Problem Solving with Reflective Judgment

Submitted to the
Southern Association of Colleges and Schools
Commission on Colleges
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I. Executive Summary

Tusculum College’s Quality Enhancement Plan (QEP), Problem Solving with Reflective Judgment, evolved through more than two years of discussions. During this time, Tusculum’s faculty, students, staff, and trustees, participated in ongoing cycles of analysis and feedback, which informed the modification and maturation of this document. The Southern Association of Colleges and Schools Commission on Colleges (SACS-COC) Reaffirmation Leadership Team and the Quality Enhancement Plan Steering Committee have been committed to facilitating continuous dialogue with stakeholders throughout this effort and have engendered widespread support for this initiative across all sites and programs. The QEP is rooted in the data collected through Tusculum College’s institutional effectiveness process, framed by recent research on student learning and buttressed by an assessment plan that is thorough and quantifiable. Finally, Tusculum College has allocated substantial financial resources to supporting this QEP and has developed an institutionalization plan to ensure the continued support of anticipated learning improvements and outcomes after the five-year period of the plan has ended.

Tusculum College is a unique school and so it is fitting that Tusculum not implement an off-the-shelf plan to improve student learning. Founded in 1794, Tusculum is the namesake of the small city near Rome where Cicero, exemplar and articulate defender of civic arts and the Roman Republic, sought shelter, studied and wrote on behalf of self-governance at a time where powerful forces sought to topple Rome’s republic. Following Cicero’s example, Tusculum College promotes a civic arts education which focuses on developing tools essential to living in and sustaining a democratic society. Tusculum identifies these skills as including strong written and oral communication ability, the capacity for civil discourse and empathic listening, and the ability to analyze
problems in order to creatively devise solutions which serve a public good (Tusculum Catalog, n.d.).

In order to provide students the optimal context in which to develop these civic arts, Tusculum delivers its classes through what it calls the “focused calendar.” The academic year is divided into eight sequential “blocks” and students take courses one at a time. This system of delivery allows for greater immersion in the subject area and enables faculty to be creative and flexible in scheduling class debates, field trips and service projects, movies and discussion, and other active learning approaches required to cultivate the civic arts.

Tusculum College is pleased that its efforts to enhance student learning not only draw upon more recent developments in cognitive psychology, student learning, and educational research and practice, but that Problem Solving with Reflective Judgment resonates harmoniously with Tusculum’s unique historic character and purposes of preparing students for lives of civic engagement.
II: Process Used to Develop the QEP

Tusculum College’s QEP topic and plan, Problem Solving with Reflective Judgment (hereafter “PSRJ”), emerged through a thorough, thoughtful, dynamic, and inclusive process. At the Fall Faculty Workshop in August 2007, the Provost kicked off the planning process by providing an overview of the reaffirmation process and breaking faculty members into eight focus groups. These focus groups provided initial feedback regarding student learning needs at Tusculum College. In October 2007, the Provost and President appointed a QEP Steering Committee (the Committee), consisting of faculty, staff, and students representing multiple sites and programs, with the Provost serving as co-Chair. A complete listing of the membership of the QEP Steering Committee is in Appendix A: QEP Steering Committee Members.

In November 2007 the QEP Steering Committee began reviewing assessment data about student learning collected over the previous five years. The review focused specifically on student learning measures that were broad-based and applicable to students in all undergraduate programs of the College. Through these assessment data analyses, the Committee developed a questionnaire to solicit feedback from the wider College community. See Appendix B: QEP Questionnaire.

In January 2008, the QEP Steering Committee finalized the questionnaire, and over the course of two months, each committee member led focus groups with students, faculty, staff, and external stakeholders, using the questionnaire. Committee members conducted approximately 40 focus groups, varying in size from 2 to 20 participants, during this period. At the Committee’s meeting in March 2008, an analysis of this feedback was synthesized into three potential QEP themes:

1. Problem Solving/Reflective Judgment
2. The Art of Rhetoric: Write, Speak, Debate
3. Interpersonal Communication/Civility/Teamwork
The Committee broke into three task forces, and each task force developed one of these themes, producing a one-page summary, an advertising flier, and a summary to be included on a ballot for voting. During April and May, over 600 faculty, staff, and students voted, and the committee met in May 2008 to ratify the winning topic: Problem Solving with Reflective Judgment (PSRJ).

Parallel to the development of the QEP, during the summer of 2008 Tusculum College began its scheduled strategic planning process intended to develop a vision to guide the institution through years 2009-2014. Institutional foresight allowed the QEP topic to be included as a fundamental component of the strategic planning process and its five-year plan. Consequently, PSRJ is one of the five-year plan’s major strategic initiatives and is woven through other plan initiatives such as the revitalization of the College’s commitment to the liberal arts and to increased student participation in internships (See Appendix C: Tusculum College’s 2009-2014 Strategic Plan).

Throughout the 2008-09 academic year, the QEP Steering Committee fleshed out details of Tusculum’s plan through ongoing dialogue with faculty, students, staff, and the College’s Board of Trustees. In August 2008, full-time faculty provided additional input to the QEP development by responding to a questionnaire designed by the QEP Steering Committee. (See Appendix D: Questionnaire and responses). The Committee then reported this feedback to constituents through presentations to groups of faculty and staff, including Graduate and Professional Studies (GPS) faculty (full-time and adjunct) and staff at the annual faculty meeting in Knoxville, Tennessee on September 19 and at the main campus in Greeneville on October 3. Many faculty members who primarily teach in the traditional college attended GPS Faculty Meetings, while others viewed the GPS presentation and provided feedback at an Open Faculty Lunch on September 22, 2008. At the conclusion of these various faculty meetings,
feedback from attendees was collected, advising the Steering Committee that in response to this new emergent focus on teaching problem-solving, Tusculum faculty needed more professional development in the areas of (1) problem-based learning, (2) the case study approach to teaching, and (3) moral/ethical dilemmas.

In October and November of 2008, the Committee divided into three task forces to begin work on the following chapters of the QEP:

1. Desired Student Learning Outcomes
2. Literature Review and Best Practices
3. Actions to Be Implemented

At a full committee meeting in December of 2008, the Committee reviewed the materials provided by the three task forces and established a set of learning goals for the project and tasks to be completed throughout the five-year span of the Quality Enhancement Plan (described in Chapter VI).

The Committee met monthly throughout the remainder of the academic year and developed a broad conceptual framework that would provide scaffolding for the QEP implementation. The group also wrestled with questions of learning outcomes, significantly whether moral development should be established as an equal outcome along with cognitive-epistemological development. Ultimately it was decided that affecting Reflective Judgment was a significant undertaking and a second, separate learning outcome would likely dilute the impact of the QEP.

As the QEP took shape during the summer of 2009, the QEP Steering Committee invited comment from other constituencies and consultants, and simultaneously shared the QEP proposal with students, faculty, staff, and Board of Trustee members. Among those who provided feedback, SACS-COC liaison Mike Johnson reviewed our efforts and returned feedback to the Steering Committee on May 7, 2009. During May, Bill
Garris, then Committee co-Chair, met several times with the Director of Career Development, the Director of the Center for Civic Advancement, the Director of the Hobbie Center for Civic Arts, the Director of General Education, Student Affairs personnel, and an ad-hoc work group of four previously uninvolved faculty and staff who had reputations for facilitating student internships, in order to refine the critical points of QEP implementation. The QEP proposal was also discussed during the College’s 2009-2014 Strategic Planning meeting during a two-day session involving around 120 faculty, staff, and board member participants in July 2009. August included meetings with Residence Halls Advisors, an elite student group (the President’s Society), staff members (the Administrative Process Improvement Team) and the 09-10 fall faculty meeting.

Throughout Fall, 2009, the QEP Steering Committee leadership continued to meet with faculty through division meetings, which afforded opportunities to discuss proposed changes, address concerns, and receive feedback that would be incorporated into the ever-evolving plan. The larger Steering Committee met three times to review all modifications as they came to be included in the proposed QEP. The QEP Steering Committee also invited comment on the QEP from an external reviewer, Dr. Audrey Friedman of Boston College. Finally, the QEP Steering Committee co-Chair (Garris) met extensively with Tusculum’s Director of General Education to discuss numerous points of intersection between the QEP and General education.

