of reasons. For incoming students, GPA may not yet be established and in some cases GPA may not reflect engagement in advanced curricular activities. Test scores can be predictive, however, unique talents and motivation are not captured in these results (Dougherty, 2007). Although it takes more sensitivity and effort, it is my view, that high achievers are often best identified by their varied intellectual interests and ultimately by their course choices and patterns. They may also demonstrate the ability to do well in multiple subjects or areas. In terms of their course choices and patterns, they may show patterns of intense focus in a single subject area or they may demonstrate ability across a wide range of unrelated courses. The high achiever is, by classic definition, a person who has "an exceptional level of performance in one or more areas of expression" (NAGC, 2005). They tend to be both ambitious and creative in their selection of courses and will risk the familiarity and comfort of subjects they know well to venture into uncharted academic territory – even risking GPA in pursuit of new interests. They may present with course patterns that appear odd (a double major in Physics and Art History); many UC Medal winners have had unusual double major combinations that indicate they are engaged in advanced intellectual synthesis and are bridging and personalizing the curriculum in unique ways (samples of medal winner double major combinations: 2012- Chinese Language & Literature and Conservation and Resource Studies; 2006 - Computer Science and Japanese; 2004 - Economics and Molecular and Cell Biology, 1996 - Economics and Comparative Literature, for example). Advisors are in a special position to identify high achievers since they have access to full transcripts and can, through sensitive interviewing, observe and understand the student's course selection strategies, patterns and rationale (Dougherty, 2007).

High achievers also often possess a number of important personal qualities that set them apart. They can be mature and self-assured and exhibit unstoppable enthusiasm for all they would like to know, do and produce. They can be self-directed, highly organized, resourceful, and assertive and they are often intensely focused on the future. In some forms, they may present as quirky, offbeat, independent and unconventional. Under pressure they may be cynical and they may feel more anxiety to perform at high levels (Dougherty, 2007). Their free time is also often spent in pursuit of a complex goal. They may be engaged in a wide range of experiential pursuits including many variations on community based, pre-professional, leadership, political, creative, athletic and other complex projects or activities and they can often be found teaching or supervising others. At the core, they have a profound love of learning and are likely to be engaged, active learners throughout their lifetime.

Variations on the Same: High Achievers, Gifted Learners and Creative Thinkers

Formal study and research on aptitude, ability and differentiated instructional strategies is concentrated primarily on the k-12 population with less formal study on college-level high achievers. However, a number of characteristics have been observed in high achieving adolescents that support identification of college level high achievers including *multipotentiality* or the ability for exceptional performance across multiple academic domains (Fredrickson, 1979)*, heightened sensitivity, idealistic thinking, sensitivity to expectations* and *sense of urgency* (Berger, 1993). A number of definitions and labels that identify both *innate ability* and *achievement* have been used to describe these students including "high-achieving," "high-ability," "talented" and "gifted." These groups often show similarities in their academic characteristics (Cosgrove and Volkwein, 2005). In terms of learning style, Kingore (2004) has identified three variations in the school age high achieving group: high achievers, gifted learners and creative thinkers that are presumed to carry forward throughout adolescence. This grouping is preferred as it recognizes talent, ability and the special place of creativity, not just academic performance, in the range of exceptional abilities. This range and variation within the high achieving group is important since each may present differently and may need different coaching to fully develop. As described by Kingore:

> **High achievers** absorb information quickly and are able to generate advanced ideas. They learn with ease and often perform at the top of their group. They tend to be focused learners who work and study hard.
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> **Gifted learners** not only understand the material, they initiate new projects effortlessly and they often extend assignments. They frequently outperform their group. They can be exceptionally curious and tend to know and understand without having to work hard. They are often highly original in their thinking and level of engagement.
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> **Creative thinkers** tend to play with ideas and concepts and are interested in new possibilities. They may take ideas in unexpected directions. They often create their own affinity groups. They are more playful and non-conformist than hard working and they may improvise. They are often best engaged when asked to create or invent something. Creative thinkers may overflow with new ideas.

