

# DIVERSE MENTORSHIP: AN EVOLUTION OF THE UNDERGRADUATE RESEARCH EXPERIENCE

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## ABSTRACT

Within the last five academic years (2008-2013), undergraduate research (UR) programs at McNeese State University evolved from a single small science event with a few undergraduate students selected from the College of Science presenting their research to today's current campus and University of Louisiana System-wide events. The current "McNeese State University Alumni Association Undergraduate Scholar and Research Symposium" engages all disciplines and all six colleges on campus – Business, Education, Engineering, Liberal Arts, Nursing, and Science. This event has been sponsored by the McNeese Alumni Association since its inception and continues to grow due to the overwhelming support by university administrators, alumni, students who continue to see the significance of engaging in their selected discipline, and, most importantly, devoted faculty members who realize that UR programs in and out of the classroom can be both academically and professionally rewarding. McNeese State University is primarily a teaching institution whose mission is successful education of undergraduate students with services to the employers and communities in its region. However, incorporating UR in diverse disciplines has led to partnerships and successes unimaginable five years ago. By participating in the UR program, students have found discipline-related employment, built their portfolios for application to professional schools (e.g., graduate, medical and veterinary schools), enhanced their professional communication skills and self-confidence, and ultimately have become more engaged with their selected disciplines. These successes, along with incorporating active year-long faculty mentoring strategies to encourage and educate faculty members in the principles and practices of mentorship, led to faculty members from diverse disciplines engaging in UR mentorship. This project will present lessons-learned in building a cadre of diverse mentors and other considerations to promote UR mentoring and UR student engagement at a predominantly teaching institution. Future strategies for growth include a performing and visual arts component, research experience transcript designations, and UR work-study opportunities.

## PROGRAM DEVELOPMENT

### Pre-Academic Year 2008-2009

- Monetary support to get the program started sponsored by the McNeese Alumni Association. Over time (2008-2014), funding has been redistributed to directly support student and mentor research, presentation, and travel expenses.

### Academic Year 2008-2009

- Undergraduate Scholar Program committee established
- Undergraduate Scholar program coincided with the university's Quality Enhancement Program (QEP) initiative (a.k.a. "Quality Day/Week")
- A faculty mentor from each academic department was selected to work with a student or students on a scholarly project. A written component describing the project, findings, and objective was required
- Developed program structure that included participation requirements, judging rubrics for poster and writing competitions, judge selection, and an awards ceremony
- Tri-fold posters were presented on tabletops along with any support material and demonstration equipment
- Research report required for each Undergraduate Scholars' project
- Panel of alumni and faculty selected to judge poster competition
- Funds awarded to students per project (\$1,000)
- Deans, faculty, parents and limited guests were invited to the awards ceremony that included undergraduate scholars, College of Science researchers and Quality Day participants

### Academic Year 2009-2010

- Same as Academic Year 2008-2009 with the following changes:
- Participation in the program was approached in one of two ways: (1) interested students who sought out faculty supervision for their projects or (2) faculty members who involved undergraduate students in their scholarly activities
  - Funds awarded to students per project (\$750)
  - Projects deemed "Best in Section" received an additional \$750
  - Sections included: Business, Education, Engineering, Liberal Arts, Nursing/General and Basic Studies, and Science
  - Panel of community stakeholders selected to judge poster competition
  - The McNeese Alumni Association provided up to \$150 to defray project costs



### Academic Year 2010-2011

- Same as Academic Year 2009-2010 with the following changes:
- To encourage development of skills in innovation and entrepreneurship, an entrepreneur track was established to grow future business development opportunities. Local business leaders were asked to evaluate the student projects
  - Broke away from "Quality Day/Week" to form stand-alone program
  - Last year of writing component
  - Additional funds awarded to students whose projects were chosen as "Second Place" in those sections which had four or more competing departments (\$450)
  - Additional funds awarded to faculty mentors of the "Best in Section" projects (\$330)
  - Additional funds awarded to faculty mentors of second place projects (\$230)
  - Developed quality control measures for poster presentations in the local program
  - McNeese Provost envisioned and initiated the first statewide University of Louisiana System's (ULS) Undergraduate Research Day conference celebrating undergraduate research and scholarship
  - Established review and oral presentation practice sessions for students selected to represent McNeese at the ULS Undergraduate Research Day
  - First statewide conference of the ULS Undergraduate Research Day which included an undergraduate student art exhibition
  - McNeese Undergraduate Scholars Program became the mechanism to select student scholars to represent the university at the ULS Undergraduate Research Day statewide conference

