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## Quality Enhancement Plan Impact Report

### I. Initial Goals and Intended Outcomes of the QEP

Valdosta State University (VSU) identified *Undergraduate Engagement in Discipline-Based Inquiry* as its Quality Enhancement Plan (QEP), which provides students with focused opportunities for engaging with faculty in research, creative, and scholarly activities appropriate to their discipline. Faculty, staff, students, and university administrators all played key roles in the selection of the QEP topic. In 2008 a campus-wide solicitation of QEP topics resulted in a total of 28 potential topics for consideration, and four “mini-prospectuses” were developed on the most promising topics. VSU’s QEP topic was selected in 2009 based upon information collected from institutional assessments, an analysis of results from national surveys conducted at VSU, and a review of the literature on undergraduate research. Discipline-based inquiry was selected as our QEP topic because of the powerful impact undergraduate research has on the key outcomes of graduation and retention rates. Planning occurred in 2010, with implementation from 2011 to the present. The QEP articulated three overarching goals:

1. Students will develop basic knowledge of discipline-based inquiry skills.
2. Students will apply discipline-specific inquiry skills from the classroom to resolve a specific question or problem.
3. Students will learn why and how to present the results of discipline-based inquiry in a professional or academic forum.

The principal mechanism for achieving the QEP goals involved a call for proposals from faculty to engage undergraduates in discipline-based learning and inquiry through classroom projects, field work, community-based research, creative endeavors, international programs, archival research, or other activities. Each QEP project was required to articulate specific student learning outcomes which clearly promoted the three aforementioned goals. In response to the first call for proposals, faculty members from all five undergraduate colleges at VSU submitted a total of 24 proposals. Six proposals representing the arts, humanities, social sciences, education, and sciences were selected for funding. These projects were carried out in 2011 through 2013. A second call for proposals was issued in the spring of 2013, with seven projects from the humanities, social sciences, and sciences selected for funding from a pool of 20 faculty submissions. The round two projects were implemented in 2013 through 2015. The projects from both rounds are described later in the report and summarized in Table 1.

A final mechanism for achieving the goals of the QEP entailed the expansion of our Symposium on Undergraduate Research from an event held within the College of Arts and Sciences to a campus-wide showcase of student scholarship and creative work. The Undergraduate Research Council (URC) at Valdosta State University was expanded from a group of College of Arts and Sciences representatives to a campus-wide committee with representation from all undergraduate departments/colleges. The URC evaluated all of the QEP proposals and made recommendations for funding to the Provost and President, and it coordinated the campus-wide Symposium on Undergraduate Research. The QEP was coordinated by the Assistant Vice President for Research, who chairs the URC and updated the members on the progress of the QEP each semester.

### II. Changes Made to the QEP and the Reasons for Making Those Changes

VSU’s original QEP prospectus called for the use of multiple assessment tools to evaluate the success of each project in achieving the specified student learning outcomes: intrasubject replication, focus groups of faculty and students, parallel surveys of faculty and students, faculty peer reviews, and faculty judging of presentations at the Symposium. Changes were made only in relation to intrasubject replication and the parallel surveys of faculty and students.

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With intrasubject replication, the students would be tested multiple times (i.e., on four different occasions) before a research technique is taught, and then the same students would be tested again several times after the technique had been introduced to determine if students were able to meet the expected outcomes. Focus groups with both students and faculty from the round one projects revealed that the initial assessment design resulted in excessive testing for each specific technique which negatively impacted the students' ability to complete tasks, analyze data, and report the results. The testing design was unwieldy and impractical, particularly for those involved in intensive summer research experiences. Round two projects used a pre-test/post-test design of student learning outcomes based upon the CURE (Classroom Undergraduate Research Experience) survey developed by David Lopatto of Grinnell College, a leading scholar on the assessment of undergraduate research experiences. The pre-test/post-test design worked very well with the round two projects, and the enlightening assessment results are discussed below in Table 2.

Furthermore, the original QEP assessment design called for parallel surveys of participating faculty and students regarding their experiences in the discipline-based inquiry projects. The rich data from the focus groups revealed that the parallel surveys were redundant in terms of providing information on faculty and student experiences given that faculty as well as students participated in the focus groups.

Aside from these changes in the assessment design, the QEP was fully implemented in terms of the timeline, projects, initiatives, and all other assessment protocols, which are detailed in the next section of the report.

### III. QEP's Impact on Student Learning and the Learning Environment

#### QEP Projects: Round 1 and Round 2

Six QEP projects were funded in our first round from the arts, humanities, social sciences, education, and the sciences (see Table 1).