The terms used to describe high achievers and gifted learners are often used interchangeably. The term "high-achievers" is used throughout this paper to reference the wide range of "achieving", "gifted" and "creative" students.

The Advising Challenge

For some high achievers, the structure, delivery and coordination of advising resources and services can seem more like an obstacle course than a launching pad. A number of pronounced hazards develop in decentralized, resource constrained advising environments; all are based in the "one size fits all" and "advising to the lowest common denominator" strategy designed to serve large numbers of students

efficiently. High achievers can, in these environments be inadvertently discouraged instead of encouraged from pursuing their many interests and goals. Generic information sessions meant to meet broad needs can fall short in addressing unique interests, talents, abilities and goals. The advice given is often cautionary, regardless of student ability, and the student receives powerful messages regarding the risk of overload and poor performance. Individual assessment can be especially challenging in group advising settings such as orientations, where general, cautionary advising strategies are favored over the risk of misdirecting students into courses that may be too challenging. Other common advising strategies can also create hazards. Un-prioritized, open-ended, scattershot referrals can also become problematic. Students may receive disassociated lists of resources without insights about the meaning, purpose or preferred sequencing of recommended activities. Preconceived notions of student ability may also interfere with advising to individual needs. Advising programs are often based on demographic characteristics or admission status (first generation, underrepresented, transfer, re-entry, low income, international, athlete, etc.) and demographically based programs and resources may presume and generalize needs inappropriately. Programs and resources geared toward these pre-conceived needs may miss actual needs – this is particularly true for transfer student populations where there can be wide variation in skill, interest and ability. For example, while it may be true that transfer students are at greater risk of experiencing academic difficulty in the first semester, it is also true that many transfer students will not struggle with transition; the 2013 UCB Gates Cambridge scholar was a re-entry, transfer student who had dropped out of high school (Justin Park – 2013); clearly the demographic markers were not necessarily consistent with the actual abilities of this particular student. In addition, advisors with generalist training and weak connections to faculty and curriculum may find themselves out of depth when working with students with advanced or specialized disciplinary interests and goals. Gaining access to high quality, personalized advising can become a real challenge and the high achiever may find the exchange in regular advising programs disappointing. Students must often rely on themselves to navigate large and complex institutions and to find the programs and resources that best meet their needs. It may, in fact, be harder in a large university setting for high achievers to be identified and well served in the course of routine advising (Robinson, 1997).

Toward Individualized Service – Focus on Skills, Interest and Ability

The real task of advising is to understand and address the needs and interests of students as individuals. To improve the advising experience for high achievers, a new focus on effective assessment at intake and a fully supported, complex culminating experience that allows for reflection and refinement of goals is needed to direct and support them appropriately.

To better understand the needs of high achieving students and to identify effective strategies for working with this student population, informational interviews were conducted with programs that attract them: The Office of Undergraduate Research (Leah Carroll), Global Poverty and Practice Minor

(Sean Burns and Chetan Chowdhry), Cal Corps (Sunshine Workmanand Kati Hinman), and SMART Mentoring (Sabrina Soracco). In addition, Eric Jabart, a doctoral student in Bioengineering supervising a disciplinary based mentoring program for undergraduates was also interviewed as were his colleagues Monica Lin (Biomedical Engineering Society-BMES and Big BEAR) and Terry Johnson, a lecturer and mentor to undergraduates in Bioengineering.

Although these programs are not co-coordinated or co-located, they have much in common in their design and delivery strategies that can be incorporated into regular advising programs. Briefly outlined below are ten strategies, extracted from high functioning programs, for working with high achievers.

Strategies for Working with High Achievers, Gifted Learners and Creative Thinkers

Five Strategies for Individual Advising

1. Creating Conditions for Lasting Relationships

Programs that successfully support high achievers create conditions for lasting relationships between students, advisors and mentors. Face time is not only important to the student who is struggling; it is also critical for the student who is taking on new and difficult challenges. At a tier 1 research university, the intimidation factor (from accomplished faculty), intense competition (from other students) and inexperience and occasional self-doubt (from oneself) needs, on occasion, to be counterbalanced with personal support from an understanding mentor and other advisors. High achievers have multiple, intersecting, complex goals and it takes time to make significant progress. In nearly every interview, advisors and mentors indicated that their programs had become home base for participants and that this home base functioned as a stable launching and landing pad as they took on tough challenges. This identification with home base makes it possible for the student to sound out ideas, solve problems, to modify plans, gain confidence as they develop their own "voice" as scholars, and to ultimately be reminded of how far they have come.

