Young Scholars Senior Summer (YSSS) Mentor Program at the University of Connecticut

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Organization Background

UConn Mentor Connection, established in 1996, provides opportunities for academically talented youth to work with accomplished mentors to pursue learning experiences in shared areas of interest. The program was initiated and has been supported throughout our 18-year history and is now supported by a generous grant from the Jack Kent Cooke Foundation.

The three-week residential program is an alternative to academic summer programs where students simply take college courses. Instead of merely sitting in a classroom, Mentor Connection students are involved in cutting-edge research and development activities in the same settings where UConn researchers and practitioners work, and all of the 70–90 rising juniors and seniors who are accepted to the Mentor Connection program are actively involved in opportunities to work in laboratories and research settings on the UConn campus in Storrs. This research-intensive experience engages students in a taste of college life for three weeks. YSSS is based on research evidence demonstrating the importance of mentors in high-end talent development, and, as such, promotes students' pursuit of interests and advanced learning opportunities. Mentor Connection connects motivated adolescents with UConn experts who are enthusiastic about mentoring young people with high potential.

The program has four primary goals. We strive to:

- recruit highly motivated, academically talented teenagers from throughout the nation who can benefit from a stimulating summer program;
- enable students to achieve their highest potential by participating in experiential research projects that provide direct, apprentice-based involvement with faculty members and advanced graduate students who are conducting research;
- increase students' awareness about career opportunities in a chosen field and options to nurture their talents;
- demonstrate that high-level talent potential can be identified and developed across cultural, ethnic, and socioeconomic groups.

These goals intersect with two primary objectives established by the Connecticut State Department of Education's Inter-district Cooperative Grant program, which has provided financial support to Mentor Connection since 1997: to reduce racial, social, and economic isolation, and increase student achievement. Our Mentor Connection program

recruits students from diverse backgrounds and provides financial support necessary for many students from economically disadvantaged backgrounds to attend.

The Renzulli Center for Creativity, Gifted Education, and Talent Development has long advocated a broadened conception of giftedness and focused on the development of potential in groups not ordinarily included in special programs for the gifted and talented. The Enrichment Triad Model (Renzulli, 1977; Renzulli & Reis, 1985, 1997) provides the foundation for the Center's research and outreach, including summer programming. It is the most widely used enrichment model nationally and internationally and has been purposefully designed to support students in developing a creative and investigative mindset. The model focuses on individual student strengths, the *application* of knowledge and thinking skills to students' self-selected interests, and their motivation to pursue these interests at high levels of academic and creative productivity. In a recent 25-year follow-up study with students who had attended a Triad-based school, three Dutch economists found that these students attended more competitive universities and pursued challenging majors, and that the enrichment-based program increased the average starting salary of program participants. "Our most conservative calculations suggest that the labor market benefits of this type of education are far greater than its costs" (Booij, Haan, and Plug, 2016, p. 29).

Renzulli's (1978) theory examines gifted behaviors, rather than gifted individuals. Gifted behaviors reflect an interaction among three basic clusters of human traits—above average ability, high levels of task commitment, and high levels of creativity. Individuals capable of developing gifted behaviors are those possessing or capable of developing this composite set of traits and applying them to any potentially valuable area of human performance. Persons who manifest or are capable of developing an interaction among the three clusters require a wide variety of educational opportunities and services that are not ordinarily provided through regular instructional programs. (Renzulli & Reis, 1997)

At the Renzulli Center, interests, abilities, and motivation are very important aspects of students' talents (Renzulli, 1978; 2012). We also believe that it is essential for students to have opportunities to manifest their talents in high levels of creative productivity. Our work is based on the following additional beliefs:

- Above average ability, creativity, and task commitment can be developed and nurtured.
- Creative productivity results from the interaction of above average ability, creativity, and task commitment.
- All social contexts, including school, the home, and the community, can influence creative productivity. A Research 1 University setting provides an especially promising context for creative productivity, because first-hand inquiry is the core of almost all daily work.
- Creative and productive individuals exist in every ethnic and cultural group and across all socioeconomic levels.