- The **Chemistry** project involved producing economical and effective medicinal agents from the sea. The students developed/synthesized five new cancer drugs that were accepted for testing by the National Cancer Institute. The project utilized a "pharmaceutical aquaculture" approach to produce bryostatin, an effective but very expensive cancer and Alzheimer's drug. Students were part of a patent application for this new group of drugs. The students also developed a new tuberculosis drug that was accepted for testing by the Infectious Diseases section at the National Institutes of Health.
- The **History** project was a summer research experience in which students conducted archival research at the US Army Heritage and Education Center, which is the Army's main archive on America's oldest military base. Students learned how to navigate a major national archive, identify and request materials, and gather information from those materials for a culminating research paper and presentation on a topic pertaining to military history.
- The **Women's and Gender Studies** project also involved an intensive summer research experience in which undergraduates were immersed in the border culture of the El Paso-Ciudad Juarez region. Students were placed in local agencies and non-profits, which serve the diverse Hispanic population of the border region, to engage in qualitative research via ethnographic interviews and participant observations. Students investigated how gender, race, ethnicity, class, and nationality status affect Hispanics residing in the borderland region as well as how globalization impacts migration, immigration, and poverty.
- For the **Communication Sciences and Disorders** project, undergraduate students worked in pairs to collect a language sample of parent-child interaction during daily routines. The students utilized innovative recording technology known as LENA (Language Environment Analysis System) to collect and analyze the data. Students investigated adult word count (the total number of adult words the child hears), conversational turns (the total number of conversational interactions the child engages in with an adult), and child vocalizations (continuous speech spoken by a child wearing a Digital Language Processor).

- In our fifth QEP project, **Nursing** students learned research concepts and developed skills supporting evidence-based nursing practice. Working with a major hospital system comprised of six acute care hospitals, the students investigated end-of-life care communication and the level of moral distress.
- In our final project of the first round, students from the **Interior Design** program in the Department of Art explored the differences between kitchen layouts in assisted living facilities designed by interior design students and the layouts designed by residents of assisted living facilities. Students analyzed and coded past studio projects, interviewed project participants, and built models for participants.

In our second round of QEP projects, a total of seven projects were funded from the humanities, social sciences, and sciences (see Table 2).

- The first project from **Modern and Classical Languages** incorporated discipline-based inquiry into a study abroad program to Cadiz, Spain. Students in the Spanish for Professionals program and the Foreign Language Education program analyzed the health care and education systems in the United States and Spain through service-learning as well as discipline-based inquiry projects.
- In the **Chemistry** project, students analyzed the efficiency and effectiveness of drug delivery for cancer drugs and antibiotics. Students synthesized new pharmaceutical compounds and investigated the copper (II) ion as a delivery platform.
- For **Engineering Studies**, the students engaged in two discipline-based inquiry projects: mechanical testing of dental ceramics and an analysis of hydrogen diffusion and corrosion damage in pipeline steel. For the first project, undergraduates designed and developed suitable mechanical tests and computational techniques for determining the strength of dental porcelains. Students also developed three-dimensional models of various dental restorations and analyzed their performance under simulated biting forces using three dimensional printers and finite element stress analysis. In the second Engineering project, students investigated the impact of material microstructure on hydrogen diffusion and corrosion damage in pipeline steel.
- The **Biology** students explored human impacts on the water quality of lakes and rivers in Lowndes County, Georgia, by monitoring and describing the presence of nutrients (carbon, nitrogen, and phosphorous) and various metals. Undergraduate students utilized and applied multiple sampling and limnological techniques, as well as laboratory analyses, to determine which human and environmental stressors have the greatest impact over the health of the system and the biota occupying the lakes and rivers.
- Students in **Mathematics and Computer Science** applied their computer and communication knowledge to the essential daily task of driving. Undergraduates investigated the use of Radio Frequency Identification tags, readers, and short-range wireless communicators to create a “social network of cars” and use “wisdom of crowds” to provide a low-cost and yet more accurate and reliable solution for driving assistance so that nearby cars can exchange road and traffic information, issue warnings in case of danger, and achieve safe and autonomous driving.
- In the project “Engaging Students in Understanding Academic Cultures,” first-year students from the **Honors College** researched their experiences in classrooms to determine what their classes value, ascertain how to learn effectively in those courses, and recommend improvements in undergraduate education. Through an ENGL 1102 Composition II course, the students examined and discussed the academic cultures in their Biology, Psychology, Honors Seminar, Theatre, Computer Science, Music, Sociology, and Chemistry classes.
- For the final QEP project in the second round, students in the **Geosciences** collected, assembled, and analyzed data from other cities on their climate change action plans, and then proposed a plan for the City of Valdosta, Georgia. Students constructed GIS (Geographic Information System) maps of climate change and related policy in different cities.