The process to develop Tusculum’s proposed QEP was lengthy, occurring across a period of thirty months. This lead time afforded the Steering Committee the opportunity to involve faculty, staff, the Board of Trustees, students, and others in a recursive process in which their suggestions were incorporated into the QEP and then later returned to them for comment as the QEP matured. The Committee also used this time
to thoughtfully and intentionally connect the PSRJ and elements of its implementation to Tusculum’s unique traditions and values, to ensure that the plan fit with student learning needs, as identified by assessment data. Tusculum’s QEP is born of a broad-based, recursive process, focused on student learning, and is connected to civic arts values that make a Tusculum education distinctive.
III. Identification of the Topic

Over a six-month process the Tusculum College community deliberated and debated QEP topics, concluding with a campus-wide vote in which Problem Solving with Reflective Judgment (PSRJ) was selected as Tusculum College’s distinctive QEP theme. The Committee endorsed the larger community’s choice of RJ, finding its essence embedded within Tusculum College’s Mission Statement and believing its focus to be a worthy enhancement to student learning at Tusculum. Whereas the previous section reviewed the processes involved in developing this QEP, this chapter will briefly define the QEP topic and connect it to Tusculum College’s historic mission. Further, institutional data collected across the past eight years will support that the changes proposed by the QEP are needed.

**QEP Topic Defined**

Tusculum College’s QEP topic is Problem Solving with Reflective Judgment (PSRJ). In this case, “problems” may be thought of as ill-defined situations and/or dilemmas which lack essential information, which cannot be resolved with complete certainty, about which reasonable people and experts may disagree, and which require some sort of solution or resolution (King & Kitchener, 1994). Tusculum College proposes to develop students in Reflective Judgment as a means to solving these ill-structured problems. Reflective Judgment, broadly speaking, refers to a type of critical thinking that places special emphasis on identifying the credibility of various truth claims before assembling this information into an argument or position. Because Reflective Judgment is an unfamiliar concept to some, it warrants further elaboration.

Patricia King and Karen Kitchener first developed the construct of Reflective Judgment in the 1970’s, identifying it as a developmental process of cognitive
development in which sequential stages were marked by qualitatively different types of thinking. More specifically, each stage represents different ways of thinking about ill-defined problems, probing assumptions, warranting and justifying knowledge claims, considering and evaluating multiple perspectives across multiple contexts, and arriving at epistemic cognition, which is the metacognitive process of monitoring the epistemic nature of problems and probing the truth value of competing alternatives or solutions (Kitchener, 1983).

The basis and goal of critical thinking, more broadly defined, is to develop arguments or opinions based on the interpretation and analysis of facts leading to new information. Yet, such reasoning may be fundamentally flawed if the same truth value is indiscriminately assigned to the information used in reasoning. Reflective Judgment aims to remediate this shortcoming with its focus on epistemology. Although informed by the skills, processes, and operations of critical thinking, Reflective Judgment addresses a more sophisticated and educated understanding about the nature and justification of knowledge.

King and Kitchener (1994) explain this idea more fully in Developing Reflective Judgment and provide a model for advancing students' understanding of epistemology as it relates to their thinking. The QEP Steering Committee’s work draws heavily upon their seminal work. In summary, Tusculum College's QEP aims to strengthen students’ abilities to solve problems by improving their critical thinking and developing their epistemic cognition.

An Extension of the College’s Mission

Problem solving with Reflective Judgment finds resonance with the longstanding mission and goals of Tusculum College. As noted in the Executive Summary, Tusculum College supports a vision of the liberal arts applied through the civic arts and, this
understanding is rooted in its heritage and manifest in its culture and guiding documents. The College’s embrace of the civic arts draws a connection to the importance of developing Reflective Judgment:

Mindful of our Presbyterian heritage and commitment to the civic republican tradition, we seek to educate men and women to act morally, think reflectively, write and speak articulately and serve honorably. We strive to perpetuate the free societies of the world by teaching the tenets of the civic arts, including the role of not-for-profit service, the history and foundations of democratic governance, and the fundamentals of a virtuous enterprise system (Tusculum College, Catalog, 2009, p. 4; emphasis added).

The 2009-2010 Tusculum Catalog defines the civic arts as the ability to analyze thoughtfully and locate, or develop, the knowledge needed to creatively solve problems. Further, the civic arts tradition invokes the Aristotelian idea of “phronesis” or “practical wisdom,” which calls upon people to think “with other citizens… to determine a course of action that will enhance the good of the community” (p. 8). Participation in civic life requires critical thinking, as the essence of civic life is about making balanced decisions or judgments concerning interests in wealth, public services, justice, and the protection of minority interests (Brookfield, 1987). Like Cicero, Tusculum purposes to elevate the civic arts by instilling in students a desire for civic engagement and to equip them with the requisite skills to actively participate in their communities.

The Need: Previous Assessment

Institutional research is a vital and dynamic component of Tusculum College’s processes for gauging instructional effectiveness. Throughout the years, numerous metrics have been used to gather data from a variety of constituents (i.e., sophomores one year, seniors another), yielding a mosaic of data about student performance. Instruments relevant to PSRJ are the Measure of Academic Proficiency and Progress.
(MAPP) by ETS and the Collegiate Assessment of Academic Proficiency (CAAP) by ACT. These tests evaluate general education programs and also measure critical thinking skills. Also germane to PSRJ is the Reasoning about Current Issues assessment (RCI), specific items from the National Survey of Student Engagement (NSSE). and the Noel-Levitz Student Satisfaction Inventory (SSI).

MAPP results from 2004-05 document that 2% of the freshman sample was identified as “proficient” in critical thinking, compared to 4% of the norm-referenced group. The same class was tested again as seniors in year 2007-2008 and again only 2% of the sample was identified as “proficient” in their senior year, compared with 4% of the national sample. This suggests that students’ critical thinking skills are not being positively developed and honed during their educational experience.

Similarly, Tusculum students completed the CAAP from years 2001 to 2008. On average, sophomores taking the test from years 2001 to 2006 scored in the 39th percentile when compared to the national norm. In years 2006-07 and 2007-08 the test was given to seniors, and these two classes of seniors performed at the 37th percentile. For more details, see appendix E: Assessment of Critical Thinking Through CAAP Scores from 2001-02 to 2007-08. Below average and concomitant lack of gain scores of sophomores and juniors on these instruments support the Committee’s contention that the institutional mission to inculcate students in “practical wisdom” and “reflective thinking” needs institution-wide refocus.

Following the campus-wide vote selecting the QEP topic, the Office of Institutional Assessment and the Chair of the Psychology Department used the RCI test to conduct pilot testing of residential and adult students’ performances in Reflective Judgment. Although this is only a single data point, the measure failed to show that students improved in Reflective Judgment during their years at Tusculum (Figure 1). The RCI
has a range from 1 to 7. Scores of 4 indicate that Tusculum’s students enter as relativists, reasoning without certainty because of situational variables, via their own and others’ biases, data, and logic, and via idiosyncratic evaluations of evidence and unevaluated beliefs (Friedman & Schoen, 2009) (In other words: “Everyone is entitled to his/her own opinion; whatever you believe or I believe is fine.”) and exit upon graduation relatively unchanged. Combined, the RCI, CAAP, and MAPP paint a picture of an institution that has not quite managed to effectively cultivate critical thinking skills that serve critical reasoning.