The Renzulli Center is experienced at hosting residential enrichment-based programs for students from low-income backgrounds. For 20 years, the UConn Mentor Connection program engaged talented rising juniors and seniors from across the country in research and creative productivity in their areas of interest during a 3-week residential program on the UConn campus. Through connections with and mentorship from university faculty, high school students have had opportunities to participate on teams conducting cutting-edge research across a wide range of disciplines. As junior practicing professionals, they have summarized their learning experiences through a research symposium at the conclusion of their mentorship experience. Key goals of the program have always been to provide access to high-level learning and to build community among talented students from a wide range of backgrounds. Several Jack Kent Cooke Young Scholars are among the alumni of UConn Mentor Connection.

The Explorations and Investigations summer program (2012–2014) was a 4-week enrichment program for middle grade students enrolled at the Renzulli Academy in Hartford, CT. The students attending the Academy are all high scoring, low income/high poverty students with high potential from across the city. The program was successful in sparking student interests through exposure to new academic opportunities and in decreasing summer setback for attending students.

The Renzulli Center collaborated with Washington DC Public Schools (2014–2015) to establish a summer enrichment cluster program for middle school students in two school locations. Approximately 100 students participated each summer. The enrichment clusters focused on engaging students in challenging topics in which they had a strong interest, and students had opportunities to work in groups with others who shared these interests. They used technology and other resources to carry out original investigations by solving real-world problems in science, math, creative writing, social studies, or the arts while having a hands-on, enjoyable, learning experience.

Program Description

Program Logistics

The Young Scholars Senior Summer (YSSS) program is a 3-week residential program housed at the University of Connecticut. The students will be housed in dormitories, and academic time will be spent in university classrooms, labs, and/or studios. Based on availability of dormitory space at the University of Connecticut, the program will run from July 8, 2018, to August 3, 2018. The YSSS program will be modeled on the UConn Mentor Connection. Students will spend four weeks working as a member of an advanced-level research team in a self-selected mentorship site on the UConn Storrs campus. On the last day of the program, the students will act as practicing professionals and showcase their work to an authentic audience during a culminating event. University community members, Jack Kent Cooke staff, Renzulli Center faculty and staff, parents, and evening activity facilitators will be invited to the event.

The YSSS program will be built on research evidence demonstrating the importance of mentors in high-end talent development, and as such, the program seeks to promote students' pursuit of interests and advanced learning by bringing motivated students together with experts in their fields. These experts are enthusiastic about providing mentorship support to students exhibiting high potential and sharing similar interests in science, mathematics, and engineering.

The program has four main goals:

1. To allow students to grow toward their highest potential by participating in experiential research projects that provide direct, apprentice-based involvement with faculty members and advanced graduate students who are conducting research.
2. To increase students' awareness about their career opportunities in a chosen field and options for nurturing their talents.
3. To demonstrate that high-level talent potential can be found and developed across cultural, ethnic, and socioeconomic groups.
4. To support students in building a strong, intellectually stimulating community of peers as well as relationships with college professors and/or advanced graduate students working in fields the students may be interested in pursuing in the future.

Program Pedagogy

There are three characteristics that exemplify what most students and teachers experience when the best forms of learning take place. These characteristics are Enjoyment, Engagement, and Enthusiasm. Based on these three characteristics Renzulli and colleagues have developed a "brand" of learning that is intended to bring some balance between typical academic requirements and enrichment experiences. We call this brand "investigative learning," and the vehicles designed to deliver this more creative method of teaching are three different types of enrichment that make up the Enrichment Triad Model (Renzulli, 1977). The Enrichment Triad Model was originally designed as a gifted program model to encourage creative productivity on the parts of young people by exposing them to various topics, areas of interest, and fields of study; and to further train them to *apply* advanced content, process-training skills, and methodology training to self-selected areas of interest.

