Curiosity Unfolding: 
Developing Creative Problem Solving and Critical Thinking Skills

Rationale for Topic/Problem Solving Statement/Opportunity for Growth:
"Can you google it?"

This is a common thought process for the millennial generation of college students. USM students follow the trend of those across the United States, and often seek immediate gratification and the “right” answers. Bell Hooks, author and pedagogy theorist, writes in her book Teaching Community, “Students resistance to forms of learning that are not based in rote memory or predictable assignments has almost become the norm because of the fixation on degrees and not education. These students want to know exactly what they must do to acquire the best grade. They are not interested in learning. But the student who longs to know, who is awakened by passion for knowledge is eager to experience mutual communion with teacher and subject that makes for profound engagement” (130). It is time for USM to lead the charge and challenge our students to engage in the classroom through the development of critical thinking and problem solving skills.

In his book What the Best College Students Do, Ken Bain offers an allegory of a six-year old who asks him to “google” the answer to “what happens after we die?” Bain asserts, “At the age of six, this child thought the same way many college students think. In that perspective, every question has an answer. It is just a matter of finding it. You ask an expert. To learn, you remember the response. Problems have procedure, and if you follow the recipe, you will find a solution” (133). How can faculty lead students through critical thinking processes in the college classroom? What types of discussions, written work, and/or projects support the development of problem solving? How can the process be valued equally with the product and thus support future application in different scenarios?

Students at USM are lacking in the application of critical thinking and problem solving skills. According to the ETS® Proficiency Profile, USM students perform slightly higher than the national average. However, a closer look at this profile, which synthesizes scores from proficiency tests in reading, writing and math scores, shows that 78% of USM seniors (who completed 90 hours or more) scored “not proficient” in the critical thinking category. In addition to these statistics, this survey only accounts for seniors who have progressed through curriculum. What about the students who do not make it this far? Could this lack of skill set and exploration impair the whole of the learning experience and student success?

Critical thinking and problem solving skills pervade the real world job market, and can and should be ignited in the college classroom as preparation for our graduates’ careers. Even the idea of these proposal submissions ignites brainstorming, critical thinking, and reflection, and demonstrates its application in the USM workforce. Daniel Pink, a free agent and author of A Whole New Mind, investigates why employers might seek out individuals with more creative approaches to projects. “In short, we’ve progressed from a society of farmers to a society of factory workers to a society of knowledge workers. And now we’re progressing again—to a society of creators and empathizers, of pattern recognizers and meaning makers.” (50). Our instant gratification students stifle their creativity or even the possibility of thinking creatively. Nationally, the amount of college graduates have
increased, the job market stays steady, and job seekers must set themselves apart from other candidates. How can USM prepare our students for the job market without fostering creative problem solving and critical thinking in the college classroom?

Pink’s continued discussion articulates the necessity of identification, exploration, selection, application and evaluation. He qualifies this in six senses by saying that it is “1) not just function, but also design 2) not just argument but also story 3) not just focus but also symphony (seeing big picture) 4) not just logic but also empathy 5) not just seriousness but also play, and 6) not just accumulation but meaning” (65-67). USM’s mission states that we aim to “cultivate intellectual development and creativity through the generation, dissemination, application and preservation of knowledge.” By focusing the QEP topic on critical thinking and problem solving, we can guide our students on journeys to value collaboration, exploration, and innovation. We can guide them in ways to solve the problems using technology rather than relying on it for the “right” answer.

This proposal asserts that USM students need more experiences in critical thinking and problem solving at every level of study. The initiative includes: 1) expansion of the LEC and Think Center (Hattiesburg and Gulf Park campus), 2) faculty seminar and development workshops that both invite faculty to new experiences in critical thinking and problem solving and ways to apply this in the classroom 3) development of cross-curricular experiences, specifically in GEC courses 4) expansion of internship and field experience opportunities for undergraduate students and 5) collection of data from the job market to define needs and what USM students bring to the workplace.

**Expected Outcomes/Impact on Student Learning or Student Learning Environment:**

The expected outcome of *Curiosity Unfolding* is the improvement of student skill sets in creative problem solving and critical thinking. As Pink asserts, “There are two kinds of people in the world, an old joke goes: those who believe everything can be divided into two categories—and the rest of you” (25). Many of our students fall into the first category, and see only right and wrong answers. The goal with this QEP initiative is to impact the student learning environment in as many USM classrooms and experiences as possible, and to make it a priority in early course work and application of fieldwork, thus changing the whole student experience.

The universities plan to build a climate for student success includes educational programs that adhere to rigorous standards in terms of student advisement, engagement, and mentoring; curriculum development and delivery; and the exploration and generation of scholarly work. The strategies of this proposed QEP initiative of critical thinking and problem solving will crossover with results in retention, graduation and student success, career preparation, and experiential learning. Thus by focusing on this component, a ripple of effect of benefits will surface for USM students. The priority of this proposal is to:

- To foster critical thinking and problem solving skills across USM’s GEC and degree program curriculum in an effort to deepen student learning and prepare graduates for careers
- To increase the percentage of students who participate in internships, practicum, or field experiences
• To increase student persistence through engaged experiences in USM classrooms

An inherent result of delving into critical thinking and problem solving experiences in our classrooms will be students making connections across curriculum. The suggested plan includes pairing of disciplines, specifically GEC courses, and the creation of projects that delve into content from more than one course. Through this development, students will feel invested and empowered by their education leading to deeper consideration of major studies and career paths. Paired with guidance to pursue internship opportunities, our students will be more prepared for future careers.

