

CRITICAL THINKING

Inaugural issue of the R.E.A.S.O.N! newsletter

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WELCOME to the inaugural issue of the R.E.A.S.O.N! newsletter. We are excited about the impressive progress faculty, staff and students have made this year to begin implementing the Quality Enhancement Plan (QEP). It is important to share information about the QEP with the campus community. R.E.A.S.O.N! is one way that will be employed to provide regular updates regarding implementation of the Quality Enhancement Plan (QEP), "R.E.A.S.O.N.: Creating Coherent Pathways to Develop Critical Thinking Skills in Students."

R.E.A.S.O.N! will highlight innovative practices in curriculum design, active learning pedagogies, co-curricular learning, assessment strategies, advising/mentoring techniques, interdepartmental collaborations, student achievements related to critical thinking, and faculty engagement in the scholarship of teaching, learning, and advising related to developing critical thinking in students. Building on campus-wide engagement that began in 2006 to select a theme for the QEP and to develop the plan, R.E.A.S.O.N! will provide information to continue the discussions and collaborations. The newsletter also will provide a way to share information about the development of a culture of inquiry, that is, an institutional commitment to educational effectiveness and quality informed by campus-wide engagement in learning, innovation, and scholarship – key components of any QEP.

In this issue, the Spring 2009 communities of inquiry are highlighted with a special focus on the Active and Collaborative Learning Community of Inquiry. A community of inquiry (CoI) refers to the process of collaborative, synergistic learning that occurs when faculty and staff, who share a common interest in some subject or problem, work in teams to explore ideas, find solutions, and build innovations, thus supporting student learning and development. Faculty and staff CoIs are designed to engage interdisciplinary teams in creating innovative curricular and co-curricular approaches to develop higher-order reasoning skills in students, including critical thinking. Your comments and suggestions are encouraged as we work together to achieve the outcomes related to developing critical thinking skills in students.

ARTICLES



1. Active and Collaborative Learning

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2. Critical Thinking Assessment

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3. Information Literacy

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Growth Imperative: The 5-Point Plan

Y.T. Shah
Provost

TO remain competitive in the current socio-economic environment and achieve its vision of becoming the institution of choice for all resolute learners, Norfolk State University has no option other than to grow -- grow the number and caliber of NSU students; grow faculty expertise in teaching, advising, research, and community service; and grow administrators' responsiveness to campus needs. The Five-Point Plan has been intentionally designed to address this growth imperative by challenging the campus community to raise the level of (self)expectations, engage in interdepartmental dialogue, and embrace innovative thinking and evidence-based action.

Implementation of the ambitious Five-Point Plan outlined below requires broad-based involvement of all campus constituencies and alignment of institutional plans and strategies. The Quality Enhancement Plan (QEP) Communities of Inquiry presented in this issue of the R.E.A.S.O.N! newsletter demonstrate one of many ways in which faculty and staff can take leadership roles in implementing the Five-Point Plan.

First, as collaborative interdisciplinary groups of colleagues, Communities of Inquiry (CoIs) enhance the campus collegial environment and advance the teacher-scholar model of faculty work by encouraging faculty engagement in the scholarship of teaching and learning. Second, by implementing creative and rigorous critical thinking pedagogical approaches, CoIs work to improve the NSU academic image, attract prospective students, and equip current students with cognitive skills, abilities, and dispositions necessary to successfully progress through the college curriculum. Finally, assessment, a key component embedded in each CoI, ensures accountability and provides necessary feedback for planning and decision-making.

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Y.T. Shah, Provost

NATIONAL SURVEY OF STUDENT ENGAGEMENT (NSSE)

Academic Challenge

NSU students report slightly lower perceptions of academic challenge (e.g., number of assigned readings and written papers) than students in peer institutions and in the national average.

Active Learning

NSU students report higher levels of engagement in active and collaborative learning opportunities (e.g., group work, service-learning) than students in peer institutions and in the national average.

Campus Environment

NSU students perceive the NSU campus environment (e.g., academic and social help, relationships with campus constituencies) to be more supportive than students in peer institutions and in the national average.