The YSSS program will be based on the Enrichment Triad Model (Renzulli, 1977). Research on the model shows exposure to exciting topics and areas of study leads to the development of passionate interests; these interests, in turn, drive the pursuit of more advanced learning and independent and small group investigations suitable for academically talented students (Delcourt, 1994; Hébert, 1993, Reis, n.d.; Reis et al, 1993).

Three types of enrichment are included in the model. Type I Enrichment consists of general exploratory experiences such as guest speakers, field trips, demonstrations, and interest centers. These experiences include engagement with a wide range of

technology and other resources as they expose students to new and exciting topics, ideas, and fields of knowledge not ordinarily covered in the regular curriculum. Type I enrichment is mainly designed to stimulate new interests.

Type II enrichment includes materials and methods designed to promote the development of thinking and feeling processes. Some Type II enrichment cuts broadly across domains and promotes the development of 21st Century skills and the dispositions that will help students to be successful within any educational or career path. This general Type II training includes the development of (a) creative thinking and problem solving, critical thinking, and affective processes; (b) a wide variety of specific learning how-to-learn skills; (c) skills in the appropriate use of advanced-level reference materials; (d) meta-cognitive technology skills; and (e) written, oral, and visual communication skills. Other Type II enrichment is specific to the domains in which students are interested. It cannot fully be planned in advance, as it usually involves advanced instruction in an interest area selected by the student, but it represents the skills and habits of the particular disciplines students wish to pursue. The expertise of a teaching team well-grounded in their disciplines is critical for effective Type II enrichment.

Type III Enrichment is defined as investigative activities and artistic productions in which the learner assumes the role of a first-hand inquirer who is thinking, feeling, and acting like a practicing professional. The student's involvement is pursued at a level that is as advanced or professional as possible, given the student's age and level of development. The most important feature of the model is the "flow" or connection among the enrichment experiences. Each type of enrichment is viewed as a component part of a holistic process that blends present or newly developed interests (Type I) and advanced level thinking and research skills (Type II) with application situations based on the modus operandi of the first-hand inquirer (Type III).

Mentorships

The YSSS Program is modeled after the UConn Mentor Connection, a residential enrichment program held during the summer on the Storrs campus of the University of Connecticut, serving students entering the last two years of high school. The program will offer learning opportunities in areas not typically covered during the academic year. Instead of a classroom and received-knowledge setting, the YSSS program will involve rising high school seniors from diverse backgrounds in current, relevant research activities in authentic situations in laboratories and other collegiate settings on the campus under the guidance of esteemed university mentors. Accomplished university professors and/or advanced graduate students will host participants in their labs and studios and work with them on projects in shared areas of interest.

The mentors plan for students' four weeks of involvement, emphasizing hands-on research and creative productivity. Mentors provide descriptions of their mentorship "sites" for program materials, from which the Young Scholars will select their top three sites of interest. Program staff will work with the Jack Kent Cooke foundation to match students to mentorship sites based on criteria, including academic records, an interest

assessment survey, teacher recommendations, and student essays. The YSSS program will include sites across a wide array of disciplines, but the majority of the sites will be in STEM areas. Students may be required to read background material to prepare for their sites; while on campus, they will engage in research activities at their sites and conclude their on-campus experience with a presentation to their peers and mentors about their work. Students and mentors will become a community of scholars working together on important issues on the cutting edge of various fields of study. Program evaluations of the program have shown that many students continue to correspond with their mentors beyond the program, and some have chosen to do further work with their mentors as undergraduate and graduate students. Overall, the mentorship experience of the YSSS program will allow rising high school seniors to take on the role of practicing professionals, experience real-world research and/or creative projects, enhance their awareness of their talent areas and career opportunities, and interact with students who share common areas of interest.