At the heart of these relationships is the development of real trust and collaboration. The high achieving student must often reveal their ambitions to a trusted individual in order to realize them - especially when they are creative, unique or in other ways out of the ordinary. They must also reveal what they do not already know and where they may need assistance. This is an exciting process but one that requires vulnerability. Personal history is often a part of the formation of overarching goals and identity is tightly interwoven in personal plans. Active, dynamic and responsive relationships that are developed over time best support this process of self-revelation and discovery. Students seek connections with a known confidante who can share their enthusiasm for learning, push them when necessary, help manage their anxiety to perform and acknowledge their success. Most advisors to high achievers indicated that even small gestures and investments of time often result in big gains for the student. A single conversation can often have major impact on student choice, behavior and direction. The key is making time for these important exchanges and ensuring that they happen at regular intervals over extended periods of time.

2. Supporting Simultaneity: From Why? To Why Not!

High achievers are, in part, identifiable by their multiple, complex and challenging interests and goals. For example, these are students who want to double major (and minor), study abroad, learn a new language, prepare for the MCAT and write a senior thesis while initiating a complex community based public health program in a developing country. They have an intense need to work on multiple goals simultaneously. The high achiever's unique characteristic of being good at a variety of things presents a special advising and career development challenge (Dougherty, 2007). From a schedule planning perspective, the student may appear to be overloading to pursue their many interests so the advisor may question the student regarding multiple objectives, caution them against overload and in doing so inadvertently discourage progress. A better advising strategy for this group would be based on long-term schedule planning, assistance with prioritizing high impact activities that met core needs, maximizing use of valuable time (such as semester breaks and summer) and an effective course selection strategy that directs students to course choices that provide maximum benefit to overall degree progress. Appropriate and effective use of exam and other credit may also help advance the student's academic plan more quickly. What might look like an overload to an advisor might be, in fact, a reasonable schedule for a high achiever. The advisor must also acknowledge the ambitious academic plan *and* the wide range of co-curricular activities the student is actively engaged in. The advisor supports this plan by offering simple refinement strategies such as helping the student determine quality over quantity and in determining appropriate sequence and timing of courses and activities. A supportive, positive "go-for-it" (but no pressure) attitude and trust that the student will recalibrate if necessary will be more valuable to this group of achievement-oriented individuals than cautionary advice over the long run. It would also be useful to develop a fall back plan with the student if they change direction. For the student who is actively seeking support and guidance, a single detractor can do damage and a single supporter can catapult. The appropriate advising disposition for this group is then, not *Why would you want to do so much?* but *Why not do it all (incrementally, of course)?* Given that high achievers have multiple interests and goals and can excel in a wide range of subjects, the advisor will play a critical role in helping the student explore and manage their complex interests and help create meaning and coherence to ambitious, multidimensional plans. The role is essentially to facilitate simultaneity and intellectual bridging across multiple interests. The advisor will also play a critical role in helping the student manage stress, anxiety and the expectations of others since this student may feel more parental, peer or other pressure to continue to perform at a high level (Dougherty 2007, Winston 1984).

The sample simultaneous schedule planner provided as an attachment to this paper offers a new approach to schedule planning for high achievers (and any other student with multiple and complex goals). It not only supports simultaneity, it *encourages* planning for complex, intersecting curricular and co-curricular objectives and introduces questions that support effective assessment at intake and reflection as the plan progresses.