#### Student Participation and Presentation of Project Results

Table 1 summarizes the number of students and presentation of project results for each of the QEP projects. Individual QEP projects ranged from involving five students to a little more than 100 undergraduates. Close to 400 students in all participated in the QEP projects (196 in the round one

projects and 195 in the second round). In relation to the third goal of the QEP (students will learn why and how to present the results of discipline-based inquiry in a professional or academic forum), Table 1 documents the number of student research presentations at state, regional, national, or international conferences as well as the campus Undergraduate Research Symposium. A total of 51 student presentations were delivered by undergraduates in the first round with 87 in the second round. Although only two presentations resulted from the Nursing QEP project, these were professional presentations to the clinical research partners via streaming video. Half a dozen manuscripts are in progress from the first round with eight in preparation from round two. More than a dozen student publications in peer-reviewed journals or book chapters have resulted from the QEP round one projects and 22 from the round two projects, with the vast majority coming out of the Chemistry projects. From the first round to the second round, we witnessed an increase in student research presentations, manuscripts in progress, and publications.

**Table 1: Overview of QEP Project Participation and Presentations**

QEP Round 1				
Project Name (Department)	# of Students	# of Presentations	Manuscripts in Progress	# of Publications
Cutting Edge Cancer Research ( <b>Chemistry</b> )	48	15	3	12
Summer Archival Field Experience in History ( <b>History</b> )	5	12	1	1
Investigating Social Inequalities of Hispanic Immigrants through the U.S.-Mexico Borderland Experience ( <b>Women's and Gender Studies</b> )	15	3	0	0
Preparing Scholars of Tomorrow to Effectively Analyze Language Sample Data for Parent-Child Turn Taking ( <b>Communication Sciences and Disorders</b> )	68	12	2	0
Evidence-Based Practice Strategies for Nursing and Health Care ( <b>Nursing</b> )	52	2	0	0
Discovering Unrealized Generational Differences in Kitchen Design Preferences Between Next Generation Interior Designers and Current Resident-Users ( <b>Art</b> )	8	7	0	0
Total	196	51	6	13

QEP Round 2				
Project Name (Department)	# of Students	# of Presentations	Manuscripts in Progress	# of Publications
Towards the Internationalization of the Language Curriculum ( <b>Modern and Classical Languages</b> )	14	20	5	1
Developing a New Group of Medicinal Agents ( <b>Chemistry</b> )	103	30	1	18
Improving Mechanical Test Methods in Biomaterials and Engineering ( <b>Engineering Studies</b> )	8	7	0	0
Studying Human Impacts on Water Quality in Lakes and Rivers of Lowndes County, GA ( <b>Biology</b> )	13	10	1	1
The Design of Future Wise Cars ( <b>Math and Computer Science</b> )	34	9	0	2
Engaging Students in Understanding Academic Cultures ( <b>English and Honors College</b> )	9	7	0	0
Research on Climate Change Action Plans for Small Southern Cities ( <b>Geosciences</b> )	14	4	1	0
Total	195	87	8	22

Pre- and Post-Test Survey: Student-Reported Learning Gains

As mentioned previously, a pre-test/post-test assessment was implemented for the round two QEP students. The same 24 questions were administered to the students for the pre-test and post-test based upon the CURE survey. Almost all students (193 of 195) participated in the pre-test and 61% (119 of 195) participated in the post-test. The post-test was administered after the completion of the project. We attribute the lower response rate to students graduating, transferring, or entering the winter/summer break

after the conclusion of the project. Table 2 reveals that students reported learning gains for 23 of the 24 questions from the pre-test to the post-test. Utilizing a difference of means test (t-test), statistically significant differences emerged for approximately half (11 of 24) of the questions. In relation to the first QEP goal, students will develop basic knowledge of discipline-specific skills, statistically significant differences from the pre-test to the post-test were evident for “reading professional/discipline literature.” For the second QEP goal, students will apply discipline-specific inquiry skills from the classroom to resolve a specific question or problem, statistically significant gains were evident for “following a scripted lab/project in which the outcome is unknown,” “conducting projects where students have input into the research process,” and “conducting a project entirely of student design.” For the pre-test/post-test questions pertaining to the first two goals, student learning gains were most conspicuous for “writing a research proposal,” “collecting data,” and “analyzing data.” For the final QEP goal, students will learn why and how to present the results of discipline-based inquiry in a professional or academic forum, significant gains were reported by the students for “presenting results orally,” “presenting results in written papers or reports,” “presenting posters,” and “critiquing the work of other students.” Given the nature of our discipline-based inquiry projects, we were particularly pleased to see the most dramatic gains in Table 2 for “writing a research proposal,” “conducting a project entirely of student design,” “presenting results orally,” “critiquing the work of other students,” and “collecting data.”