In senior exit surveys data from 2012-2013, students indicate the following: 91% of seniors worked with classmates on assignments outside of class and only 30% participated in internships, practicum, or field experience. Working with another student outside of the classroom does not insinuate that a group project similar to the workplace was experienced. According to Student Achievement Measure, USM’s current graduation rates show that after four years 20% of students graduate and 20% have a status of unknown. This increases after 6 years to 42% graduation and 27% unknown. If students feel responsible and engaged in their education, they will likely stay in school. If professors can help students make connections to the real world job market through engagement in the classroom, students will stay, and more importantly feel successful. In addition, through this concerted effort USM can become known for increased employment rates and employers will notice the trend of what it means to hire a USM graduate.

Strategies/Actions to be Implemented:
The actions to be implemented for this topic can function similarly to the Finding Our Voice QEP initiative. According to the QEP website, “SACS accepted the report, noting the University’s use of best practices in enhancing and assessing oral and written communications.” The structure of the Curiosity Unfolding: Developing Creative Problem Solving and Critical Thinking Skills can follow this successful path.

1) **Expansion of the USM’s Learning Enhancement Center (LEC) and Think Center (Hattiesburg and Gulf Park campuses):** These Centers are invaluable to our campus, but beyond online learning, surprisingly underused. An expansion of these centers will include more instructional design specialists and increased offerings of faculty development workshops and seminars based in critical thinking and problem solving. In addition, prominent speakers will be invited to address the full university community.

2) **Faculty seminars will be offered through the QEP:** Similar to Finding Our Voice, this QEP will include faculty cohorts who investigate critical thinking and problem solving inclusion in the classroom, and create rubrics to assess students in these skills. Workshops will allow faculty to problem solve upon entering the classroom, and invite faculty into a life-long learner space as a way to provide strategies and ideas for individual classrooms and disciplines. The faculty needs to re-experience moments of creative problem solving and critical thinking in order to imagine how it fits into their own classroom space. The workshops can incorporate experiences in the Think Center and incorporate the expertise of instructional design specialists in these centers.
3) **Development of Cross-Curricular experiences in GEC courses:** This will include strategic planning to incorporate GEC course faculty into the seminars at the beginning of the QEP time frame. This could ensure that students begin their tenure at USM with critical thinking and problem solving skills development, and allow for collaborations among faculty. In this example, disciplines are paired and student projects include information from more than one course. Is there a possibility that faculty members create projects/assignments that begin in one course and then develop into stage 2 or 3 in another course? Can USM be a leader in cross-curriculum offerings and experiences?

4) **Expansion of internship and field experience opportunities for undergraduate students:** As noted earlier, USM students have a low percentage of experiences in internships. Some degree plans incorporate internships and field experiences, but many do not. In a time where internships are almost a requirement for a permanent position, employers take advantage of an extended interview process to unveil unique characteristics of individuals and to see how they “fit” with the company. The idea of an internship does not need to be defined as a 2 to 3 month time period with a select employer, but rather the time frame may be relevant to the company, non-profit event, or conference. USM faculty and administrators know our fields and what each discipline may need in terms of field experience and thus can incorporate this into curriculum, guide students in the right direction based on need, knowledge, and focus, and offer financial support. This component will allow critical thinking and problem solving to happen outside of the classroom as preparation for upper level courses and the work force, and may necessitate the development of an internship office.

5) **Collection of data from the job market to define needs and what USM students bring to the workplace:** Through an analysis of employment data, USM can be more targeted in its efforts and thus use this as a recruitment effort. Some students may attend college for the learning experience, but many have an end-goal and our attentiveness to this can lead to significant recruitment efforts.

**Additional Supporting ideas**
- Data is collected from faculty cohorts over a 3 year period. This is to check in on how the faculty are incorporating the skills and can support assessment of the QEP.
- Faculty who participate in the initial cohorts will be invited to present in current seminars. This supports community development on campus, and allows in-coming cohorts to realize the value and challenges of these strategies.
- As a result of faculty experiences in the Thin Think Center and LEC, students will be inherently encouraged to participate and utilize these centers more.

**Student Cohort:**
The primary student cohort will be undergraduate students. In addition, if general education courses begin to focus and include critical thinking and problem solving skills, then the cohort could be further defined as freshmen and sophomore students. Thus the preparation at the beginning of students’ tenure leads to student persistence and success at the junior...
and senior level and a promotion of self-initiative in our upper classmen. The upperclassmen will also be the priority for the expanded internship/field experience component.

**Measurement/Assessment:**
Ideas for assessment can happen on many levels.
1) A rubric can be developed to gather data from faculty cohorts who incorporate critical thinking and problem solving projects in the classroom
2) Surveys of the job market both preceding and following the application of this QEP can be used to assess how employers regard USM grads. What skills draw you to hiring USM grads can be a leading question and its connection to employment opportunities
3) A closer look at the ETS® Proficiency Profile and tracking over several years in the critical thinking category
4) An analysis of student success in terms of participation in conferences, faculty research, internships, job recruitment, etc.
5) An analysis of student experiences at the end of the second year and the final year can give more accurate portrait of what students are experiencing at USM
6) Anecdotal feedback can be collected from faculty cohorts on how these strategies change the classroom

**Resources:**
The main expenses for this project occur with the expansion of the LEC and Think Center. In the final scope of this project, it is likely that the LEC and Think Center will need more staff to handle the influx of students, faculty development workshops, the specialized QEP seminars, and one-on-one mentoring with faculty.

An additional expense includes financial support for internships. A director of internships may be needed or an added component to an already existing office on campus and the establishment of some scholarship funds. Students may apply for funding to support housing and meals during internships outside of Hattiesburg.

A secondary expense could be stipends for faculty cohorts to participate in the QEP seminars.

Additional expenses are unknown at this time. However, because this initiative resides on expanding rather than creating new facilities and can follow a model set forth from the previous QEP, it is expected to be of significant lower costs.

**Works Cited**