Figure 1: Reasoning about Current Issues Test Data

<table>
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<th>class</th>
<th>Average Stage Score</th>
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<tr>
<td></td>
<td>Spring and Fall 2009</td>
</tr>
<tr>
<td>Freshmen (n=241)</td>
<td>4.13</td>
</tr>
<tr>
<td>Sophomores (n=22)</td>
<td>4.48</td>
</tr>
<tr>
<td>Juniors (n=17)</td>
<td>4.48</td>
</tr>
<tr>
<td>Seniors (n=29)</td>
<td>4.45</td>
</tr>
<tr>
<td>Non-weighted average</td>
<td>4.38</td>
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Other data that support Tusculum’s need to develop student critical thinking come from the classroom. Tusculum’s general education program is referred to as the Commons. Since 2007-2008 there has been a focused effort within the Commons to develop and measure in students nine different Commons learning outcomes, including several which overlap conceptually with Reflective Judgment: (a) critical thinking, (b) analytical reading, and (c) information literacy. These learning outcomes cut across different disciplines and courses. Because Reflective Judgment and critical thinking are closely related constructs, the data surrounding the Commons critical thinking learning outcome will be explained further.

In 2008-2009, the General Education Director captured data on these thinking skills, including critical thinking, through the use of reading prompts, student writing, and rubrics which were developed by the Commons Director. Faculty scored student responses to the critical thinking prompt using an online rubric that assessed a) inquiry,
b) knowledge, c) argument, d) analysis, and e) interpretation. Students were tested in multiple general education courses, and 441 assessment records were submitted. In general, Tusculum’s students scored in the middle of the range afforded by the rubric. However, many deficiencies (lack of exemplars for different levels, faculty training on the rubric after a majority of the data had been entered, uncertain inter-rater reliability) limits the conclusions that can be drawn from this early effort. What can be said is that there is probably room to improve student critical thinking scores, and there is a definite need to improve our protocol for assessing critical thinking within the Commons. For a copy of the critical thinking rubric, please see Appendix F.

Already the QEP is affecting general education at Tusculum. Because Reflective Judgment involves evaluating information, assigning truth values, and building logical arguments, in the fall of 2009 the General Education Director and the QEP Steering Committee co-Chair convened a workgroup to streamline assessment by collapsing the three related constructs of analytical reading, information literacy, and critical thinking, into a single new general education learning outcome called “practical wisdom.” Practical wisdom is an Aristotelian category of thought leading to action which has roots in the College’s unique language and culture. As meetings progressed, there was justification made to keep information literacy as a separate learning outcome at this time, and to focus on the overlap between critical thinking and RJ. Though this effort has not yet resulted in a new rubric, the process is ongoing during the spring of 2010, and discussions prompted by the QEP planning process have led to plans to improve rubric-based assessment by devoting more time and resources to training faculty on developing prompts and using the rubric during May 2010.

Indirect measures of student learning and faculty quality were also included in the process of evaluating Tusculum’s institutional effectiveness. In 2008-09 residential college students took the SSI. Although a broad-based survey of many campus services,
it contains several items indicative of student learning and academic culture. Three items, of particular relevance, ask students to rate their satisfaction with intellectual growth, campus commitment to academic excellence, and overall quality of class instruction. Results from each class on these items place Tusculum below the national average suggesting that reform, through faculty development, is needed. Less indicting, the results of the National Survey of Student Engagement (NSSE) (2007) show that although learning at Tusculum is active and collaborative, seniors perceive Tusculum to be below its peer colleges and universities in the category of Enriching Educational Experiences such as culminating senior projects or theses (See Appendix F: National Survey of Student Engagement, Enriching Educational Experiences [EEE]). The QEP implementation plan, particularly its second phase, makes direct use of these findings.

Tusculum College’s QEP topic is Problem Solving with Reflective Judgment. Approved by a majority vote of faculty and students and endorsed by the Board of Trustees, Problem Solving with Reflective Judgment resonates poignantly with Tusculum’s mission statement and its unique, historical roots. Further, nearly a decade of institutional assessment data establishes a less than stellar performance in the areas of critical thinking, suggesting substantive curricular and pedagogical change is due. The Reflective Judgment Model (RJM) upon which Tusculum will principally base its QEP provides a road map for advancing students’ epistemic thinking about the information they encounter as they identify ill-structured problems, gather information necessary to learn about and solve these problems, and argue the merits of their solutions. Not only will this plan facilitate better thinking, it will also improve students’ “practical wisdom,” whereby Tusculum graduates will create solutions that bring about positive social change. The QEP Steering Committee, in concert with a wide range of
affected constituencies, affirms Problem Solving with Reflective Judgment as Tusculum’s Quality Enhancement Plan
IV. Desired Student Learning Outcomes

Tusculum College strives to provide a Civic Arts education emphasizing practical wisdom, so that students can be engaged citizens upon graduation. The application of practical wisdom in the world requires us to foster students’ abilities to work with information, develop as critical thinkers, and strengthen their problem solving skills. The College has chosen to hone these skills through this PSRJ initiative. Our student learning outcomes emanate from this larger institutional purpose and reflect the specific intended effects of our plan.

Learning Outcome One: Students will progress in their ability to evaluate complex information and to develop logical and justifiable conclusions to ill-defined problems both independently and collaboratively.

Measurement 1: The Reasoning about Current Issues test (RCI) was selected by the Steering Committee to be the best measure of this learning outcome. In baseline data, our freshmen score 4.20, our sophomores 4.47, juniors 4.55 and seniors 4.48. Our goals are that in year three of the plan juniors will score 20% higher than freshmen, and in year four seniors will score 30% higher than freshmen.

Measurement 2: The plan also calls for the development of a rubric which will be used in targeted courses. Because there is overlap in RJ and critical thinking, this rubric will contain elements that measure Learning Outcome One (RJ) and also critical thinking. This rubric, which will be used repeatedly in students’ RJ-enriched Commons courses, will track more incremental change in the early years of the plan. See the rubric in Appendix G.

Reflective Judgment emerges from the critical thinking literature and shares many cognitive skills in common with critical thinking, though there is some evidence supporting it as a separate construct. In consideration of its conceptual overlap with critical thinking (see Figure 1) and the institutional effectiveness data supporting this as
an area of weak student performance, the Committee created a second learning outcome.

**Learning Outcome Two: Students will progress in their critical thinking skills.**

**Measurement 1:** The Collegiate Assessment of Academic Proficiency (CAAP) Critical Thinking subtest. In years 2001 to 2006 Tusculum sophomores’ average score on this measure was the 39th percentile. By year two of our plan Tusculum sophomores will score in the 55th percentile. As evidence of “progress,” in year four the senior class will score five percentile points higher than their sophomore marks.

**Measurement 2:** A second measure of critical thinking skills will be the rubric noted above, which will be used in courses that are designed to intentionally foster critical thinking. The rubric is in appendix G.

**Learning Outcome Three: Students will report greater academic engagement as a result of the plan’s curricular and co-curricular enrichment.**

**Measurement 1:** One of the measures of student engagement will be from the NSSE, specifically items from the Enriching Educational Experiences [EEE] category. In 2007 Tusculum student EEE scores were at 38.4, whereas our Carnegie peers score at 44.6. Students graduating in 2013 will score above 44.6 and two points above the Carnegie peer group’s new scores. Specific items on the NSSE are discussed in the Chapter VIII Assessment.

**Measurement 2:** Secondly, the plan will survey students for time spent outside of class on intellectual pursuits. Data will be gathered using focus groups and/or an online survey tool.

**Measurement 3:** A third indirect measure of student engagement will come from select items of the Noel-Levitz Student Satisfaction Inventory. On item 39 students respond to the prompt “I am able to experience intellectual growth here.” Item 41 states “There is a commitment to academic excellence on this campus.” Item 58 states, “the quality of instruction I receive in most of my classes is excellent.”
The plan contains three learning outcomes: developing students’ Reflective Judgment skills, building their critical thinking ability, and strengthening their academic engagement. The measurement of these outcomes, briefly noted above, will be further detailed in the chapter addressing assessment. These learning outcomes resonate with the spirit of Tusculum’s unique civic arts education. The plan to develop students’ thinking by honing their ability to solve problems using Reflective Judgment should develop these learning outcomes. Standardized, normed, national instruments and created rubrics and surveys will provide both direct and indirect measures of student learning at both the level of the classroom and that of the graduating class. Finally these measures will yield formative feedback, which will be integrated into the unfolding plan, and the benchmarks by which to gauge success.
V. Literature Review and Best Practices

A review of the literature affirms that students need to be equipped with the ability to think through complex problems and create solutions that optimize benefits for all affected. As a means to that end, Tusculum College has selected the QEP topic Problem Solving with Reflective Judgment and conceives of this project as two related efforts: solving problems in the classroom and solving problems in the real world. This chapter previews the need for critical thinking, the history and development of the construct RJ, and the best practices for encouraging critical thinking and RJ.