**Table 2: Pre-test/Post-test Results**

QEP Pre-test and Post-test Results for all Round 2 Project Students				
Question	QEP Goals	Pre-test Mean (n=193)	Post-test Mean (n=119)	Difference of Mean
Listening to lectures	1	4.26	4.34	0.08
Reading a textbook	1	4.13	4.00	-0.13
Working on problem sets	1	3.84	3.97	0.13
Taking tests in class	1	4.36	4.40	0.04
Discussing reading materials in class	1	3.99	4.15	0.16
Maintaining lab notebooks	1	3.50	3.58	0.08
Computer modeling	1 & 2	2.84	3.13	0.29
Working individually	1 & 2	4.27	4.46	0.19
Working as a class	1 & 2	3.54	3.68	0.14
Working in a small group	1 & 2	3.87	3.92	0.05
Being responsible for a part of the project	1 & 2	3.98	4.13	0.15
Reading professional/discipline literature	1	3.46	3.84	0.38*
Writing a research proposal	1 & 2	2.52	3.25	0.73*
Collecting data	1 & 2	3.34	3.78	0.44*
Analyzing data	1 & 2	3.28	3.71	0.43*
Presenting results orally	3	3.04	3.55	0.51*
Presenting results in written papers or reports	3	3.25	3.68	0.43*
Presenting posters	3	2.86	3.29	0.43*
Critiquing the work of other students	3	2.94	3.43	0.49*
Following a scripted lab/project in which outcome is known	2	3.32	3.46	0.14
Following a scripted lab/project in which only instructor knows outcome	2	3.27	3.43	0.16
Following a scripted lab/project in which outcome is unknown	2	2.61	3.04	0.43*
Conducting projects where students have input into the research process	2	2.69	3.40	0.35*
Conducting a project entirely of student design	2	2.25	2.90	0.65*

\*Difference of means test is significant at  $p < .05$

(1 = No experience; 2 = Little experience; 3 = Some experience; 4 = Much experience; 5 = Extensive experience)

### Project-Specific Student Learning Outcomes

The call for proposals required faculty to clearly articulate student learning outcomes for each of the QEP goals. In addition to specific student learning outcomes, faculty identified program goals. The clarity and measurability of the student learning outcomes, program goals, and the connections to each of the QEP goals were key evaluation criteria in selecting the proposals for funding. Faculty directors of the QEP

projects prepared progress reports and a final project report that detailed the results of the assessments of student learning outcomes and program goals. Faculty directors evaluated the student learning outcomes through lab reports, quizzes, exams, journals, portfolios, research papers, and presentation rubrics. The final project reports and student work products were reviewed by a faculty peer reviewer in the home department of the QEP project or a related discipline. Faculty peer reviewers were selected by the QEP coordinator. The faculty peer reviewers completed a rubric for evaluating how well the projects met specific student learning outcomes, program goals, and overall QEP goals.

In the round one projects, a sample student learning outcome pertaining to the first QEP goal was that “students will understand the different types of qualitative methodologies and when each technique should be used” for the Borderland Experience project. Two sample student learning outcomes pertaining to the second QEP goal were that students participating in the Communication Sciences and Disorders project “will work in pairs to collect and analyze one language sample of a child-parent or child-caregiver interaction,” while students participating in the History project “will demonstrate the ability to complete a research project based on archival resources.” For the third QEP goal, a sample student learning outcome from the Nursing project articulated that “students will promote evidence-based practice through the dissemination of research findings impacting clinical care.” In the round two projects, a sample student learning outcome for the first QEP goal, stemming from the Engineering project, was that students will “demonstrate knowledge about methods applied for construction of test samples and operation of research equipment.” For the second QEP goal, Math and Computer Science project students will “evaluate tradeoffs involved in design choices.” For the third QEP goal, a student learning outcome from the Geosciences project specified that “students will create and present research-based presentations on climate action plans.” The faculty peer reviews carefully evaluated these student learning outcomes.

Table 3 summarizes faculty peer reviews of the QEP projects. The evaluations of the student learning outcomes (A) all rank as strong (4) to exceptionally strong (5), with the highest scores for “master the research process” and “production of scholarly works.” For the assessment of program goals (B), the average scores all rank as strong to exceptionally strong except for “curricular impact” in round two, which ranks as acceptable. The lower score is attributable to certain round two QEP projects that did not impact the curriculum through the creation of a new course, as such an outcome was not their priority and/or intention. For program assessment, the highest scores were evident for “engaging students,” “involving students in a capstone experience,” and “recruitment/participation.” Most significantly, the faculty peer reviewers gave high marks to the projects for achieving the three goals of the QEP (C): 4.85 for the first goal, 4.54 for the second goal, and 4.77 for the third goal.

