KEEPING TRACK OF NOYCE SCHOLARS AND THEIR DATA

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HOUSTON, TEXAS
Track 1: Recruiting and Preparing UHD Mathematics Majors for Houston-Area Classrooms: The UHD Noyce Mathematics Teacher Scholarship Program

Track 2: ESPRIT de Corps: Expanding STEM Professionals Roles in Teaching

Track 4: Collaborative Research: Understanding Robert Noyce Teacher Scholarship Outcomes in Texas
UNIVERSITY OF HOUSTON-DOWNTOWN (UHD)

- In the middle of downtown Houston
- Total: 14,265 students:
  - Full-time students: 44%
  - Part-time students: 56%
<table>
<thead>
<tr>
<th>Student Age</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>14-21</td>
<td>24%</td>
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<tr>
<td>22-24</td>
<td>22%</td>
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<tr>
<td>25-30</td>
<td>27%</td>
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<tr>
<td>31-35</td>
<td>11%</td>
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<tr>
<td>36-50</td>
<td>14%</td>
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<tr>
<td>Over 50</td>
<td>2%</td>
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American Indian: 1%
Asian or Pacific Islander: 10%
Black: 21%
Hispanic: 50%

International: 2%
White: 15%
Unknown: 1%
UHD NOYCE MATHEMATICS TEACHER PROGRAM

- Track 1
- $12,000 per year for two years
- Specialized secondary content courses
- Personalized advising
- Opportunities to attend conferences
- Community!

- 33 recipients as of summer 2019 (yay!)
- 19 are full-time teachers
- First cohort is entering year 4 of teaching
- Percentage of declared secondary mathematics preservice teachers grew from <1% to 33% of MS students
DEMOGRAPHICS

Hispanic: 46%
African American: 18%
Asian: 18%
White: 18%
NOYCE ESPRIT DE CORPS

- Track 2
- $12,000/ year
- $10,000 stipend for first 3 years in classroom
- MAT
- Secondary Teacher Cert
- Dual-Credit Certificate
UHD NOYCE ESPRIT STUDENTS

- 4 current students
- Accepting 2/year
- 75% are UHD Alumni
PROJECT DATA COLLECTION AND ANALYSIS
**RESEARCH FOCUS/QUESTIONS**

**Track 1 Project**

1. What is the impact of the program on scholars during the program and their induction years?
2. What is the impact on interdisciplinary collaboration between faculty involved in the program?
3. Ongoing monitoring of scholars’ progression towards completing the program.

**Track 2 Project**

1. What is the impact of participation on scholars during the program and their induction years?
2. What impact does the online learning community have on Fellows during their induction years?
3. Ongoing monitoring of scholars’ progression towards completing the program.
DATA SOURCES

Faculty:

- Interviews
  - Semi-structured
  - Annually
  - Conducted by evaluators and Track 4 lead university personnel
- Written narrative data
  - Each faculty member wrote narratives on role in program, experiences collaborating with other Noyce faculty, and interaction with Noyce scholars/fellows
DATA SOURCES

Scholars/Fellows

- Surveys
  - Annually
  - Exit Interview
  - Sent out by Noyce faculty

- Interviews
  - Individual and focus group
  - Semi-structured
  - Noyce faculty, evaluators and Track 4 lead university personnel

- Observations
  - Classroom observations during student-teaching and induction years
  - Noyce faculty
All interviews conducted by Noyce faculty were recorded. Data was transcribed using transcription software, stored in Dropbox and made available to all Noyce faculty.

Surveys were created by Noyce faculty and responses stored in Qualtrics with all Noyce faculty having access.

Data collected by evaluators and lead university for Track 4 project were available to faculty.

Faculty met regularly to discuss potential approaches to addressing research questions with different faculty members taking the lead on a particular question.
DATA ANALYSIS AND FINDINGS

Research Question: What is the impact on interdisciplinary collaboration between faculty involved in the program?

Using Wenger’s (1998) work on communities of practice as a framework and narrative inquiry as the method, we looked at how through the Noyce program the participating faculty created a community of practice around integrating inquiry-based teaching strategies in secondary preservice mathematics courses.