The Need: A Complex World Requires More Complex Thinking

Accelerating societal change and technological advances in communication, manufacturing, and travel, not only portend new problems for humanity (Cochran & Harpending, 2009; Paul & Willsen, 1993), but also create new opportunities for innovative solutions and continuing progress.

One area where change has been revolutionary is in the realm of information and communication. No part of our society is unaffected. Information has the potential to upend countries: the Internet evades China’s effort at total censorship, and Twitter nearly fomented a revolution in Iran during the summer of 2009. Students live in the “information society” and participate in a rapidly evolving “knowledge economy.” The Internet has ensured that, in contrast to previous generations, students do not lack access to information, but are rather overrun by the glut of it. Moreover, students are often unskilled at knowing how to work with data, unable to recognize complex problems, locate and develop relevant information, and unable to propose solutions that are beneficial to stakeholders. Because the web allows, if not promotes, misinformation and deception by mixing low quality facts with more credible knowledge, information or digital literacy is a new essential skill (Eisenberg, Lowe, & Spitzer, 2004), and the need
for students to evaluate the truth claims of their sources as they use information to construct their beliefs, arguments, and solutions becomes increasingly critical to effective problem solving.

This rapid change also puts economic viability, both nationally and personally, at stake. Laura Tyson, former Chairwoman of Clinton’s Council of Economic Advisors, notes that the new economy requires more than an ability to read, write, and do arithmetic. People will be asked to use “judgment and make decisions rather than to merely follow directions” (1993 p. 53). Changes in the complexity of the world ought to be mirrored by changes in the very educational system designed to prepare people for this world (Paul & Willsen, 1993).

The Association of American Colleges and Universities (AACU) also recognizes this need. In 1991, as part of the Liberal Learning Initiative, the Association asserted:

In the final analysis, the real challenge of college, for students and faculty members alike, is empowering individuals to know that the world is far more complex than it first appears, and that they must make interpretive arguments and decision-judgments that entail real consequences for which they must take responsibility and from which they may not flee by disclaiming expertise (pp 16-17).

The need to keep pace with accelerating societal change did in no way abate in the past decade, and in 2008 the AACU reaffirmed that colleges and universities should “prepare students to bring knowledge, experience, and reflective judgment to the daunting complexity of the contemporary world.” These efforts are necessary to develop citizens with “a strong foundation to deal with issues that are challenging, unscripted, and often vigorously contested.” Schools must “teach students to find and evaluate evidence and to take into account both context and competing perspectives as they form judgments about significant questions” (AACU, 2008, p. 5).
What resonates in the literature is a common theme: our world is quickly changing, and our problems are growing more complex. Business and education leaders have charged schools to develop students’ abilities to interpret information and to make smart decisions and sound judgments, even as their knowledge is not yet complete. Reflective Judgment, with its dual emphasis on evaluating sources of knowledge and making defensible decisions, serves as the “bookends” of critical thinking, and PSRJ will transform a Tusculum education to be more aligned with these emerging standards.

**History and Development of the Construct of Reflective Judgment**

**The Development of the “Reflective Judgment” Model**

The Reflective Judgment model draws from two different bodies of educational thought, the works of philosopher and scientist John Dewey and the research of cognitive developmental psychologist Jean Piaget. Although the general notion of Reflective Judgment hails from Cicero and other ancient philosophers, the modern construct is rooted in Dewey’s 1933 book *How We Think: A Restatement of the Relation of Reflective Thinking to the Educative Process* and shares common ground with critical thinking and information literacy. Dewey (1933) defines “reflective thinking” as sophisticated reasoning which occurs when a thinker recognizes the presence of a problem for which there is no single answer, either because there is insufficient data or simply because there are multiple plausible solutions. Thinking about an idea is insufficient. The thinker must make a judgment, a *Reflective Judgment*, to determine the best solution given available data.

Other educators added to Dewey’s pioneering work on critical thinking. Edward Glaser, the co-creator of the most widely used critical thinking test, the Watson-Glaser Critical Thinking Appraisal, explained critical thinking as
an attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one’s experience; (2) knowledge of the methods of logical inquiry and reasoning; and (3) some skill in applying those methods. Critical thinking calls for a persistent effort to examine any belief or supposed form of knowledge in the light of the evidence that supports it and the further conclusions to which it tends (Glaser, 1941, p. 5).

Robert Ennis, a scientist and leader in the critical thinking movement, proposed that critical thinking was reasonable and reflective thinking that led to a decision or action (Norris & Ennis, 1989). Reemphasizing Dewey’s earlier notion of Reflective Judgment, open thinking was brought to a defensible point of closure. Adding another dimension, Richard Paul (1990) underscored that critical thinking involved metacognitive skills, thinking about one’s thinking in order to improve it according to certain intellectual standards. Reflective Judgment, as used by King and Kitchener (1994), overlapped substantially with this rich history of critical thinking, and concurred with Dewey and Ennis regarding the importance of making decisions that are defensible in light of available data.

King and Kitchener (1994), however, distinguished their model from the historic discussion of critical thinking by arguing that critical thinking, when viewed as synonymous with formal logic, or even informal logic and problem solving, failed to take into account epistemic assumptions and was, therefore, fundamentally flawed. Although one may compose a valid argument using formal logic, make a reasonable inference, and solve a problem using available resources and data, if the argument, inference, and problem solving are based on “facts” or “truth” derived from weak, questionable, unreliable or biased sources (e.g., personal experience or an authority) the conclusions, even though logically valid, may be wrong. Good critical thinking, King and Kitchener
posited, must develop students’ understanding about epistemology - how one knows, comes to know, and constructs knowing.

Reflective Judgment is not a familiar construct to many of Tusculum’s constituents. It emerges from critical thinking and, with its emphasis on epistemology and understanding the reasons why certain information is more trustworthy than other information, overlaps slightly with the construct of information literacy. In order to explain the idea of Reflective Judgment, the Steering Committee put together the following diagram to help communicate to the Tusculum Community the essence of Reflective Judgment, its similarity to familiar concepts, and points of distinction. See Figure 2 below.

![Figure 2: Reflective Judgment in Relationship to Other Concepts](image-url)

Figure 2: Reflective Judgment in Relationship to Other Concepts
In addition to focusing on epistemic assumptions, King and Kitchener (1994) added to traditional approaches to critical thinking by espousing a developmental model. The notion that thinking ability unfolded in a sequential and stage-like manner, though not without dispute, has a rich history in developmental psychology. Piaget was the first to propose that cognitive development unfolded in stages. One aspect of Piaget’s theory included the idea that cognitive structures responsible for thinking changed as a result of maturation. These changes allowed the individual to think differently about the environment, progressing from coordinating simple, repetitive behaviors (sensorimotor), using language and imagination, though not logic (preoperational), to applying logic to concrete objects (concrete operations), and, finally, to wrestling through and weighing ideas (formal operations). Rather than subscribing to Piaget’s view that children passed through broad, cognitively based, discrete stages, Kurt Fischer (1980) argued for “skill theory,” proposing instead that it is “skills in a context” that are mastered and that the strength of the skill tends to be variable and situational, changing as circumstances, time of day, or emotional stage changes. Skills, representing control over a particular behavior, feeling or thinking process, were understood as more fluid and vulnerable to outside influences. Finally, Perry’s influence (1970) cannot be overestimated. Rooted in a fifteen-year study of the thinking process of college males, Perry proposed that young adults moved through nine “positions” along their path of growing epistemic sophistication. Perry described most young adults beginning this journey as dualists. Dualists recognize knowledge as absolute. Truth moves against falsity; right and wrong, good and evil are binary oppositions. Following cognitive upset, commonly referred to as disequilibrium or dissonance, however, some young adults progress to a position where they recognize multiple conflicting “truths,” which he labeled this position “relativism.” Perry argued that relativism led to unbearable disorientation and students cognitively withdrew, temporized or made and defended commitments within a
relativistic context. However, this last position was inadequately developed in Perry’s initial and subsequent work (1970, 1981). When Perry came to speak at the University of Minnesota in the 1970s, graduate students Patricia King and Karen Kitchener saw an incomplete model of epistemological development and sought to develop a new model that emphasized moving from relativism toward creating tenable solutions and answers within a context of uncertainty. This model became the Reflective Judgment Model (RJM).