**Table 3: Faculty Peer Reviews of the QEP Projects**

QEP Faculty Review Data			
Peer Evaluation Assessment Items	Round 1 Scores	Round 2 Scores	Overall Scores
A1. Master Tools, Ethics, and Documentation Convention	4.42	4.43	4.42
A2. Collect and Assimilate Prior Knowledge	4.08	4.14	4.12
A3. Interpret and Manipulate Data	4.17	4.57	4.38
A4. Production of Scholarly Works	4.42	4.43	4.42
A5. Master the Research Process	4.42	4.83	4.63
A6. Learning Impact	4.83	4.00	4.38
B1. Recruitment/Participation	4.75	4.50	4.63
B2. Instruction	4.20	4.00	4.08
B3. Engaging Students	4.83	4.86	4.85
B4. Involving Students in a Capstone Experience	4.42	5.00	4.73
B5. Curricular Impact	4.00	3.29	3.58
C1. Goal 1: Develop Inquiry Skills	4.83	4.86	4.85
C2. Goal 2: Apply Inquiry Skills to a Problem	4.50	4.57	4.54
C3. Goal 3: Presenting Results	4.50	5.00	4.77

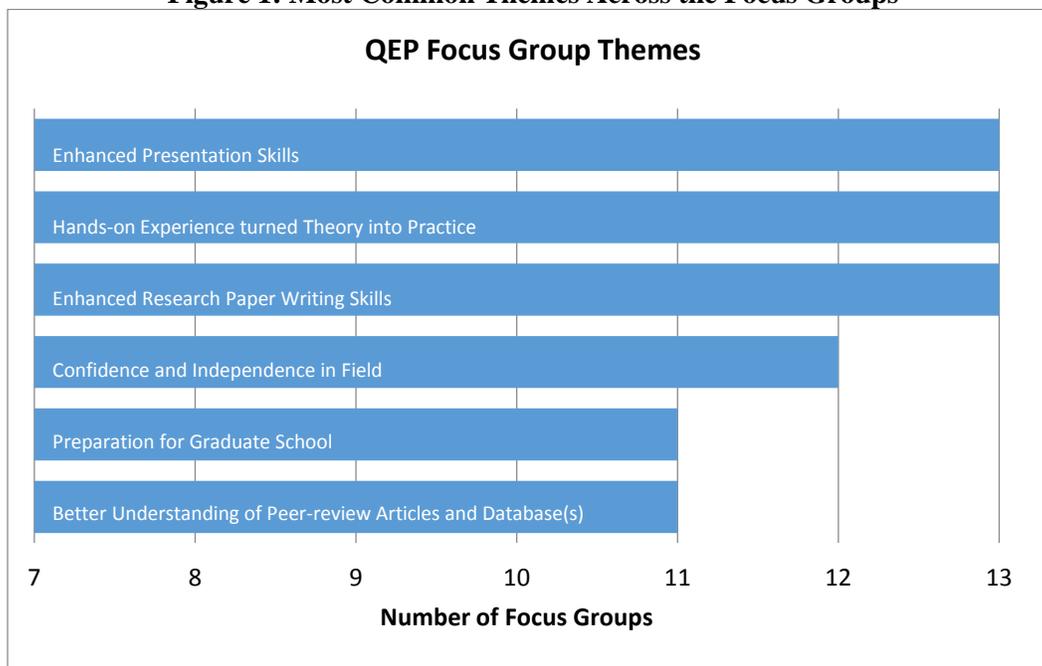
A = Meeting specific student learning outcomes; B = Program assessment; C = Meeting overall QEP goals  
 (1 = Low; 2 = Marginal; 3 = Acceptable; 4 = Strong, 5 = Exceptionally Strong)

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### Focus Groups

Another layer of assessment involved focus groups with students and faculty at the end of each project. Simply put, the focus groups revealed how the students found the discipline-based inquiry projects to be transformative and rewarding. Figure 1 highlights the most common themes across the 13 focus groups. Universal themes were enhanced presentation skills, hands-on experience turned theory into practice, and enhanced research paper writing skills. In relation to our third QEP goal, students reported enhanced skills and greater confidence in delivering poster and paper presentations at academic conferences as well as presenting technical reports to policymakers. At the heart of our second QEP goal, students in every focus group emphasized the hands-on experience that turned theory into practice by investigating research questions in the laboratory, archives, classroom, field, or study abroad settings. Students across all focus groups reported enhanced writing skills with our science students celebrating their improved scientific writing skills. In 12 of the 13 focus groups, students emphasized confidence and independence in conducting research in their chosen field of study, while preparation for graduate school and a better understanding of peer-review articles and databases were articulated in 11 of 13 focus groups. The vast majority of focus groups also called our attention to the benefits of peer and faculty mentoring in the projects. Students reported very positive experiences with peer mentoring of freshmen and sophomore students by juniors and seniors as well as the intensive one-on-one faculty mentoring in the QEP projects. Across a majority of the focus groups, undergraduates mentioned their newfound ability to synthesize information and/or research. In terms of drawbacks, students mentioned the amount of time/work required for the projects as well as the challenges that arose from difficult research questions, which we view as positive learning experiences for the students.