Students-Faculty

NSU students report more frequent and meaningful interaction with faculty members (e.g., discussion of assignments, grades, and career plans) than students in peer institutions and in the national average.

Growth Imperative: The 5-Point Plan

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Point 1 - Enhance the Collegial Environment (Identify Correct Rules of Engagement)

- Increase effectiveness of Faculty Senate to represent the voice of the faculty
- Identify the correct rules of engagement for shared governance
- Identify and implement transparent processes for collegial environment
- Implement appropriate checks and balances in the decision making process
- Build stronger commitment to promote NSU at all levels of engagement

Point 2 - Enrollment Growth in Quality and Quantity (Increase Student Enrollment from 6,000 to 9,000 with Improved Quality during 2008-2013)

- Improve applications and yield for freshman enrollment
- Increase transfer agreements with community colleges and four year institutions
- Improve quality of incoming students through development of honors college
- Expand satellite programs using IT Technology
- Expand certificate programs, continuing education programs and selected masters degree programs

Point 3 - Retention and Graduation (Improve the Freshman to Sophomore Retention Rate by at least 15% and Increase the Graduation Rate from 31% to 60%)

- Improve retention through carefully monitored freshman and sophomore year experiences
- Enhance programs for underprepared students
- Create innovative educational programs in honors college
- Create innovative curricula and emphasize co-curricular activities
- Improve advising and financial aid process

Point 4 - Implement Teacher-Scholar Model for the Faculty (Improve Sponsored Research and NSU's role in Economic Development)

- Enhance role of scholarship in faculty hiring, promotion, and tenure processes as well as in workload management
- Promote, facilitate and support sponsored research activities - Increase sponsored research approximately two fold in five years
- Enhance NSU's role in economic development
- Enhance interdisciplinary activities and research collaboration with other universities, industry and government agencies
- Create incentive policies to promote and support scholarships

Point 5 - Implement Performance-Based Model (Ensure Accountability at all Levels)

- Create performance based transparent budgeting processes
- Create incentives to promote excellence
- Create processes to achieve market competitive salary structure and reward high performance
- Build processes to eliminate poor performance and respond to new market opportunities
- Build entrepreneurial culture

Articles from Communities of Inquiry

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1. Active and Collaborative Learning (ACL)

Whether the subject is chemistry or physical education, biology or philosophy, medical technology or history, professors have nearly singular freedom to choose an instructional delivery mechanism that treats the learner as an object or appreciates the learner as a subject. More specifically, following Paulo Freire's (1993) seminal model, the instructor can choose a banking method of teaching, wherein the content streams as an unbroken programmatic narrative from the professor's all-knowing platform to the student's ignorant mind, or the instructor can opt to enact a problem-posing method that positively disrupts the "narration sickness" (p. 71) and promotes the meaningful co-creation of knowledge between teacher-students and student-teachers. The latter method requires what is broadly known in the literature as active and collaborative learning (ACL).

The acquisition of a terminal degree does not make one an educator in the deeper sense of the term. Disciplines and departments across universities must invest resources in educating teachers to teach, if the goal of highly prepared students is to be more than a mantra. A good place to begin is with showing our fellow educators what is possible with ACL in a variety of courses. Hailing from chemistry, history, biology, physical education, medical technology, and interdisciplinary studies, our Community of Inquiry (CoI) has discovered that ACL crosses disciplinary boundaries. To illustrate this point, we have compiled an example of ACL from five of our courses. Some of these examples are tried and true, while others are experimental for the upcoming Fall 2009 semester. Hopefully this list will demonstrate that no discipline is beyond the reach of ACL techniques. Often the missing ingredient simply is the will of the instructor to exercise ingenuity.

INT 308: Introduction to Interdisciplinary Studies

This course covers many challenging topics, including an overview of modernism and postmodernism. Intimidated by the readings, many students arrive to class without having read and expecting a spoon-feeding of the material. Knowing that most students will have

avoided the reading, Professor Arroyo surprises them by devoting the first hour of class to silent reading. Afterwards, he instructs them to conduct an orderly, impromptu all-class discussion on the material with no preparation, while he sits and listens. Only after 45 minutes does he begin interjecting. The result is a vibrant (and surprised) class that learns on the spot to move beyond fear and to take ownership of the learning process.