Mentorships are frequently recommended as a service delivery approach for high-ability students for both the academic and the social and emotional support such relationships might provide (see review by Callahan & Kyburg, 2005). Research on youth mentoring in general in recent years has reflected an emphasis on talent development, focusing on building strengths, self-efficacy, and competencies in youth rather than remediation (Britner & Kraimer-Rickaby, 2009). This approach aligns with much of the talent development literature, with its focus on systematic development of skills in areas of ability and interest coupled with attention to goal setting and metacognition (e.g., Csikszentmihalyi, Rathunde, & Whalen, 1993; Feldhusen, 2005; Gagné, 2009; Subotnik, Olszewski-Kubilius, & Worrell, 2011). Students who had a mentoring relationship during adolescence have exhibited significantly better outcomes within the domains of education and work, including high school completion, college attendance, and employment (DuBois & Silverthorn, 2005). Mentors of high-ability students may provide a combination of intellectual stimulation and positive role modeling that encourages students to progress beyond the academic options available in their high schools.

Mentors for advanced students may provide a positive influence on students' views of their scholastic careers and occupational options (Clasen & Clasen, 1997; Olszewski-Kubilius, 2003), for all students and particularly for those from disadvantaged backgrounds. Olszewski-Kubilius and Laubscher (1996) noted that many students from low-SES backgrounds have minimal exposure to higher education or role models espousing the ideals of an academic career. Olszewski-Kubilius and Scott (1992) found that many talented students from economically disadvantaged backgrounds did not have aspirations to pursue advanced degrees despite their high aptitude. More recently, Wyner, Bridgeland, and DiIulio (2007) expanded these findings, citing large numbers of students graduating in the top quartile of their high school classes who never complete college. For such students, mentoring experiences with scholarly professionals may provide exposure to the value of scholarship including and beyond a 4-year degree.

These perspectives on mentoring and talent development, coupled with current emphases in and around the country on supporting STEM education, will inform the

YSSS program and guide our decision-making regarding sites to offer and how to provide guidance to mentors as they plan for the summer and welcome the students to campus.

Program Activities

We estimate most of the mentor sites will accept 2–3 students, which will allow both a high level of mentor-student interaction and good opportunities for peer relationships to develop during the course of the program. The students will spend at least 6–7 hours per day at their sites and may complete additional work in the evenings and on the weekends. Mentors often ask students to read background information related to the site in academic journals and other sources prior to and during the program, and students' time at the site would generally a balance of developing background knowledge and engaging in inquiry and experiments around new questions. Participants run trials of ongoing experiments, record data, develop interpretations and questions, and engage in other activities relevant to their particular sites. All students are expected to participate in an end-of-program conference, at which they will give presentations on their work and the expertise they have gained by participating in the program. This culminating event provides a common experience for all students to share with one another and their mentors. At some sites, students are also expected to develop research papers and other products. In a few cases during the UConn Mentor Connection program on which YSSS will be based, students' involvement with their mentors has extended far beyond the site, including becoming co-authors on published papers, submitting their work for awards in competitions, and seeking further opportunities to work with their mentors once in college.

College Experience Programming

The program will also provide the students with a college experience. Because many of the students attending the program will be the first generation in their families to attend college, we will broaden their horizons regarding post-secondary academic possibilities by housing the program on the main UConn campus in Storrs. This will allow the students to have the ability to explore college life and the academic opportunities available to them. We will also schedule tours at other universities and colleges located within Connecticut. Program staff, in conjunction with professional offices at the University of Connecticut, will provide workshops for students on admission to college, career planning, major selection, and college honors programs. We plan to provide these sessions as part of a mini-conference the first week of the program; this allows students to use the general information as a backdrop for ongoing conversations with their mentors and counselors about college and career possibilities. In addition, time will be provided on three Sundays for the team of educational advisors from the Jack Kent Cooke Foundation to provide college counseling programming for the students.