**Figure 1: Most Common Themes Across the Focus Groups**

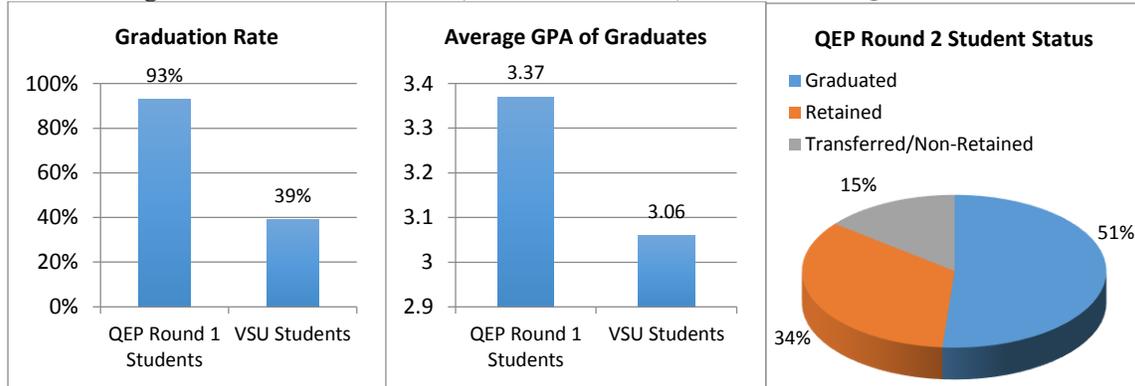


### Graduation and Retention Rates

An additional assessment involved an analysis of the graduation and retention rates as well as the GPAs of QEP students. We recognize that a plethora of factors impact the retention and graduation rates of students. Figure 2 highlights a 93% graduation rate of QEP students in our first round of projects compared to a 40% institutional graduation rate. Furthermore, QEP students from that first round graduated with an overall GPA of 3.37 compared to 3.06 for the overall student body. As noted at the outset, discipline-based inquiry was selected as the theme of our QEP because of the powerful impact undergraduate research has on graduation and retention rates. For the most recent round two projects, a little more than half of the students have graduated and approximately one-third are still working on their

degrees at VSU. Of the 15% who are no longer at VSU, roughly half transferred to Georgia Tech from our Engineering project given that our two-year Engineering Studies program has a transfer agreement with Georgia Tech. We have graduated, retained, or successfully transferred more than 90% of the students from the round two QEP projects. We should note that only our Academic Cultures QEP project involved students exclusively from the Honors College. The percentage of Honors students amongst the total of 400 QEP students mirrored the general student population. The focus groups clearly revealed that first-generation college students as well as minority students were well represented across the QEP projects.

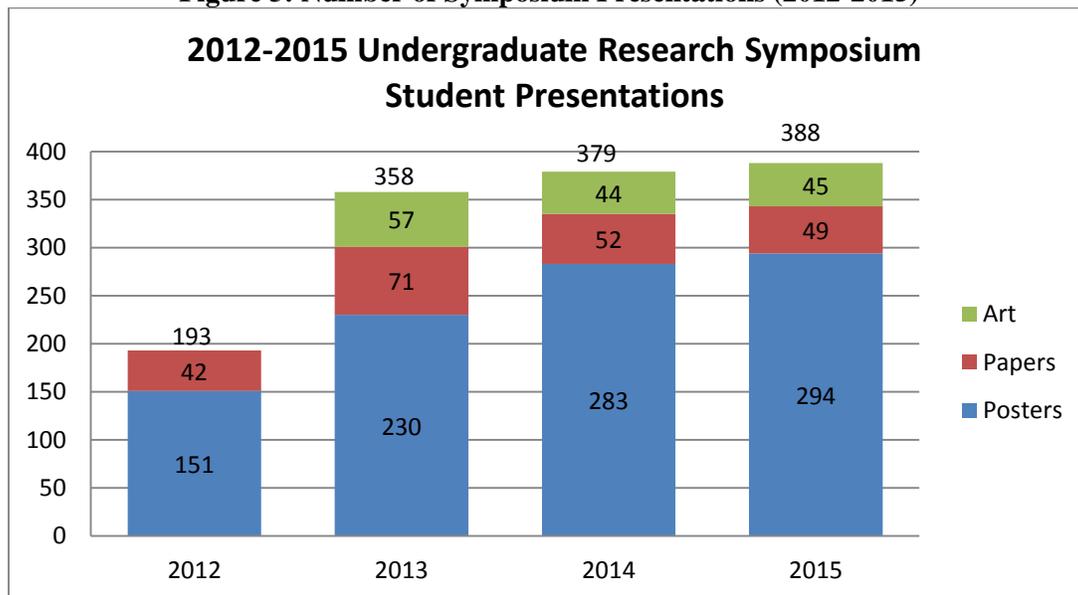
**Figure 2: Graduation Rates, Retention Rates, and GPAs of QEP Students**