MDT 455: Immunohematology

Medical technology students are assigned to self-directed work groups, and Dr. Fuller provides a case history to each group. Students enumerate the tests used and systems commonly measured in paternity studies, distinguishing between their suitability for use in determining inclusion or exclusion. Each group performs paternity testing on four unknown blood samples to determine whether paternal exclusion or inclusion applies when presented with the implicated parties' serological results. The class then discusses and critiques the findings from each case. Only after an extended class discussion does the instructor reveal the known results. The outcome is students learning to collaborate and developing confidence in explaining and defending their work without immediately knowing the correct answer.

CHM 223A: General Chemistry

Dr. Hall-Patrick strives to involve most or all of her general chemistry students in creative activities without sacrificing course content or losing control of the class. One way to accomplish this goal is to use current events in the classroom in a manner that locates the relevancy of the science in today's headlines. Two examples from prior classes illustrate the potential of this approach. One student turned in an article about a house fire that occurred in an apartment complex. This student realized that fire is a combustion reaction, discussed the theory and wrote the chemical equations associated with hydrocarbon combustion. Another student chose the airplane landing in the Hudson River. Students wrote about the intermolecular forces present in the water that prevented the airplane from sinking into the river. Other students discussed the slow rate of diffusion of air molecules out of the plane's cabin which also aided in the flotation of the airplane. The outcome of such exercises is student engagement in applied active learning.

BIO 278: Cell Biology

In a cell biology course, Dr. Bowman implements ACL according to the relevancy of topics covered and the level of the students. Collaborative groups, structured in light of best practice (Tanner, Chatman, and Allen, 2003), investigate safety issues related to the use of genetically modified foods by performing literature reviews and experimentation. Group members have defined roles to help facilitate a discussion along the lines of their most recent literature reviews and/or experimental findings, and explain how their work supports the group's objectives. An outcome is the students learn to address complex issues cooperatively.

HIS 101: History of World Societies

Using Al Gore's, *An Inconvenient Truth* (the book and the film), Dr. Mbajekwe encourages students to explore how human activities over history have affected the environment. Students write a three-page reflection essay drawing from the book and film. Afterwards, armed with notes and essays, students engage in a thirty minute debate. Then the class breaks into three groups for fifteen minutes, each with a charge to further elucidate a sub-theme. The class comes to a close after each group presents its summary to the class, which the instructor writes on the board. As with the above illustrations, the result is students who are awakened to the potential, possibilities and pay offs of working together.

The ACL Community of Inquiry intends to further deepen our probe into this subject in the following ways. First, as part of our upcoming end of semester report, we are compiling an annotated bibliography of key resources on the topic, from both theoretical and practical perspectives. Second, we are attending conferences to educate ourselves in best practices. Third, we are committed to partnering with each other in creative interdisciplinary co-efforts, including but not limited to visiting each other's classrooms and doing peer assessments. Our goal is to become refined experts in ACL in order to serve as models for the broader Norfolk State University community in the years to come.

2. Critical Thinking Assessment (CTA)

The HBCU environment is known for fostering and encouraging critical and creative thought. The civic engagement, civil rights and community-centered activities of African Americans at HBCUs demonstrate a history of critical thought practice, as is made evident by the success of their alumni. Critical thinking skills continue to be one of the most widely discussed intended college outcomes; however, the assessment of critical thinking requires further examination. Specifically, critical thinking learning outcomes (R.E.A.S.O.N.) need to be assessed within the context of the institutional culture and with consideration for the various learning styles of students.

The HBCU culture is one that incorporates certain basic African and African American tenets—empathy, community, accountability, responsibility, family and life-long learning. This culture can help or hinder the learning process, and must be (re)analyzed and assessed. Moreover, the learning styles of the student population need to be reviewed as a part of the assessment of critical thinking skills, if the initiative is to be successful in and out of the classroom. In the context of the QEP, the culture to learn (in addition to the historic, ethnic culture of persons of African descent) is desired in the student population of NSU. By its very nature, learning means to examine, analyze, ask questions and retain knowledge. An examination or evaluation at the end of a process is the only means available to gauge whether knowledge has been gained or skills have been developed.