King and Kitchener’s research (1994) described epistemic assumptions as advancing through seven distinct and qualitatively different stages. These stages comprised an invariant sequence in which a person’s thinking progressed from one stage to the next, skipping none. In their model and research, thinkers were classified into a stage according to their assumptions about what knowledge is and how it is acquired, with increasingly complex and effective judgments characterizing those at the higher levels. According to the RJM there were three broad phases of epistemological development, each of which was subdivided into qualitatively different substages. This development in epistemic reasoning spanned from childhood to adulthood as individuals improved their ability “to evaluate knowledge claims and to explain and defend their points of view on controversial issues” (p.13).

The first of the phases was labeled pre-reflective and is marked by the assumption that “certain” knowledge is gained by personal experience or from authority. Individuals within this phase failed to distinguish between “well- and ill-structured problems” (p. 16). This stage was similar to Perry’s position of dualism (1970). The second phase, quasi-reflective, showed improved discernment of structured versus ill-structured problems; however, there was little ability to proceed with judgment in the face of ambiguity, and use of evidence was assumed to be “individualistic and idiosyncratic.” This stage
overlapped with Perry’s description of the relativist (1970). King and Kitchener labeled the most cognitively advanced phase “Reflective Reasoning” or “Reflective Judgment (RJ).” In this highest stage, people recognized that there were limits to knowledge and consequently elements of uncertainty to what we could be known. Nonetheless, RJ thinkers constructed a reasonable knowledge claim, answer or solution, by applying rigorous inquiry to the most credible information available, yet tentatively holding their position because they recognized that with better tools and/or new information the “truth” of a situation may change. The authors contended that Reflective Judgment enabled people to become more effective at solving complex problems.

Thus Reflective Judgment emerged from the critical thinking tradition, with its emphasis on logic, reasonable argument, and metacognition, and underscored the importance of drawing one’s thinking to a close, even if temporarily, and arriving at a decision, action (Norris & Ennis, 1989) or judgment (Dewey, 1933). Additionally, the RJM borrows from a rich tradition in cognitive developmental psychology, which proposes that thinking changes in predictable ways across time, and that thinking skills are pliable, contextual and domain-specific (Fischer, 1980). Finally, it builds upon Perry’s work (1970, 1981) which portrays a maturing epistemology as the foundation for sound critical thinking in adulthood and addresses identified weaknesses in his model by articulating the significance of reaching a reasoned position in a culture of intellectual relativism.

**Best Practices**

**Best practices for developing critical thinking and Reflective Judgment.**

Although no consensus exists on how to best teach critical thinking (King & Kitchener, 1994; Kuhn, 1999) and, by extension, Reflective Judgment, there is wide, if not unanimous, agreement that the approaches described in the following section
represent recognized routes for improving student thinking. No hierarchy is implied by the order nor is there any intent to suggest that a single best method exists. Rather, the literature notes these as good practices consistent with facilitating critical thinking. In addition, faculty surveyed at Tusculum identified three Problem Solving pedagogical approaches that they wish to develop to enhance their teaching effectiveness. This section will review what the literature says about teaching for critical thinking and the three specific pedagogies voted upon by the faculty.

**Best practices for the classroom.**

The ability to engage in rigorous inquiry and reflective practice depends on predispositions toward reflection, level of RJ, and the quality of educational intervention. Research consistently demonstrates a statistically significant relationship between educational level and RJ (Brabeck, 1984; Friedman, 2004; King & Kitchener, 1994; King, et al, 1983; Kitchener & King, 1990; Kitchener, et al, 1993) and that the cognitive skills directly related to RJ levels can be prompted through contextual support (Fischer & Lamborn, 1988; Fischer, et al, 1993). King and Kitchener (1994) argue that developing reflective thinkers requires educators to attend to students’ epistemic presuppositions and then facilitate their progression toward more complex and sophisticated ways of viewing information and “learn to make defensible judgments about vexing problems” (p. 1). This is accomplished through frequent support, practice, and feedback, purposeful guidance in challenging assumptions, and educational experiences such as discussions, active learning, and writing activities (Brownlee, Purdie, & Boulton-Lewis, 2001; Cicala, 1997; Roberts, et al, 2001; Stuart & Thurlow, 2000). Without support, however, individuals function cognitively at a level that marks the low end of their natural range. Consequently, courses will need to be redesigned and faculty engaged in more reflective practice in order to help students develop their Reflective Judgment skills.
First, teachers need to create a safe environment that supports disequilibrium. Transitioning from Pre-Reflective to Quasi-Reflective is particularly uncomfortable because adults must recognize that knowledge is uncertain and complex; uncertainty is an inexorable part of the nature of the digital age. Even when thinking is inadequate, confused, or dualistic, students must be shown respect and emotional support. When reasoning reaches its limits and cognitive disequilibrium occurs, the student must feel safe in abandoning flawed, yet comfortable, ways of thinking, and encouraged to embrace the intellectual risks of moving forward into less familiar patterns of thinking (King & Kitchener, 1994). Similarly, Brookfield (187) affirms the importance of shoring up students’ self-worth as a means of supporting the development of their critical thinking skills.

Following the creation of a supportive classroom environment, it is important that students be challenged to work with questions, controversies, and varying perspectives. Textbooks often package content as an organized collection of information or facts and, as a matter of course, students memorize these facts and repeat them on test day. Recall and regurgitation do not inherently require high levels of intellectual reasoning as students are rarely asked to understand and articulate processes through which this information was constructed. In contrast, before the “information or facts” existed, there was a question. If the question was a substantive one, then likely there were competing answers or solutions, each with its own supporting evidence, presuppositions, reasoning, interpretations, and implications. If our fields are still developing, then there remain unresolved questions for which there are competing answers. As a result of this evolution of knowledge, the history of our fields is littered with “facts,” now recognized as errors, which illustrate the idea of controversy or uncertainty in knowledge. In order to develop critical thinking and RJ, faculty must teach their discipline’s questions.
Related, faculty also need to allow students the opportunity to think through controversies. Friedman and Schoen (2009) observed that using real-life dilemmas and ill-defined problems as foci for reasoning, participants progressed in their capacity to address ambiguity, recognize complexity of knowledge claims, reason and justify evidence, and make Reflective Judgments. Providing support and protocols enabled most participants to negotiate dissonance, as even the least reflective participants began to question beliefs. King and Kitchener (1994) believed most students are capable of dealing with uncertainty and understanding ill-structured problems and should have the opportunity to wrestle with compelling, yet-unsolved issues, even as underclassmen, rather than having to wait until graduate school for such experiences.

Finally, facilitating critical thinking involves using a variety of modalities in the classroom to examine problems, positions and evidence from different angles. Course design must allocate time and create opportunity for students to evaluate others’ perspectives, especially the evidence used as support (King & Kitchener, 1994). Research suggests that timely and systematic probing of responses during class discussion can reveal student beliefs, and also provide a supportive environment to interrogate naïve assumptions and negotiate dissonance. In particular questions modeled after those contained in the Reflective Judgment Interview reveal epistemic assumptions about complexity and uncertainty, and also reinforce more logical evaluations of evidence, context, perspective, biases, and knowledge claims (Friedman & Schoen, 2009). Classes will necessarily shift from didactic, teacher-centered lectures toward guided discussions.