Evening Activities

In addition to the evening activities designed to provide students with a college experience, students will be afforded opportunities to explore their interests further

through exposure to fun, engaging activities designed to inspire an enhanced enthusiasm for learning. The following are examples of the engaging evening activities planned for this program:

- scavenger hunt around campus to familiarize students with campus and facilitate team building within their groups
- exposure to origami, including the introduction of advanced geometry
- exploration of art technique through creative replication of a work of art
- development of creative writing pieces with guidance from local poets and opportunities to showcase work during a poetry slam
- development of team building skills through the completion of team-building activities
- creation of a video yearbook “club” to document the students’ summer program
- exposure to stress management techniques which may include training in the emotional freedom technique and/or yoga

The counselors will also facilitate several different recreational activities, including sports, games, and arts and crafts. These activities are intended to support both relaxation and positive, meaningful relationships among the students. In addition to the activities mentioned above, other planned activities embed opportunities for students to build awareness and reflect on diversity in the program context and their larger experience. For many students, the program represents a first time away from home for an extended period; it also will engage students with a much more diverse group of people than they may encounter in their regular school environments. Therefore, counselors will directly and indirectly encourage conversations about and reflections upon the different backgrounds people bring and the experience of interacting with a diverse group. Students will be provided with a chance to interact with diverse faculty from around the campus who share aspects of their expertise. These opportunities will enhance student learning and also communicate diverse individuals as role models.

Finally, students will engage in journal-writing several times during the program. The goal of the journal-writing is to allow students time to reflect on their learning experience as well as the opportunity to reflect upon the friendships they are building, the contexts in which they are working, and how the program is different from their regular learning experiences. Student journals will also be used as part of our program evaluation.

This program will address all of the critical actions listed in the Jack Kent Cooke request for proposals in in deliberate ways. As part of their experience, students will

- deliberately pursue knowledge and build skills through the mentor sites;
- get involved in and pursue activities that matter to them and their communities by picking mentor sites based on their own investigative interest;

- develop expertise in one or two things and share that expertise with others during the collaborative mentor site experience, but also as practicing professionals during the culminating event;
- make meaningful connections with people including their YSSS peers, mentors and their advanced graduate students (where applicable), counselors, and speakers and presenters; and
- "think big" about who they want to be and act in service of their aspirations through their investigative work in the mentor sites, specifically in their acquisition of the Type II skills.

Key Personnel

Dr. Joseph S. Renzulli is a long-time faculty member of the Department of Educational Psychology at the University of Connecticut and was selected by the university as one of its Distinguished Professors. He is director of the Renzulli Center for Creativity, Gifted Education, and Talent Development. Dr. Renzulli founded the gifted and talented program at the University of Connecticut and is recognized nationally and internationally for his work in the field. Dr. Renzulli will oversee the development of the YSSS program at the University of Connecticut as well as the overall administration of the grant. He will use his extensive knowledge of the field and his connections to ensure the highest quality of personnel.

Lisa M. Muller, MA, has worked within the field of gifted education with Dr. Renzulli for the past 17 years. She has extensive knowledge of his work and its successful application. Lisa designed and oversaw the Explorations and Investigations summer enrichment program as well as an enrichment summer program in Washington, DC. She will be the program director for this project and will be responsible for the development of the program, planning, coordination, and implementation, and all program activities including procuring supplies and materials, hiring staff, and preparing all fiscal documents and reports.

We will recruit individuals that have worked with the Renzulli Center in the past for the head counselor and evening counselor positions. We will focus on hiring individuals familiar with adolescent development through work as school teachers (preferably at the secondary level) and counselors. The mentors will be leaders in their fields across a wide array of content areas. Previous mentor sites were centered in the University of Connecticut's School of Engineering, School of Pharmacy, and many departments in the College of Liberal Arts and Sciences, including Mathematics, Molecular and Cell Biology, Chemistry, Nutritional Science, Physics, Physiology and Neurobiology, and Psychology. We will use our previous contacts when establishing the mentor sites for the YSSS program.