Assessment of Student Presentations at the Undergraduate Research Symposium

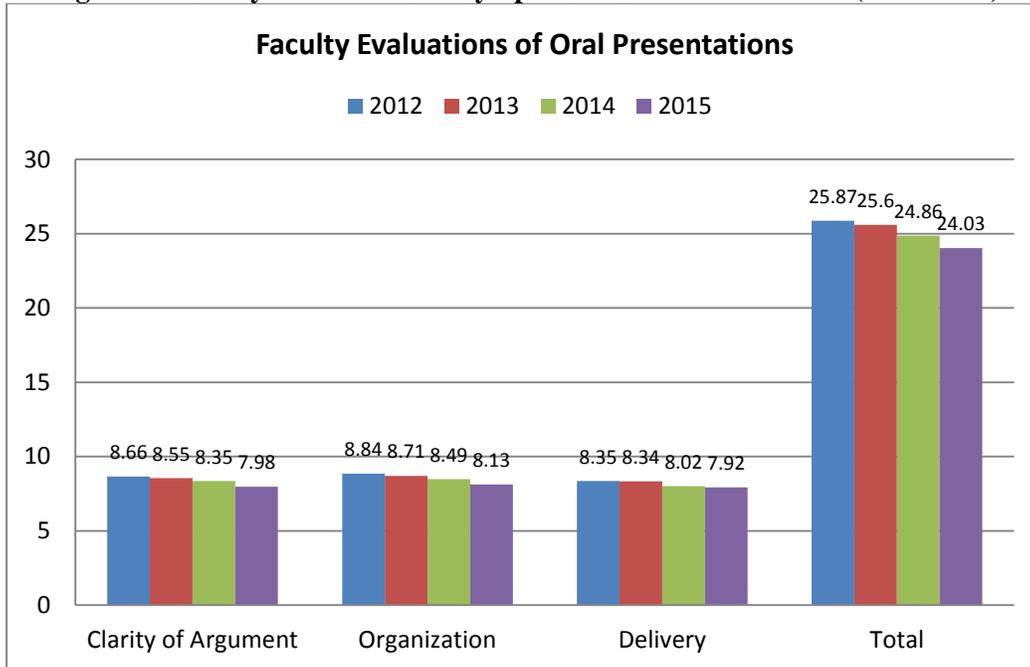
Beyond the discipline-based inquiry projects, our QEP called for the expansion of our Symposium on Undergraduate Research from the College of Arts and Sciences to a campus-wide event. The Symposium is held for three days each April. As documented in Figure 3, we have witnessed exciting growth in the number of student presentations, which have doubled from 193 in 2012 to almost 400 in 2015. This growth has been driven by a dramatic increase each year in the number of campus-wide research poster presentations. In 2013, the VSU Student Art Competition was added to our annual April Symposium. Student art works are judged each year by a visiting artist who makes the final selection of works for display in the Student Art Competition. Approximately 50 student art works are on display in our Fine Arts Gallery each year for the Symposium. Undergraduates also deliver oral presentations on panels. These paper presentations have ranged from 42 to 71 over the past four years.