Problem solving pedagogies: Problem-based learning, case-study method, and moral dilemmas.
In addition to the general principles previously identified in the literature, the QEP Steering Committee polled faculty as to the specific types of Problem Solving teaching approaches they would like to learn more about so that they could improve their teaching and strengthen student RJ skills. The faculty selected problem-based learning (PBL), the case study method, and moral and ethical dilemmas as pedagogical techniques to develop.

Problem-Based Learning uses ill-structured, possibly hypothetical, problems in the classroom “to motivate students to identify and research the concepts and principles they need to know to work through those problems” (Duch, Gron, & Allen, 2001, p. 6). In PBL, students collaborate to solve complex problems, learning not only how to solve the problems, but also how to work effectively with others. In addition to providing the ill-structured problems required by the RJM, PBL allows students to experience the processes involved in conducting research, an activity more often reserved for graduate students or fortunate undergraduates assisting a faculty member. A substantial body of research supports the view that PBL works well with a wide range of subjects (Wood, 1993; Miller, 1996; White, 2000; Allen & Duch, 1998; Thompson, 1996; Williams & Duch, 1997), and does not compromise the acquisition of content knowledge (Lieux, 2001). Resources, notably a “how-to” manual by Duch, et al. (2001), promise to aid faculty development in this teaching approach.

Contrasting slightly with PBL, a second approach, the case-study method, involves working though a problem situation that has actually occurred (Naumes & Naumes, 2006). Rather than rely on invented problems, purists insist that the case be grounded in real events, though they may also be based on situations that have occurred in the past or in different areas of the world. Complex issues from the local community, in particular, provide students an opportunity to experience a very real problem, to assess
the impact of proposed solutions, and to reflect in a more immediate way on their judgments. Effective case-studies encourage critical thinking because, done right, they can generate discussion and analysis, enable students to practice identifying and evaluating problems in context, and examine the relationships that exist among elements in the problem ecosystem (Naumes & Naumes, 2006).

Many resources support the feasibility of teaching faculty to use the case-study approach to learning. A wide range of types of case studies ensure that the case-study approach could be adapted to a range of coursework, teaching and learning styles. Further, Naumes and Naumes (2006) describe step by step the creation of case studies, and how to critique and revise them. It promises to be a solid resource which will enhance and simplify faculty development in this approach. Another book, *Teaching and the Case Method: Text, Cases, and Readings* (Barnes, Christensen, & Hansen, 1984), details the authors’ twenty years of experience of faculty development in case study methods at the Harvard Business School. Their book delineates steps for establishing faculty training, seminars and their samples, drawn from a wide range of courses, demonstrate the approach’s broad applicability. Using this research and experience, numerous schools around the country have implemented their own programs to develop faculty in teaching with case studies. Various other resources exist to aid the faculty member and student in thinking through, or writing their own, case studies (Stake, 1995), address pedagogical challenges associated with a changed classroom culture (i.e., a de-centering of authority) (Barnes, Christensen, & Hansen, 1984), to facilitate implementation in small and large classes (Herreid, 2006), and to illustrate the successful use of the case study approach in disciplines ranging from the natural sciences (Herreid, 2006) to education (Klein, 2003; Lundeberg, Levin, &
Harrington, 1999; Heitzmann, 2008; Schussler, Bercaw, & Stooksberry, 2008; Yadav et al. 2007).

Finally, the faculty voted to emphasize working through moral and ethical dilemmas as part of classroom discussion because this aspect of Problem Solving would build upon the strengths of PBL and the case study approach, while raising affective involvement and burden (Shapiro & Hassinger, 2007). Morality has been linked to reasoning and cognitive development since Piaget’s work in 1932 and further advanced by Kohlberg (1981) and Rest, Narvaez, Bebau, and Thoma (1999). Although it is not at all clear that developing moral reasoning affects ethical behavior (Schmidt, 2009), educational researchers posit that requiring students to justify their solutions to ethical dilemmas can draw out their best reasoning efforts and sharpen emotional sensibilities (Shapiro & Hassinger, 2007). Further, opening up classrooms for discussions about moral and ethical implications of decisions or judgments is important because Tusculum College, with its civic arts focus and Judeo-Christian heritage, aspires to nurture students not only to make expedient or defensible choices, but also to act in a way that brings about public good and social change.

To bring about these changes to the classroom, faculty will need to learn about problem-based pedagogies and de-centered approaches to learning. However, the adoption of a few new exercises will not suffice. Educators should also reconsider the nature of the educational process, reflect upon, and discuss the complex dilemmas inherent in their personal practice, and model this process for students; otherwise, faculty will miss significant opportunities to support development in students’ cognitive reasoning.

*Best practices for activities that transcend the classroom.*
Conducting research with students hones their critical thinking skills (McBurney, 1995; Kurfiss, 1988). Designing research to answer a question is a quintessential ill-structured task (McBurney, 1995) and, as such, presents an ideal opportunity for students to gather data, assess their relevance, evaluate credibility, and subsequently, understand from where knowledge comes. King and Kitchener (2002) describe these activities as contributing to the development of Reflective Judgment and Kurfiss’ (1988) authoritative work on critical thinking affirms that research methods classes and “doing” science advance critical thinking skills.

Employment settings can also facilitate learning. Although the workplace, with its hierarchical structure and sometimes stifling rules, has been described as occasionally inimical to learning and personal development (Gould, 1980), it is where most adults spend half of their waking life and, depending upon the employer culture, it can foster higher order thinking skills. Strategic planning, decision-making, creative Problem Solving, and research and development (R&D) are but a few examples of how critical thinking manifests itself in the workplace. Not only is critical thinking important, but also RJ, in particular, appears to be an invaluable skill for management. Isenberg (1983) suggests that managers “need to abandon the search for certainty before taking action” (p. 247), corresponding very closely with RJ’s emphasis on making decisions in the face of uncertain information. Brookfield (1987) argues that critical thinking is a context-embedded skill, which can be acquired by observing good critical thinking (models) at work. Thus, the workplace is also a venue where career-specific critical thinking skills can be developed.

Any discussion of enhancing critical thinking on campus would be remiss without noting the importance of co-curricular experiences on students’ intellectual development. In the early 1990’s a research team led by Terenzini (1993) tracked 600 students’
curricular and co-curricular involvement and evaluated college participation as it affected critical thinking scores on the College Assessment of Academic Proficiency (CAAP) test. Of note, students’ out-of-class and in-class experiences were shown to affect critical thinking gains equally. This finding is consistent with a number of other similar studies (Pascarella & Terrenzini, 1991; Terenzini, Springer, Pascarella, & Nora, 1995), leading authors to conclude strongly that organizational and conceptual barriers separating academic and student affairs should be eliminated and the delivery of education reconceptualized, to reflect our newfound understanding of students’ holistic intellectual development.

In review, the literature indicates that teaching for critical thinking will require changes to classroom pedagogy. The walls between the classroom and world, curricular and co-curricular need to become porous. Classroom authority will be decentralized (Barnes, Christensen, & Hansen, 1984; Kurfiss, 1988) and teachers must be willing to “step off the stage a good deal of the time to let students figure out things for themselves” (Kurfiss, 1988, p. 103). Developing students Reflective Judgment skills will require us to allocate class time for students to think through evidentiary claims and to practice the skills of argumentation. The impetus to learn content must be connected to substantive questions, relevant problems, and meaningful assignments.

In addition to the importance of having a culture-transforming conversation about the purposes of education and, more specifically, teaching for thinking, certain pedagogical practices are identified for their benefit of having students learn by thinking through problems and defending their positions. Among them, are PBL, the case study method, and probing moral and ethical dilemmas; each brings a considerable body of research literature and practical guides to support and facilitate implementation.
VI. Problem Solving with Reflective Judgment: Plan Narrative

After considering faculty interviews and surveys, research on the scholarship of teaching and learning, and Tusculum’s unique programs and strengths, the Steering Committee developed a plan for implementing the QEP. The aim is to strengthen students’ skills at Problem Solving with Reflective Judgment by modifying existing courses and adding RJ enriched program requirements. Because the QEP is broad-based and deeply integrated into Tusculum’s educational programs, it will at first appear complex. However, its essence may be broadly conceptualized as unfolding in two forms: Problem-solving with Reflective Judgment in the classroom, and Problem-solving with Reflective Judgment in the world. At the heart of these changes is faculty development.