3. From Transactional Service to Transformation through Long-Range Schedule Planning

When advising is highly transactional and focused on throughput over student development, the student may experience the advising interaction as restrictive and limiting. At times, University policy may seem at odds with the student's unique educational plan and objectives. For example, unit limitations, course restrictions, sequencing requirements, limitations on the use of exam and other credit toward requirements, and restrictions that limit access to certain types of curricular and co-curricular opportunities can disrupt or delay individual plans. The student often spends as much time crafting plans to deal with institutional roadblocks as they do demonstrating the high levels of initiative needed to construct their unique plans. Ultimately, the advisor is the delivery person of "no" instead of "yes" and the advising interaction is avoided altogether. As noted by the student interviewee, Kati Hinman, students begin to advise themselves and each other. Again, an altered attitude toward the ambitious plans of high achievers might be a better long-term strategy. Instead of reinforcing or even creating policy and procedural roadblocks, the advisor may work to help the student anticipate, plan for and avoid them altogether. Policy and procedural roadblocks can be effectively anticipated and dealt with in the context of long-term schedule planning and regular advising with a known and trusted advisor who is not only guiding progress but advocating for the student over the long term. The advisor's job with this group is to expand, not restrict opportunities.

4. Harnessing the Power of Peers: Kick Starter, Double Leader and Witness

The peer-to-peer role in programs that attract high achievers seems also to be a critical component of their overall success. This is consistent with findings related to persistence and success that indicate involvement with peers and out-of-class contact with faculty are key components of undergraduate success (Pascarella and Terenzini, 2005). Peer advising appears to advance the experience of high achievers in four critical ways; the word of mouth network effectively connects high achievers with programs in ways that general advising could not; it facilitates leadership development; helps to create informal but critical cohort formation; and ultimately expands program participation into the unique responsibility of "witness" to complex experience.

When a program, person or project is highly innovative, useful and exciting, students tell each other. Peer-to-peer endorsement of programs is a critical stamp of approval. Many small and out-of-the-way programs take root and flourish because of this important networking (the GPP minor grew to over 500 students in less than three years). Students value and trust the opinions of other students and the social and intellectual networks they create are important to the institution and to their overall development. These networks act to help establish and extend innovative programs. In addition, the peer role is frequently constructed as a leadership position. For example, both the Global Poverty and Practice Minor and Cal Corps use peers in substantive ways; entering students are mentored by continuing students and as they

progress, new students gain the skills and experience needed to mentor the next group. The follower ultimately becomes the leader and the student's intellectual and personal trajectory is doubly enhanced. These roles provide important connections to the program and help students feel connected to one another and the institution. In addition, these relationships help to establish trust and ease the intimidation factor that can interfere with making connections with graduate students and faculty. Cohorts also form within these programs and act to both push and support development as students become accountable to one another. In addition, on highly challenging projects that include community engagement, international travel, or ethical challenges, students will often act as "witness" to one another by relaying their direct experience in powerful ways. This not only acts to motivate and inspire within a cohort; it is in itself a powerful responsibility of involvement.

The advisor often works to support and reinforce these peer networks and to develop the student's leadership ability through them. The importance assigned to the role by the advisor helps the student use the opportunity to fully develop. The team member, project manager, leader trajectory is often initially developed through peer networks and supported by advisors. These are critical roles and important developmental chains. Advisors can encourage these peer-to-peer interactions and responsibilities and promote the use of peers in advising settings where students are asked to explore their interests and experience.

5. Room for Reflection

In both the advanced curricular and leadership development programs, there were regular opportunities for both group and individual reflection which were designed to be core features of the learning activity. The opportunity for sounding out experience, sharing and comparing, re-evaluating thoughts and beliefs, and the opportunity to confide and "process" were critical to student development, and ultimately to the success of projects. As noted by Sean Burns, the student is not expected to change the world through participation in field experience in the Global Poverty and Practice minor but to examine themselves and reflect on their experience in meaningful ways. The advisor plays the role of guide, confidant and facilitator to complex experience. Ultimately, it is through reflective questioning (guided by advisors and faculty) that the student refines and sharpens their interests, goals and beliefs. This is a critical process of self-discovery. Ultimately, the academic experience is greatly deepened and enriched as a result.