Well-designed assessment tools are linked to well-designed teaching methods aligned with student learning styles. The best teaching strategies used are those that take into account how students learn and retain information. A number of theories suggest how one might think about how knowledge is transferred. Most common is Neil Fleming's VAK model which suggests that learners process information using one or more of three senses: visual, auditory, and kinesthetic. Other popular models include, but are not limited to, the Myers-Briggs Type Indicator (MBTI) as a learning styles inventory; Kolb's experiential learning theory (ELT); Howard Gardner's theory of multiple intelligences (MI); and Sternberg's triad.

All of these aforementioned tools classify students in a number of ways: some by cultural preferences, innate tendencies, as active or reflective, as global or sequential, as inductive or deductive, as visual or verbal, or as concrete or abstract. Yet for our purposes, Donna Ford-Harris' book, *Multicultural Gifted Education* (1999) suggests that racially and culturally diverse students have learning style preferences. For example, African Americans who have been identified as gifted in the public schools tend to benefit from experiences that are more social, relational, and include more visual stimulants. In addition, Ford-Harris reveals that culture may be a powerful mechanism for aligning teaching with learning and serves as a lens through which we might be better able to identify the manifestations of critical thought.

However, if this premise is accepted, one more important consideration arises: Should the goal of minority serving institutions be to push students to assimilate and perform well on standardized tests or to work to make accommodations for differences, possibly using multimodal assessment tools in an attempt to truly identify what students know and can do? Therefore, the CTA CoI's future discussions regarding assessment will include a recognition of and discussion on culture within the context of an HBCU, with particular emphasis on variant learning styles and abilities of the student population. This will ultimately determine the assessment tools, types and outcome effectiveness.

3. Information Literacy (IL)

The members of the Information Literacy (IL) Community of Inquiry (CoI) have been reading the literature on Information Literacy which has opened three important areas of discussion including: a lack of effective communication between teaching faculty and librarians on the question of library research; revising existing assignments that address information literacy and critical thinking skills to make them more effective; and helping students become aware that they must recognize an "information need" to begin the process of seeking information.

First, some authors point out the lack of collaboration between faculty and librarians in developing IL skills in students. The major reason for this is that there is no common vocabulary for defining and discussing IL. Further, many faculty members feel that undergraduates (should) have mastered IL skills prior to matriculation at the university. Thus, faculty members have, in general, not made library skills a high priority within course assignments. As a result, students do not see those skills as critical to their success. Finally, the disconnect also stems from the perception of the faculty that librarians are not a part of the teaching personnel of a university. Since librarians have a wealth of knowledge with respect to information resources, there must be some level of meaningful collaboration between faculty and librarians to produce curricula that help universities produce students with the appropriate level of competency in IL.

Second, curricula assignments that utilize and teach IL skills are not limited just to term papers. A literacy assignment may involve role playing, reflective journals, case studies, an e-Portfolio, and/or the one-minute paper. Faculty members often already have information literacy assignments embedded into their courses. Adding extra value to these exercises may involve something as simple as an enhancement to an existing assignment, like adding a method to measure student performance. Collaborative learning is an ideal method to teach students critical thinking skills using IL. An example assignment might include having students perform a search using Database Comparison versus Web Search Engine or critiquing each other's bibliographies. Working with librarians to revise existing assignments may enhance students' utilization and critical appraisal of the information.

Finally, attaining IL requires that students recognize information literacy as a set of skills that enhances their academic success and as an activity that requires a skill set beyond that of routine internet searching. Even after instruction and activities which focus on information retrieval and evaluation, most students remain at a "novice" level regarding their search and utilization skills. To ensure that students achieve a higher level of IL skills, it is critical that faculty continuously emphasize and reinforce information literacy skills and incorporate repetitive and intensive IL learning opportunities into the course work.

The continuing task of the Information Literacy Community of Inquiry is to determine a definition of IL that is appropriate for NSU, and to begin to find ways to resolve the communication disconnects about IL, to revise existing assignment and incorporate new assignments which help students develop IL skills that support the development of critical thinking.