Sample Daily Schedule

Time	Activity	Description
8:00-9:00	Breakfast	Meal time will provide an opportunity for students and counselors to engage in informal interaction about their mentor sites or about nonacademic topics.
9:00-4:00	Mentorship	The students work at their mentor sites. (One hour lunch break provided)
1:00-2:00	Project Staff and Counselors Meeting	All program staff meet daily to assess student comfort level with the work involved in the program and the social aspects of it, and to ensure that any areas of need or concern are addressed in a timely manner.
4:00-5:00	Counselor Meeting with Assigned Student Groups	Counselors meet daily with students and maintain contact with mentors to gather information about any concerns or questions regarding academic progress of students, interpersonal interactions between students and mentors, and students' overall comfort level in the program.
5:00-6:00	Dinner and Free Time	Meal time provides students and counselors a context for informal interaction about their sites or about nonacademic topics. After eating, students will be allowed free time to exercise, play, or socialize.
6:00-9:00	Evening Activities	Students will be able to choose between at least 2–3 evening activities based on their own interests.
9:00-10:00	Student Personal Time	Time for students to work on any homework, call home, or socialize.
10:00	In-Room Curfew	All students will be in their rooms for the evening.

Sample Week One Schedule

<table>
<tr><th>Sunday</th><th>Monday</th><th>Tuesday</th><th>Wednesday</th><th>Thursday</th><th>Friday</th><th>Saturday</th></tr>
<tr><td>Breakfast</td><td>Breakfast</td><td>Breakfast</td><td>Breakfast</td><td>Breakfast</td><td>Breakfast</td><td>Breakfast</td></tr>
<tr><td>Group Meeting- Introduction to Program and Schedule</td><td>Mentor Sites (mandatory lab and animal training for specific STEM sites)</td><td>Mentor Sites (mandatory lab and animal training for specific STEM sites)</td><td>Mentor Sites</td><td>Mentor Sites</td><td>Mentor Sites</td><td>College Campus Tour</td></tr>
<tr><td>Ice Breaking Activities</td><td>Lunch</td><td>Lunch</td><td>Lunch</td><td>Lunch</td><td>Lunch</td><td rowspan="3">Field Trip: AAA Sporting Event</td></tr>
<tr><td>Lunch & Free Time</td><td>Mentor Sites (mandatory lab and animal training for specific STEM sites)</td><td>Mentor Sites (mandatory lab and animal training for specific STEM sites)</td><td>Mentor Sites</td><td>Mentor Sites</td><td>Mentor Sites</td></tr>
<tr><td rowspan="2">Campus Scavenger Hunt</td><td>Counselor/ Students Meeting</td><td>Counselor/ Student Meeting</td><td>Counselor/ Student Meeting</td><td>Counselor/ Student Meeting</td><td>Counselor/ Student Meeting</td></tr>
<tr><td>Dinner</td><td>Dinner</td><td>Dinner</td><td>Dinner</td><td>Dinner</td><td rowspan="2">Dinner</td></tr>
<tr><td rowspan="2">Dinner</td><td>Evening Activities</td><td>Evening Activities</td><td rowspan="4">College Mini-Conference
Admissions
Financial Aid
Honors Program
First Year Experience/ Peer Discussions
Culture Center Presentations/ Diversity Activities</td><td>Evening Activities</td><td>Evening Activities</td></tr>
<tr><td>Creative Writing- Poetry</td><td rowspan="2">Sports/Art Activities</td><td rowspan="2">Sports/Art Activities</td><td rowspan="3">Poetry Slam and Talent Show</td></tr>
<tr><td rowspan="2">Debrief After Activity</td><td>Sports/Art Activities</td><td rowspan="2">Debrief after Field Trip/Group Games</td></tr>
<tr><td>Video Yearbook</td><td>BACON Bingo/Games</td><td>Video Yearbook</td></tr>
<tr><td>Student Personal Time/Reflection</td><td>Student Personal Time/Reflection</td><td>Student Personal Time/Reflection</td><td>Student Personal Time/Reflection</td><td>Student Personal Time/Reflection</td><td>Student Personal Time/Reflection</td><td>Student Personal Time/Reflection</td></tr>
<tr><td>In-Room Curfew</td><td>In-Room Curfew</td><td>In-Room Curfew</td><td>In-Room Curfew</td><td>In-Room Curfew</td><td>In-Room Curfew</td><td>In-Room Curfew</td></tr>
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Sample Lesson Plans