Reflection also supports the intellectual and curricular bridging process so vital to helping the student with multiple interests and aptitudes. As noted by Gordon (1995), the advisor may help the student prioritize in ways that allows them to identify "combinations of areas of interest." According to Gordon, "combining several interests leads to an entirely new, more satisfying alternative that had not previously been considered" (p. 57). Facilitated reflection allows the student to see new possibilities, options, and opportunities and to integrate knowledge and values in critical ways.

6. Guided Learning: The Importance of Recognizable Step Ladders and Meaningful Double-backs

High achievers are looking for opportunities to build, expand and refine essential skills and knowledge often through engaged scholarship programs. They can be intensely focused on finding ways to apply, test and refine their unique talents on real world challenges. Programs that attract these students facilitate this development through direct and indirect "grooming" exercises; they essentially take the student through an entire developmental process, "tipping" them gently from one difficult task to the next. This activity is related to the concept of "scaffolding" and "guided learning" where learners benefit from support or "scaffolding" as they take on tasks beyond their ability. As they master tasks the scaffolding can be removed and they can complete the same task on their own (Wood, 1976 – Vygotsky, 1978). For example, in the disciplinary based peer mentoring program designed by Eric Jabart, students first gain disciplinary based skills, they are engaged in ways that help them flourish in the academic culture, they write a statement of purpose, create a graduate application, apply for funding, visit their prospective schools, are coached through a first choice and are finally coached in selecting a lab. The mentor/advisor is guiding this complex and multi-layered learning trajectory. Ultimately the goal is not only to gain admission to graduate school but to help the student successfully and confidently transition into a doctoral program. In the Undergraduate Research Apprentice Program, many students may participate by supporting a faculty research project. Juniors may engage in the SURF Fellowship program where they will work on their own summer research project, or become Haas Scholars where they will complete their own research. Participation in each program directly and indirectly guides and supports them through complex activities – and ultimately toward success as more mature scholars able to work independently. Honors and capstone activities also function similarly. In the case of peer leadership programs, students may begin as a team member and end as a team leader. All of these kinds of activities are designed to create developmental milestones and to encourage integration of skills so that ultimately high-level synthesis of experience and knowledge is facilitated.

There is also a more subtle form of guided learning where the progress is internal and values based rather than horizontal and skills based. It occurs in all programs but particularly in those that require fieldwork or in projects in which there are strong ethical dimensions to the work. The gains may be less straightforward but no less significant or important since they are critical to the student's overall intellectual maturity and personal development. Leadership activities often contain important inwardly guided moments – the student may be confronted with multiple definitions and examples of leadership and they will ultimately have to take from these and develop and internalize their own definition. This is a more values-based than skill-based activity.

Advisors and mentors to high achievers help students easily identify meaningful junctures (as on a step ladder) as they help "tip" them forward through a complex guided learning process and help them double-back and

internalize the experience (as the student matures, masters tasks and gains confidence). Programs that support high achievers often clearly mark these guided activities which are so critical to the students overall trajectory. This process is particularly important for the high achiever since it allows them to meaningfully focus on developing key skills and values. Increasing self-confidence, skill development and goal refinement is key to both their intellectual maturity and identity development.

7. The Importance of Specialists and Cross-Functional Teams

The advanced curricular and disciplinary specific needs of high achievers can take advisors out of depth, particularly advisors with generalist training. Many individuals who staff programs that serve high achievers have advanced degrees, training and experience, and many have doctoral degrees and teaching experience; they often act as mentors in delivering programs. Students seek to develop networks of individuals with specialized knowledge and experience; often piecing together for themselves networks of individuals with certain types of expertise. It is not enough for the advisor to suggest that the student "gain research experience" or "leadership experience;" it is critical that they be able to identify best fit for the student in terms of multiple options and choices, describe clearly what the student will gain from the experience and how it will be applied to and advance their unique plan and objectives. In addition, detailed knowledge of the curriculum is critical to effectively direct high achievers. It is not enough to offer a list of course choices, it is important to be able to describe the nuances of these choices to students who have an interest in being especially selective. In programs serving high achievers, there were strong connections between faculty, graduate students, staff with specialized training, and peers; these groups form tightly coordinated, active networks designed to provide service in the development of specific knowledge and skills. This configuration of service based on *subject matter expertise* (i.e., leadership experience, research experience, pre-graduate advising, etc.) appears to be highly desirable to the high achiever since they can easily identify the specialist group they seek. These networks extend and deepen the breadth and depth of advising knowledge and experience, since the collective knowledge is highly advanced. Use of these matrix, advising teams (faculty + graduate students + specialized staff + peers) appears to rapidly advance the student's trajectory when focused in a particular knowledge area or skill set.