Figure 3 on the following page provides a broad, organizational, graphic overview of the proposed QEP implementation. A detailed narrative description of the proposal follows the table, and the next chapter provides a detailed timeline of the proposed steps.
Table 1: Problem Solving with Reflective Judgment in the Classroom

<table>
<thead>
<tr>
<th>Residential Commons Program</th>
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<tbody>
<tr>
<td>(2010) Tusculum Experience (Orientation)</td>
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<tr>
<td>(2010) Social Science Courses</td>
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<tr>
<td>(2010) Composition</td>
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<tr>
<td>(2011) Service-learning</td>
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<td>(2012) Senior Seminar</td>
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<tr>
<th>Gateway Commons Program</th>
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<tr>
<td>(2010) OREN 100 (Orientation)</td>
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<tr>
<td>(2010) Social Science Courses</td>
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<td>(2010) Composition</td>
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<td>(2011) EDUC 200 and MGMT 232</td>
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<tr>
<th>Co-curricular</th>
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<tr>
<td>(2010) Panel Discussions</td>
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<td>(2010) Resident Advisor Training</td>
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Table 2: Problem Solving with Reflective Judgment in the World

<table>
<thead>
<tr>
<th>Residential</th>
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<tbody>
<tr>
<td>(2012) Service-learning requirement (SVLN 351, EVISA 354, and SVLN 356) more closely connected to solving problems with RJ.</td>
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</table>

(2012) Majors offer and require Problem Solving with RJ through strengthened:  
- Internships and Practica  
- Service-learning  
- Research

<table>
<thead>
<tr>
<th>Gateway/Graduate and Professional Studies</th>
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</table>
| (2012) Education and Organizational Management offer and require Problem-solving with Reflective Judgment through strengthened:  
- Internships and Practica  
- Service-learning  
- Research |

The first phase of the QEP, Problem Solving with Reflective Judgment in the classroom proposes to modify targeted courses in the general education curriculum, which, at Tusculum, is referred to as the Commons Program. A Director and Committee
oversee the administration of the Commons Program. As the QEP unfolds, the first few years (2010-2012) will foster pedagogical changes in specific Commons Program courses and hone the RJ elements of critical thinking, that is, evaluating knowledge claims and constructing strong arguments, positions, or solutions. Because the changes proposed by our plan involve substantial course revision and changes to learning outcomes of courses housed within the Commons program, the QEP Director and Director of General Education will work closely during the 2009-2010 year, and as the QEP unfolds, to ensure that the changes proposed are approved by the Committees which have oversight to these curricular changes.

The second phase of the QEP, Problem Solving with Reflective Judgment in the World, will roll out in earnest in 2012. It will affect majors and programs at Tusculum by requiring that Reflective Judgment be embedded within the major. This will necessitate changes to programs and the catalogue. These changes will require the approval of various Committees and, ultimately, faculty approval. In preparation for these changes, the QEP Director will, beginning in the fall of 2010, work with School Directors, Department Chairs, and the Programs and Policies Committee to promote the approval and passage of these proposed amendments to programs.

**Problem Solving with Reflective Judgment in the Classroom: Practice**

In the first phase of the QEP students will practice Problem-solving with Reflective Judgment in their coursework. Residential students, typically in their first year, take (a) an orientation class (Tusculum Experience), (b) a social science course, and (c) a composition course to meet Commons (general education) requirements. In order to promote change in student thinking, each May, beginning 2010, Tusculum will sponsor a “May Institute” development workshop. The workshops will be open to all, faculty and
staff, but the participation of faculty in the aforementioned targeted courses and library staff who teach “Information Literacy” will be particularly encouraged. The first May Institute will address the question “how to teach for Reflective Judgment?” Changes to pedagogy and assignments conceived during the workshops will be reinforced in practice throughout the following year through involvement in a teaching circle, which is an approach to community building and faculty development that Tusculum has successfully practiced since academic year 2007-2008. With faculty development having occurred in late spring of 2010 and teaching circles complementing the implementation of new ideas during the academic year 2010-2011, students entering in the fall of 2010 will first experience modified versions of the identified courses.

Through its Gateway Program, Tusculum provides adult learners a focused curriculum for completing their bachelor’s degree. Concurrent with Residential implementation, these students will learn about Reflective Judgment in their orientation classes starting in the fall of 2010. Further, they will practice these skills in the classroom as they complete certain targeted courses (social science classes, and composition). Faculty teaching these courses will be invited to participate in the May Institute noted above. However because these course instructors are often adjunct faculty, geographically dispersed with challenging schedules, they will not be expected to continue in teaching circles, but instead they will take part in online readings and discussions facilitated by the QEP Director in different cohorts for two weeks during June and December.

The second year of the plan focuses on infusing Tusculum’s introductory service-learning course with Reflective Judgment. Presently, sophomore Residential students take CMNS 251 in which they are introduced more formally to service learning, and which culminates in a service project. During the spring of 2011, faculty teaching this
course will participate in development experiences that parallel the efforts of the previous year. The second May Institute will focus on how one connects service-learning to solving a problem using Reflective Judgment. Also paralleling first year efforts, support and development will be offered through a teaching circle with the same theme. The outcome of these development opportunities will be redesigned CMNS 251 courses that address the aims of PSRJ. These modified courses will be available to students beginning in the fall of 2011; thus, most of our entering (2010 freshmen) will have a fourth chance to practice thinking with Reflective Judgment.

Finally, in addition to their orientation and participation in general education courses, adult learners in Tusculum’s focused and accelerated Graduate and Professional Studies (GPS) program will have a final opportunity to practice Problem Solving with Reflective Judgment in the classroom. Adults pursuing studies in Education will encounter Reflective Judgment enriched coursework in their course, History, Philosophy, and Principles of Education (EDUC 200). Adults studying Organizational Management will practice Problem Solving with Reflective Judgment in the Foundations in Management Skills class, MGMT 232. As with previous cohorts of developed faculty, in the spring of 2011, professors teaching these courses will participate in a retreat or workshop alongside other faculty teaching CMNS 251 (service-learning). Facilitated breakout groups will tailor the learning to each faculty group’s specific needs. Because many GPS faculty are adjunct, there will not be the expectation of ongoing participation in teaching circles, but instead they will have opportunities for online readings, discussion and consultation available to them for two weeks during June and a second opportunity in December. After these courses have been redesigned by faculty to integrate Problem solving with Reflective Judgment, adult learners studying Education
and Organizational Management will take Reflective Judgment enhanced versions of these survey courses beginning in the fall of 2011.

Tusculum requires a senior capstone of its Residential students, either an integrative course offered from within the Commons program or a capstone course within the major. These senior capstone courses present a final, formalized opportunity to engage in Reflective Judgment in the classroom and will be modified to include an emphasis on Reflective Judgment. Beginning in the spring of 2012, faculty who teach these courses will participate in a teaching circle-styled development opportunity; modified courses being rolled out in the fall of 2012.

Complementing changes to the classroom, PSRJ also proposes new co-curricular programming for the Residential college. Tusculum’s focused calendar means that residential students spend an intense three hours a day in class, and have substantial opportunity for learning outside the classroom. The Office of Student Affairs, therefore, comprises a vital element of the academic ecosystem and the QEP. Recognizing the importance of the co-curriculum, beginning in the spring of 2010 the QEP Director will initiate ongoing quarterly meetings with the Associate Dean of Student Affairs and an RJ Student Development Workgroup. Each year this workgroup will be charged with planning two “after-hours programs” which will reinforce critical thinking and Reflective Judgment in daily decision-making. Residential students are already required to participate in co-curricular life by recording attendance at certified “Arts and Lecture” events. Approval for Arts and Lecture credit will be sought so that these “after hours programs” can contribute to satisfying this requirement. Finally, Tusculum employs 26 Resident Advisors (RAs) who provide programs in the residence halls. The QEP Director and Director of Residential Life will hold two, four hour development sessions each August with new RAs to equip them to develop RJ-specific programs for students.
in the residence halls around ill-structured problems of living, such as choosing a major, making decisions about relocation after graduation, and relationships.