**Figure 3: Number of Symposium Presentations (2012-2015)**

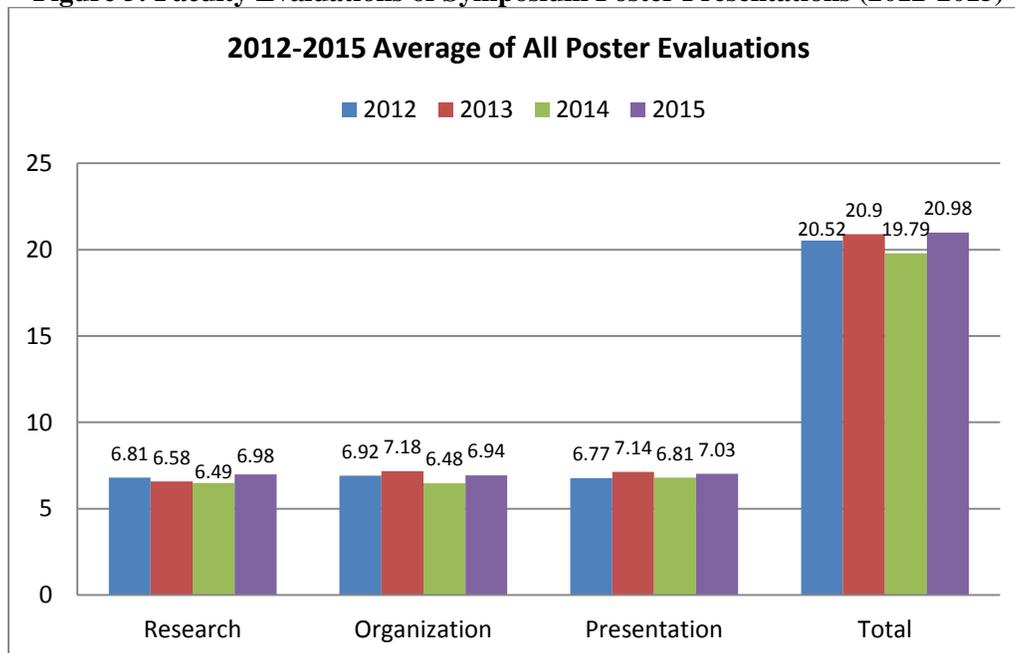


Each paper and poster presentation by an undergraduate is reviewed by at least two faculty members in the discipline. The presentations are evaluated through a rubric with 3 categories on a scale of 1-10 for a maximum of 30 possible points. The oral paper presentations are evaluated for clarity of argument, organization, and delivery. Figure 4 reveals impressive evaluation scores in each of those areas with overall scores ranging from 25.87 to 24.03. We attribute the slight decline over time in Figure 4 to rising faculty expectations for the presentations. In Figure 5, average scores are reported for all poster presentations in the arts and humanities, social sciences, education, and sciences. The poster presentations

**Figure 4: Faculty Evaluations of Symposium Oral Presentations (2012-2015)**



**Figure 5: Faculty Evaluations of Symposium Poster Presentations (2012-2015)**



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are evaluated based upon research, organization, and presentation. The total average scores have shown a slight increase over time from 20.52 to 20.98. The most dramatic increase in scores has been for the College of Education posters, with a slight decline in scores for the social sciences over the last four years. Our Undergraduate Research Council (URC) has created more detailed poster presentation guidelines, and sample posters are posted on the URC website to assist students in developing their posters.

#### **IV. Reflection on What VSU Has Learned as a Result of the QEP Experience**

Fundamentally, we learned that discipline-based inquiry has a transformative impact on student learning. Our multiple layers of assessment (faculty assessment of student learning outcomes, pre-test/post-test results focusing on student learning, faculty peer reviews of the student learning outcomes and program goals, focus group results, the graduation and retention rates of QEP students, and faculty judging of presentations at the Symposium) all highlight the powerful influence of undergraduate research on the student learning environment and our overall success in achieving all three QEP goals at VSU. Furthermore, the QEP projects as well as the expansion of the Symposium on Undergraduate Research to a campus-wide event significantly increased the number of our students who have presented their research both on and off campus.

We also learned that the competitive application process amongst faculty proposals for QEP funding worked very well. Faculty articulated clear student learning outcomes, project goals, and assessment plans. The projects highlighted the multiple paths for successfully engaging undergraduates in discipline-based inquiry: peer mentoring of undergraduate research (Chemistry), combining undergraduate research and service learning in a study abroad setting (Modern and Classical Languages), intensive summer research experiences (History as well as Women's and Gender Studies), and incorporating freshmen students into genuine research experiences (English and the Honors College).

We discovered the many positive spin-offs from an initiative such as the QEP. Data collected from the Chemistry QEP projects resulted in the awarding of a \$1.1 million NOYCE Scholars grant from NSF to promote science educators, and several of the QEP student participants became NOYCE scholars. The Chemistry QEP projects also laid the groundwork for the successful funding of two NSF I-Corps grants for a total of \$100,000 to promote the commercial applications of student research. Furthermore, Chemistry QEP students have been partners on numerous patent applications with VSU faculty as well as recipients of provisional patents. *OMNINO*, our VSU undergraduate research journal, was a proposal in the first round of projects which was not funded but still came to fruition through the support of the Department of English and the College of Arts and Sciences. Six volumes of *OMNINO* have been published for which undergraduate students are responsible for soliciting manuscripts, engaging a peer-review by faculty of all manuscripts submitted for publication, proofreading and editing those manuscripts selected for publication, and publishing the journal on an annual basis. A proposal in our second round involved an interdisciplinary collaboration between Theatre and Nursing students. The Theatre students would be trained and assessed by faculty on their acting ability to role play Standardized Patients, while the Nursing students would be assessed by faculty on their standard of care with the "patient" portrayed by the Theatre student. Although it was not funded, the project is now moving forward with support from both the College of the Arts and the College of Nursing and Health Sciences.

In conclusion, the QEP has built strong and lasting relationships between faculty and administrators across our campus. The commitment to discipline-based inquiry, and its transformative impact on undergraduate education, will continue into the future at VSU. Our President and Provost have announced the allocation of \$1,000,000 in Innovation Grants for the 2016-2017 academic year to promote student success, retention, and graduation. Modeled after our successful QEP, a variety of proposals for undergraduate research projects will be submitted for Innovation Grants. The grants also enable non-academic units to submit proposals to promote student success. Our institution, faculty, and students have benefitted tremendously from the QEP initiative.