8. Providing Clarity: Learning Objectives, Strategies, Outcomes

High achieving students are seeking to benefit from activities that help them build essential knowledge and skills relevant to core goals. The more explicit the trajectory and individual gains, the greater the overall benefit to the student. It is, therefore, important for the learning objectives of curricular and co-curricular advising programs to be stated and well understood by both advisors and students. As described by Leah Carroll, in the Office of Undergraduate Research, the student may gain disciplinary based research skills from participation (i.e., coding, bench skills, etc.) and a variety of other skills (i.e., apply standards of academic integrity, present and defend an argument, give a brief idea pitch, et.). However,

the additional and possibly even more significant gain for the student is that they are introduced to the academic culture and to the important give-and-take negotiations with a faculty advisor regarding the direction of a project. The closely aligned faculty and staff team that supports the Global Poverty and Practice minor worked together on explicitly stated learning outcomes for their program, making it easier to reinforce these in informal and formal interactions with students at all levels of the program throughout the entire learning and advising experience. When programs are actively constructed around identifiable outcomes, it is easier for the student to identify what is to be gained from participation and to mark their progress as they proceed. Clearly stated learning goals also facilitate formal assessment and a continuous improvement cycle is naturally developed. This kind of programmatic construct and foundation is critical for high achievers as they are looking for the clear benefit of involvement when there are multiple options for engagement. They are always seeking to gain something specific in relation to their goals in terms of knowledge, skills and values and when programs deliver as stated, there is significant advancement of student ability.

9. Prepping, Rotating, Incentivizing: Mentoring the Mentor

Faculty and graduate student mentoring of undergraduates is an important responsibility and new and increasing resources have been directed toward programs that support formal mentoring relationships on the Berkeley campus (i.e., SMART, Chernin, etc.).

Advisors play a critical role in directing high achievers to mentoring programs and in helping them understand the benefits and positive outcomes of mentoring (e.g., opportunity to collaborate, network, gain new knowledge, share ideas, reflect, develop pre-professional skills, gain personal satisfaction, reward and growth) as well as helping them avoid problematic pitfalls (e.g., lack of time, mismatch between mentor/mentee expertise or personality, lack of goals and expectations, and difficulty being observed and handling feedback). The mentoring role is particularly important for high achieving students and the advisor is critical in helping direct students to these important relationships and to managing expectations. In some advanced and specialized advising settings, the staff advisor will act as mentor and these special roles also need to be skillfully introduced and managed.

There are a wide variety of resources available to mentor mentors since the roles and responsibilities associated with mentoring are not the same as they are for teaching in the standard curriculum. The Undergraduate Research Apprentice Program has an established mentoring contract and Eric Jabart utilized mentoring resources from the Center for Teaching and Learning as he launched his own disciplinary based mentoring program in his home department. These and other resources are important to creating the right conditions for high functioning programs and services. As it relates to the needs of high achievers, mentors will also need to be able to identify and adapt coaching styles depending on student ability and goals. Faculty awareness of their mentees' multiple goals and interests is critical since they, as disciplinary experts, will play a key role in the synthesis and bridging activities needed to create coherence in complex academic and personal plans. Their

flexibility, guidance, support and ability to direct is key for the high achiever in particular. Formal mentoring programs are likely to attract high achievers in large numbers and sensitivity to the needs and characteristics of this group is important to meeting them. High achieving undergraduates are also likely to pursue graduate education, and their interactions with faculty and graduate students are likely to play a role in their plans and preparation for advanced study.