Because YSSS differs pedagogically from traditional college preparatory courses, in a certain sense, we build the "curriculum" around the individual and small group projects in which students will be engaged. This kind of personalized learning does not follow the usual lesson planning used in prescriptive curriculum. Rather, it follows the *modus operandi* of the practicing professional and includes such investigative techniques as problem finding and focusing, the development of hypotheses or research questions, identifying just-in-time information and resources, and applying knowledge and thinking skills to a product, performance, research paper, or other forms of investigative product communication vehicles. This approach is essentially how our inductive and investigative learning model differs from other standards driven instruction and makes the YSSS experience unique to students who have seldom participated in this different "brand" of learning.

Students may be required to complete prep work provided by the mentors prior to their arrival at the YSSS program. Mentorship time is spent acquiring additional background knowledge in addition to participating in the mentor's research projects. While we have not as yet established mentor sites for this proposed program, the following are examples of sites from a previous Mentor Connection year.

- Getting to Know Your Beneficial Bacteria! **Mentors:** Dr. Joerg Graf, Associate Professor, Molecular & Cell Biology, Mike Nelson, Ph.D., Emily McClure, M.S., and Jaquelynn Benjamino, B.S. Please note: Background experience or coursework in biology is recommended for participation in this site.

  So you think that you are really a human. Actually, every one of us carries ten times as many bacterial cells than human cells. Who are these bacteria and what do they do? This is what the human microbiome project is about. Many people think that bacteria only cause diseases or spoil food, but most bacteria do not cause harm, and many even provide us with a benefit. These bacteria we call symbionts. We know very little about these symbiotic bacteria. In this project, program participants will identify these bacteria from the mouth and armpit of fellow students. DNA will be isolated and the 16S rRNA gene amplified using PCR. The DNA will be sequenced using Next-Generation Sequencing and analyzed. In the end, the students will describe the microbiome of the human mouth and armpit. This project is designed for participants interested in biology to get some hands-on experience in a molecular biology lab and learn more about how symbiotic microorganisms interact with humans.

- "Do You Remember When We Used to...?"—Memory Formation & the Brain **Mentors:** Dr. Etan Markus, Professor, Psychology (Behavioral Neuroscience) and senior students in the lab. Please note: Participation in this site requires handling of live laboratory animals. Instruction in proper handling techniques will be provided.

We go through life experiencing many different things: happy and sad events, people, places, food, and smells, just to name a few. Days or even years later, we can bring these experiences back to life as memories. In our laboratory we study how experiences are preserved in the brain. We focus on a brain structure (the hippocampus) that, when damaged, prevents the formation of new memories and disrupts navigation. If you select this mentorship site, you will join a team of UConn doctoral and undergraduate students researching how the hippocampus is involved in changing brain circuitry. You will learn to train rats on mazes. Participants will also be encouraged to ask questions and sit in on any ongoing research, regardless of the specific mentorship project they will be working on. We are currently conducting experiments examining the activity of hippocampal neurons during behavior; why old rats show memory deficits; and the process in which the hippocampus works together with or competes with other parts of the brain. This is an ideal experience for those interested in careers in medicine, biology, or psychology.

Every student will participate in a conference on the last day of the program. They will be required to give presentations on the work they accomplished during the 4 weeks at their mentor sites. This experience presents an opportunity for the students to be "practicing professionals" and present their work to an authentic audience. It will allow them to practice their self-direction learning skills in planning, organization, resource utilization, time management, decision making, and self-evaluation.

Timeline

The following is a proposed timeline for program development and implementation.