### Academic Year 2011-2012

- Same as Academic Year 2010-2011 with the following changes:
- Incorporated parameters on number of projects per faculty mentor
  - Created and published the first issue of the Undergraduate Scholar Program Proceedings
  - First statewide conference of the University of Louisiana System's Academic Summit which included undergraduate research presentations, an undergraduate student art exhibition and service learning hosted at McNeese State University
  - Due to the interdisciplinary structure of the statewide conference, the judging composition was streamlined to three program coordinators: the Undergraduate Scholar Program co-chairs and the Alumni Association Director
  - Funds awarded to students per project (\$100)
  - Additional award to projects selected for oral presentations at the ULS Academic Summit (\$500)
  - Funds awarded to faculty mentors of projects selected for oral presentations at the ULS Academic Summit (\$250)
  - Funds awarded to projects selected for poster presentations at the ULS Academic Summit (\$250)
  - Funds awarded to faculty mentors of projects selected for poster presentations at the ULS Academic Summit (\$125)

### Academic Year 2012-2013

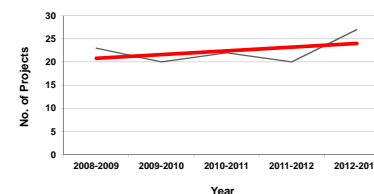
- Same as Academic Year 2011-2012 with the following changes:
- Changed the name of the program to Undergraduate Scholar and Research Symposium (USRS) to engage more students from all disciplines
  - Incorporated an open poster display track for those not participating in the ULS Academic Summit selection process
  - Moved away from tabletop poster presentations to easels which eliminated support material and demonstration devices and equipment
  - Included a retired McNeese faculty member as a judge
  - Funds awarded to all projects (maximum: 10 projects) selected for presentation at the ULS Academic Summit (\$300)
  - Funds awarded to faculty mentors of projects selected for presentation at the ULS Academic Summit (\$150)

### Academic Year 2013-2014

- Same as Academic Year 2012-2013 with the following changes:
- Undergraduate student art exhibit and music performance
  - Public viewing of the USRS posters and student artwork competing for the ULS Academic Summit
  - Reception will be held in the fine arts gallery
  - Performing arts competition: attendees will be able to vote on their favorite performing artist

Number of Projects per Academic Year (2008-2013)

College / Year	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	TOTAL
Business	2	2	2	0	1	7
Nursing	1	1	1	1	0	4
Science	6	6	7	8	17	44
Basic Studies	1	1	0	0	0	2
Liberal Arts	6	5	5	5	5	26
Education	5	3	4	2	0	14
Engineering	2	2	3	4	4	15
TOTAL	23	20	22	20	27	112



## MENTOR SUPPORT

- Established Faculty Mentor Forum to acknowledge the dedication of faculty mentors and to answer questions regarding the undergraduate scholar/research program
- Developed educational materials for new faculty mentors
- Developed guidance for faculty mentors who were unfamiliar with presenting posters
- Held Faculty Mentor Appreciation Luncheons with the President and Provost in attendance that included a faculty mentor forum to acknowledge the dedication of faculty mentors and to answer questions regarding the Undergraduate Scholar and Research Symposium (USRS)
- Increased recognition and support for participating faculty mentors through news articles and other outreach initiatives
- Provided tri-fold poster boards each year to USRS participants
- Purchased and provided easels for poster display
- Paid poster printing expenses for the projects selected to present at the statewide University of Louisiana System Academic Summit
- Held Faculty Retreat Workshops on Undergraduate Research and Mentorship
- Provided certificates to all mentors for faculty recognition
- Encouraged recognition of mentorship in faculty Annual Performance Reviews
- Created a venue for mentors to see and critique their students' presentations in preparation for the statewide conference

## CONCLUSIONS AND FUTURE DIRECTIONS

### Conclusions

- Initially, the program had projects from students in the College of Science to next including projects from students in the College of Engineering to requested participation from each academic department across campus. The program is now open to all students and faculty mentors from across the campus who are invited to submit a notice of intent
- 14 out of 19 student respondents reported that USRS helped them prepare for graduate school
- 17 out of 19 student respondents reported increased oral communication skills and confidence
- Enhanced learning through mentoring relationships
- USRS promotes synergistic relationships between faculty mentors and undergraduate students, and increases retention
- Abstracts from projects are included in a *Proceedings of the (YEAR) Undergraduate Scholar and Research Symposium*

### Future Directions

- Investigate funding support for publication costs and professional conference presentations by USRS participants
- Expand the USRS program to identify and match financial aid-supported students in current work study programs with faculty mentors in different academic departments to conduct research and scholarly activity
- Investigate the development of a process for a Research Fellow designation on transcripts for undergraduate students successfully completing an undergraduate research experience meeting specified criteria
- Encourage partnerships between professional communities, stakeholders, the university, and undergraduate researchers through sponsorship, special events, and community engagement
- Explore links between the McNeese Internship Program and undergraduate research