DATA ANALYSIS AND FINDINGS

Research Question: What is the impact on interdisciplinary collaboration between faculty involved in the program?

Using Noddings’ (2005) Care Theory as the framework and narrative as the qualitative research methodology, we looked at the role that care played in the approach of faculty in recruiting, teaching and supporting Noyce scholars during their induction years.

TRACKING AND MONITORING SCHOLARSHIPS AND FELLOWSHIP RECIPIENTS
In the Project Description, the proposal must address:

- IX. Plans to monitor and enforce compliance with the teaching service commitment. These plans must include mechanisms for tracking the recipients during the period in which they are fulfilling their teaching service commitment and a plan for collecting demographic data and statistics on recipients.
- **Track 1**: An individual awarded a scholarship is expected to serve as a STEM teacher in a high-need local educational agency for two years, for each full-year of a scholarship received, to be fulfilled within eight years after completing the program. An individual awarded a stipend is expected to serve as a STEM teacher in a high-need local educational agency for two years, to be fulfilled within four years after completing the program.

- **Track 2 and 3**: An individual awarded an NSF Teaching Fellowship is expected to: 1. serve as a STEM teacher in a high-need local educational agency for four years, to be fulfilled within six years of completing the master's degree program; and 2. take on a leadership role within the school or high-need local educational agency in which the individual is employed, while fulfilling the teaching service commitment above and in addition to regular classroom activities. Examples of leadership activities include serving as a mentor, participating in curriculum development, assisting in the planning and implementation of professional development experiences, and participating in preservice teacher education.
RECIPIENTS MUST:

provide the institution with annual certification of employment and up-to-date contact information as well as to participate in activities (e.g., surveys) conducted as part of institution project-level and NSF program-level evaluation.
RECIPIENT WILL BE REQUIRED TO REPAY ALL OR A PORTION OF THE SCHOLARSHIP/STIPEND/FELLOWSHIP, IF THE RECIPIENT:

- 1. fails to maintain an acceptable level of academic standing in the program in which the individual is enrolled;
- 2. is dismissed from the program or institution for disciplinary reasons;
- 3. withdraws from the program before the completion of such program;
- 4. declares that the individual does not intend to fulfill the teaching service commitment; or
- 5. fails to fulfill the teaching service commitment
THE INSTITUTION’S RESPONSIBILITIES:

1. ensure that scholarship/stipend/fellowship recipients accept the terms of the scholarship/stipend/fellowship and that the recipients provide annual certification of employment and current contact information;

2. supply relevant statistical and demographic data on recipients as requested, including information on employment required under the track; and

3. monitor (including tracking) and report on the compliance of scholarship/stipend/fellowship recipients with their teaching service commitments.
a) Will be responsible for determining the repayment amounts and for notifying the recipient and providing documentation in project reports; and

b) collect such repayment amount, including interest, as determined by the repayment policy developed by the institution and agreed upon by the recipient.

c) is responsible for reporting the aforementioned information annually to the National Science Foundation directly and/or to a designated third party. In some cases, the grantee responsibility to report may extend for up to 12 years following the end date of the award and submission of the final project report.
The institution is expected to establish procedures that ensure compliance with the teaching service requirement, with allowances for extreme hardship or other circumstances for which it is not in the best interests of the school district or not feasible for the scholarship, stipend, or fellowship recipient to fulfill the teaching service commitment.

The institution may establish procedures for waiving or suspending repayment of scholarships/stipends/fellowships in cases of extreme hardship or other circumstances that would preclude the fulfillment of the teaching service commitment.
DATA GATHERING AND MANAGEMENT

- Find out how to obtain institutional data that you will need (for both the proposal and then for reporting purposes)
- Find out how to obtain student data (e.g. demographics, citizenship, grades, certification, enrollment.....)
- Complete IRB process for the institution and the LEA partner
See what processes or mechanisms are already in place for similar scholarship programs that require repayment for violation of terms

Talk with the appropriate departments and personnel to discuss a potential process

Have an institution-approved process before the project begins
MAKE SERVICE REQUIREMENTS CLEAR FROM THE BEGINNING