- **October-January:** Recruitment of mentors. Collecting mentor site descriptions to develop YSSS program booklet.
- **March-June:** Recruitment and hiring of head counselor and counselors. Clarification of jobs descriptions to ensure roles and responsibilities for everyone. Creation of YSSS website and communication blog for the staff and students. Finalization of dormitories and site locations. Scheduling of all college experience trips, activities, and presentations that will occur. Planning and scheduling of evening program activities such as workshops and icebreakers, with attention to program goals and review of literature on culturally responsive teaching and on responding to the needs of high-potential and high-performing students. Working with Jack Kent Cooke Foundation staff and the Young Scholars to facilitate site preferences and selection.
- **June:** The head counselor and Renzulli Center staff will provide training on working with high-potential/low income students from diverse backgrounds to the counselors and mentors. All field trips will be scheduled. The counselors and program staff will plan and schedule evening program activities such as workshops and icebreakers including a review of program goals and literature on culturally responsive teaching, and on responding to the needs of high-potential and high-performing students.

- **July/August:** Four-week YSSS program will be housed at the University of Connecticut. On the last day of the program there will be a culminating event at which the students can present their work to peers, parents, mentors, Jack Kent Cooke Foundation staff, evening activity facilitators, and the UConn community.
- **July/August:** End of the program evaluations from the students, parents, mentors, and counselors will be collected and analyzed. A final review of student journals will be completed. The digital yearbook and any other program materials will be disseminated to students, Jack Kent Cooke Foundation staff, counselors, and mentors. Completion of evaluation reports for the Jack Kent Cooke Foundation. Follow-up with Jack Kent Cooke Foundation staff regarding future summer programming. Finalization of all fiscal payments and UConn reports.

Evidence

Separate studies on the Triad Model have demonstrated its effectiveness in schools with widely differing socioeconomic levels and program organization patterns (Olenchak, 1988; Olenchak & Renzulli, 1989). The model has been implemented in school districts worldwide, and extensive evaluations and research studies have indicated the effectiveness of the model which VanTassel-Baska and Brown (2007) called one of the mega-models in the field. The research on the triad-based program suggests that the model is effective at serving high-ability students in a variety of educational settings and in schools serving diverse ethnic and socioeconomic populations (Baum, 1988; Baum, Renzulli, & Hébert, 1995; Emerick, 1992; Taylor; 1992).

In an examination of students who participated in an Enrichment Triad program for almost a decade, Hébert (1993) found several benefits of program involvement. Nine senior high school students from the program underwent extensive interviews concerning their educational experiences ten years after their involvement in the program. The students selected for the study were chosen because of the number and quality of the Type III products they completed during their elementary TAG Program experience. The interviews with the students about their Type III experiences were transcribed and analyzed for themes. Four major findings from the study provided insightful information for educators responsible for implementing programs for high ability students. The findings were (a) Type III interests of students affect post-secondary plans; (b) creative outlets are needed in high school; (c) a decrease in creative Type III productivity occurs during the junior high experience; and (d) the Type III process serves as important training for later productivity.

UConn Mentor Connection was successful over two decades in providing an enrichment-focused learning experience to high-potential/low income students on a college campus. Through the years, more than 1300 attended the program. Of those students, at least 550 past participants have attended approximately 160 different universities. In addition, graduate school attendance has been documented for

approximately 139 past participants at about 86 different graduate institutions. The information on college attendance demonstrates high-level talent potential can be found and developed through enrichment practices across cultural, ethnic, and socioeconomic groups. In addition, there is a strong propensity among former Mentor Connection students to continue pursuing STEM areas beyond their Mentor Connection experience and to continue working with their mentors in many cases.

Additional Resources

Housing the YSSS program at the University of Connecticut will allow the program to have access to the amazing resources the university has to offer, including access to world-renowned faculty. The faculty and staff at the Renzulli Center for Creativity, Gifted Education, and Talent Development have developed strong ties with community organizations such as The Bushnell Center for Performing Arts and Talcott Mountain Science Center. Through these connections, staff, counselors, and mentors will have additional access to all of the resources including equipment at these locations in addition to the professionals associated with those programs.

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