4. Living and Learning Communities (LLC)

Learning is a continuous process that extends beyond the classroom. The major goal of the Living and Learning Communities (LLC) Community of Inquiry (CoI) is to develop and implement effective programs and initiatives that will integrate academic instruction

with co-curricular opportunities to encourage, engage, and enhance personal development and critical thinking skills. When students graduate from NSU, they will be able to make their mark on the world because their experiences here will help them emerge as resolute learners, life-long scholars, ethical leaders, and active citizens.

The Office of Residence Life & Housing currently utilizes a holistic programming model which fosters academic, leadership and social excellence to provide a greater appreciation of the undergraduate experience for students from the beginning to the end of their matriculation. Current programming is centered on the different stages of student development during their years of matriculation.

The department also facilitates several living and learning communities (LLCs) housed in three residence halls: First Year Experience and Honors/DNIMAS communities. There are programs in these halls that are inclusive of programs in other halls as well as programs aimed specifically at the targeted population. However, there is a need to enhance the current programs to formulate a more cohesive, academically-focused, collaborative effort for optimal development of NSU students.

LLCs provide students with an opportunity to quickly develop a sense of academic community. LLCs have proven to aid successful cognitive and social development through a variety of programs, tutoring, and faculty-student involvement opportunities, so that students are provided with diverse co-curricular opportunities to get the most from their college experience. In a variety of institutional settings, learning communities have been shown to increase student retention and academic achievement, increase student involvement and motivation, improve students' time to degree completion, and enhance student intellectual development.

The LLC Community of Inquiry (CoI) will focus on the development and implementation of more intentional programming in the residence halls that will encourage increased faculty-student interaction outside the classroom. Currently, the LLC CoI is researching LLCs in place at other institutions as well as reviewing relevant literature and best practices to identify areas for innovations and resources needed for developing successful LLCs at NSU. The CoI will conduct several meetings over the summer term in an effort to design innovative co-curricular, pedagogical, and assessment approaches to develop critical thinking skills and foster learning outside the classroom.

5. Service-Learning (SL)

Decades ago, John Dewey posited that learning to think and reason are the fundamental goals of education. Responsible citizens need to be able to make reasonable, well thought out decisions based, at least in part, on their ability to think critically. Critical thinking is a key ingredient in improving students' learning and a major element to an effective and efficient workforce.

Service-learning (SL), the academic practice of integrating community service into pedagogical applications, has gained popularity in higher education as one of the effective strategies to improve critical thinking skills in students. SL has been promoted as an experiential form of education designed to foster town-gown engagement through the pairing of students, faculty, and staff with community partners. One of the primary goals of the SL experience is to provide the student with an opportunity to move from theory to practice, thereby countering the problems of learning in the isolation of the classroom by enabling students to apply the critical thinking necessary to move from the abstract to a concrete setting. More specifically, SL provides students with the opportunity to be engaged with the complexities presented in the context of a real world situation, as opposed to the limiting conditions of the classroom, while simultaneously fostering a sense of civic responsibility.

An important distinction to make in defining SL is that, although the experience includes community service and volunteerism, SL provides a richer, more rigorous learning experience for the student in that it emphasizes academic content and experience. The SL activities should be guided by clear learning outcomes that explicitly reflect the content and paradigms of the academic disciplines. Further, SL projects should promote a sense of collaboration, an awareness of the agency being served, use of the requisite skills needed to complete the task, and an ability to apply the critical thinking skills necessary to connect theory to practice. The nature of the experience can vary from a single-day event to a semester-long engagement, but one of the most common components of the activity includes a reflection piece pre-, during, and post-service. For extended experiences, journaling at regular intervals to assess the individual student's progress and to capture the meaning of the student's SL experience is encouraged.

Educational psychology supports the concepts upon which service-learning is premised; that is, the more senses involved in the learning process, the more effective the learning will be. Students develop life skills that prepare them for the workplace, including interpersonal and intrapersonal skills, communication skills, problem-solving skills, and further experiences with diverse populations. Through this pairing of academic experience and community service, students are offered an enriching learning experience that provides a value-added education.

REASON