Be A Math Teacher!
UHD-Noyce Mathematics Teacher Scholarship Program

The Departments of Computer and Mathematical Sciences and Urban Education at the University of Houston Downtown have $12,000/year scholarships (maximum two years) available for students interested in majoring in mathematics while earning secondary mathematics teacher certification. Requirements include:

- UHD junior or senior students
- Earning a BA or BS in Mathematics, Statistics, or Computer Science from UHD
- Earning a Secondary Mathematics Teacher Certification from UHD
- U.S. citizen or national, or permanent resident alien
- Agree to teach in a high-needs school district for two years for each year of scholarship funding

For more information please contact Dr. Judith Quander at quanderr@uhd.edu
Welcome to the UHD Noyce Esprit Fellowship Program! Your participation in our program will provide you with not only financial support but also the support of a community comprised of UHD faculty, mentor teachers in the surrounding school districts, and other scholarship recipients. We hope that you will find this experience rewarding and exciting!

Acceptance of this scholarship means that you agree to the following conditions:

1. (Initial Here) You will complete a MAT with Secondary Teacher Certification in Mathematics at the University of Houston-Downtown.
2. (Initial Here) You satisfy the citizenship requirements for the scholarship (US Citizen or National, or Permanent Resident Alien).
3. (Initial Here) You will complete all requirements needed to earn Secondary Mathematics Teacher certification.
4. (Initial Here) For the duration of the program, you will maintain a 3.0 GPA.
5. (Initial Here) You will register as full-time for each semester that you take Noyce funding. If you drop to part-time, you are to notify Dr. Quander immediately.
6. (Initial Here) For each year of scholarship funding, you will teach for two years in a high need local educational agency” as defined in section 201 of the Higher Education Act of 1965 (20 U.S.C. 1021). This means a local educational agency (school district) that serves an elementary or secondary school located in an area which is characterized by at least one of the following:
   a. a high percentage of individuals from families with incomes below the poverty line;
   b. a high percentage of secondary school teachers not teaching in the content area in which they were trained to teach; or
   c. a high teacher turnover rate.
7. (Initial Here) You have eight years after graduation to fulfill the service requirement. If the service obligation is not fulfilled, you will be required to repay UHD the portion of the scholarship that you used but did not fulfill the service obligation.

My signature certifies that I have read, understand and agree to the terms and conditions of this scholarship agreement.

Scholarship Recipient’s Signature ___________________________ Date ___________________________

Name of Scholarship Recipient ____________________________
CREATE CONTRACTS THAT:

- Spell out service requirements
- Detail reporting requirements
- Gather as much contact information as you can get: 2 phone numbers, permanent address, 2 email addresses, EMERGENCY CONTACT, etc.
- Describe the institution-approved payback process
- Include participant consent forms
OTHER WAYS TO COMMUNICATE THE REQUIREMENTS

- Reiterate as often as you can.
- Make students understand this is a legal contract.
- Stress the fact that this is federal money.
- Talk about the difficulty of starting off with $24,000 in debt.
- Make clear that if for some reason something changes, to contact you immediately. Earlier is always better!
- Building a strong community is the best way to ensure that violations are not an issue.
BUILD COMMUNITY THROUGHOUT THE PROGRAM

- Check-in with scholars regularly via email or zoom
- Semester meetings with current and former scholars
BUILD COMMUNITY THROUGHOUT THE PROGRAM

- Have them check on each other
- Use social media to keep connected
- Use other digital group networks such as WhatsApp or Group Me
BUILD COMMUNITY THROUGHOUT THE PROGRAM

- Visit graduates in their classrooms
REPORTING SCHOLAR DATA

- NSF Noyce Online Annual Survey – report data about scholars including
  - Demographic data
  - GPA
  - Progress in the program
  - Graduation or expected graduation date
  - Progress towards teaching requirement (including school and IEA).
- Annual Report to NSF
SOME POTENTIAL PROBLEMS (FROM EXPERIENCE)

- Scenario 1: Scholar completes program but does not pass certification exam on first try. He starts teaching at a charter school in a high-needs IEA without completing certification exam.
- Scenario 2: Scholar stops responding to emails post-graduation.
- Scenario 3: Scholar teaches for 1 year takes a year off for maternity leave.
- Scenario 4: Scholar decides to take a “gap year” to figure out what he “really” wants to do.