Academic and co-curricular programs are often challenged to prepare faculty and incentivize their involvement in advising undergraduates, given that formal faculty rewards structures do not recognize these activities. Graduate students and specialized staff play a critical role in supporting faculty involvement by ensuring the use of faculty time in programs and services is structured and well-coordinated so that it offers maximum benefit to the faculty member and student. Through effective prepping and rotating activities, valuable faculty time is best put to use. As in the case of the structure of the Undergraduate Research Apprentice Program, the incentive for participation is research assistance that may ultimately free faculty time. Again, when the desired outcomes are clear, the use of valuable faculty, graduate student and staff expertise and wisdom can be best put to use.

10. Institutionally Supported Curricular and Experiential Exchange

Just as incentivizing faculty involvement and mentoring is critical to supporting the needs of high achievers, so too is the institutional commitment to offering programs that support curricular and experiential exchange. The high achiever is anxious to apply all that they *know* into the realm of all they can *do* and they seek out opportunities for applied and experiential learning. As noted by Sunshine Workman, Cal Corps programs are primarily experiential although the program does benefit from regular faculty involvement. The challenge is of integration and balance, so that the experience supports the curriculum and the curriculum can be applied to experience. Strong programs appear to have equal interchanges that, again, help to create meaning and coherence and bridge the curriculum in important ways. This is particularly important as the student develops a post-baccalaureate plan and as they evaluate the usefulness of their overall education. Programs that support this exchange are no longer resume padding additions to core academics in the minds of many students, as they require significant investments of time and intellectual capital. In addition, the high achiever is likely to be a graduate student in the near future and the need to build capacity for advanced and independent study is greater than ever. The institutional and faculty commitment to creating and formalizing these curricular and experiential exchanges is essentially a commitment to helping high achievers realize their multiple and complex goals.

Special Mention: Diamonds in the Rough and Late Bloomers

Adolescence can be a tumultuous time. Personal problems, mismatches between skills and major choice, rough starts, parental pressure, other distractions including health problems and other personal setbacks can delay development of full potential in some students. Learning is life-long and some may not fully develop as undergraduates. It is also important

to remember that all students demonstrated some level of exceptional achievement within the context of their life circumstance to gain admission to UC Berkeley. Students are individuals and each has unique potential. It is, therefore, important for advisors to actively seek, develop and nurture the high achiever qualities in all students. The encouragement given now may not have immediate results but it is likely to be remembered and valued and all students are likely to benefit from individual attention.

Conclusion

Given that this is an underexplored area of advising and there is a lack of empirical study and research on the college level high achiever, further exploration is needed to test and verify advising strategies for this student population. Given the exceptional quality of undergraduates at UC Berkeley, the high achiever population is likely to be large at this institution constituting a significant number of individual students. The ability to identify these individuals early in their academic career and to direct them appropriately is of particular importance. Intake strategies and the quality of advising in the first year are likely to have an impact on critical choices and behavior. The challenge is to engage high achiever interest and establish the necessary long-term relationships and academic planning strategies that will be sustaining over the entire career as opposed to inadvertently discouraging their plans and aspirations. Student input is also needed to help determine what tools and strategies are most effective. It is also critical to distinguish what is just good advising as what is a good strategy by individual need and ability. Some strategies identified for high achievers might, in fact, be good advising practice for all students. Of primary importance is the need to ensure that all students have access to quality advising and resources and that delivery of service by demographic characteristic does not inadvertently skip the needs of high achievers. This is of particular importance in advising new students, transfer students and underrepresented students who may be advised in group settings where individual needs are not easily addressed. In addition, use of test scores toward placement in the curriculum is a significant issue for high achievers who may be looking to advance rapidly. Appropriate placement at entry will be critical to their overall trajectory and success. In addition, advisor development will be needed to identify and serve this student population. Introduction and appropriate use of new tools such as the simultaneous scheduler will be needed. Demand can quickly outstrip capacity in existing programs serving large numbers of high achievers. A commitment to adequately resourcing programs that support curricular and experiential exchange and offer new approaches to learning outside of the classroom will be needed. Ultimately, the goal is to move away from “one size fits all” advising toward more coherent strategies for advising across the wide range of student ability and interests as they are expressed in dynamic and complex undergraduate student populations.

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