**Problem Solving with Reflective Judgment in the World: Application**

In the second phase of the QEP, Tusculum aims to fulfill its mission of educating students in “practical wisdom” and “reflective thinking” for beneficent participation in a democratic society by having students take the skills practiced in the classroom and apply them to their world. As an overview, a portion of figure 3 is repeated below.

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<tr>
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**Problem Solving in Service-Learning**

The QEP aims to more closely connect Problem Solving with Reflective Judgment to service-learning. Presently, Tusculum requires its Residential students to complete a service-learning project. These projects are a distinctive element of a Tusculum education within a civic arts environment and, because of the emphasis the institution places on service-learning, there are three academic program directors who lead in
these efforts: Director of the Center for Civic Advancement, Director of the Hobbie Center, and the Bonner Leaders Director.

To facilitate greater integration and shared vision for service-learning as a vehicle to promote Reflective Judgment in the world, in calendar year 2011 an outside consultant with expertise in service-learning and critical thinking will provide a workshop for service-learning program directors and other interested persons. In the months following this update on contemporary best practices in service-learning, the Directors will set aside time during 2011 to meet and discuss new, shared ideas for implementing service-learning, and create a shared rubric for assessing Reflective Judgment in service-learning. These meetings will create common expectations for service-learning and Reflective Judgment and facilitate common expectations of enhanced academic rigor in service-learning.

In 2012 the investment in the Directors is more fully realized. In the spring, the focus shifts from coordinating a common vision to integrating these ideas (i.e., activities, specific questions to prompt Reflective Judgment, rubrics) into the course design of four service-learning courses, SVLN 351, SVLN 354, VISA 354, and SVLN 356. Also, the Hobbie Center Director and other Directors will work together to coordinate faculty development for those wishing to integrate service-learning as Problem Solving with Reflective Judgment into a course in the majors. A clearer connection between the QEP aims and service-learning will result, and partnerships with faculty will ensure that these connections are realized across major programs.

Real World Problem Solving in Academic Programs

Tusculum College offers Residential and GPS students numerous opportunities to apply their skills in the world. In the process of forming the QEP, a number of areas
were identified that could be improved. Students have many chances to engage in service-learning, complete an internship, or conduct research with faculty members. In some cases internships or independent research are program requirements; however, these efforts are often offered by individuals or departments, without regularity, and without intentional mission-aligned design.

Beginning in the fall of 2012, the plan proposes that academic programs or majors at Tusculum will be modified so that program or course requirements include either (a) service-learning, (b) an internship experience, or (c) original research or creative project. Departments will choose at least one of these three options to develop, and subsequently will build the selected option(s) into a program requirement for their students. The resources allocated to this initiative will ensure that these RJ enhanced activities serve to meet the identified learning outcomes.

(a) In the spring of 2012 the QEP Director will collaborate with the Director of the Hobbie Center to help departments convert at least one required course into one that includes service-learning with Reflective Judgment, if this option is selected. Faculty development to support this option will likely take the form of a series of workshops on service-learning, Reflective Judgment, and backwards course design. These modified courses will be initially offered in the fall of 2012 and first required for the entering class of 2014.

(b) Alternatively, department chairs may decide to require internships of their students. In a similar manner, the QEP Director will collaborate with the Director of Career Development offering workshops for faculty that will help them become skilled at identifying problems at a worksite, applying Reflective Judgment, and developing companion assignments to connect the internship experience with the QEP aims of
strengthening RJ skills. The QEP Director will work with faculty to ensure the internship exercises critical thinking skills and the Director of Career Development will assist faculty members in developing contacts and streamlining processes. The workshops will begin in the spring of 2012, with the revised internships being first available in the fall of 2012 and required of the entering class of 2014, should this be the option chosen by the major program.

(c) Finally, Tusculum students may improve their Problem Solving with Reflective Judgment skills by working on a research project with faculty. The QEP will provide workshops for faculty and students on Reflective Judgment and undergraduate research for departments choosing this option, and will support these initiatives through recognition, seminars addressing information literacy, and mini-grants. The workshops will begin in the spring of 2012, with the new undergraduate research initiative bolstered by the support of the QEP beginning in the fall of 2012. If a program selects this option, it would affect students graduating in 2014.
VII. Implementation and Resources

Plan Narrative

The PSRJ initiative is based on a developmental model of cognitive development which proposes that thinking skills progress with maturation and environmental support. The plan will harness maturation and time to its advantage as it unfolds across five years. In the first phase of the plan, students will hone their reasoning skills by encountering course-specific problems posed to them in certain RJ-enriched classes. These courses will incorporate (a) problem-based learning, (b) case studies, and/or (c) ethical dilemmas into instruction. In the second phase of the plan the scaffolding and props will be lessened and students will apply these same reasoning skills to real problems outside the classroom. Our plan to develop students’ ability to solve problems with Reflective Judgment will unfold from “the classroom to the world.”

In year one (2010-2011), students will receive RJ-enriched instruction in the following courses:

• OREN 105: Tusculum Experience (Residential only)
• OREN 100 (Gateway): Introduction to the Academic Arts (GPS only)
• Multiple Commons Social Science Courses
• ENGL 110: Composition and Rhetoric
• EVSC 111: Environmental Science

In year two (2011-2012), first year changes will remain in place, while RJ-enriched instruction to the following courses:

Residential
• CMNS 251: Theory and Practice of Citizenship

Graduate and Professional Studies
• EDUC 200: History, Philosophy, and Principles of Education
• MGMT 232: Foundation in Management Skills

In year four (2013-2014), senior seminar courses, redesigned by faculty to have a greater emphasis on solving problems through Reflective Judgment, will be available to students within their major.

Concurrently, Residential students will encounter an enriched co-curricular experience in which Resident Advisors are developed as Reflective Judgment peer-mentors and infuse residence life with periodic discussion about solving problems using Reflective Judgment. The Arts and Lecture series may also present another occasional venue for co-curricular Reflective Judgment opportunities.

In phase two of our plan, our attention will turn to developing Reflective Judgment by solving problems in the world. In light of the purposes of higher education, the Committee’s literature review, and the unique civic arts character of Tusculum College, the second phase will focus on three different types of problems: (a) problems that exist because of a lack of information, requiring research or a creative project to solve, (b) social problems, requiring practical wisdom and action and (c) problems in the workplace, which can be addressed through an internship.

Toward this end, our plan anticipates beginning conversations across the campus and working with the appropriate committees in the fall of 2011 toward the goal of modifying program requirements to include (a) independent research or a creative project, (b) a program-specific service learning course, or (c) an internship that involves solving a work problem with Reflective Judgment.

Figure 4 provides an overview of implementation across time, and Appendix G elaborates upon this timeline in greater detail.
Figure 4: Overview of Timeline

| February | QEP voted upon by faculty and Board of Trustees; mailed to SACS-COC. |
| April    | SACS onsite visit. |
| May      | Four day faculty development workshop on teaching for RJ (May Institute). All faculty invited; faculty teaching plan-identified courses are especially encouraged to attend. Theme: Teaching for Reflective Judgment |
| June     | Gateway development (online).* |
| August   | Development for Resident Advisors.* |
| December | Gateway development (online).* |

**Year One: Practicing in the Classroom**

| September | Students take certain Commons courses which have been enriched with RJ focus; faculty teaching these courses are encouraged to participate in RJ teaching circles. |
| Fall      | Work with relevant Committees to plan phase two of QEP. |
| May       | Four day faculty development workshop on service learning and RJ (May Institute). All faculty invited; faculty teaching plan-identified courses (CMNS 251) are especially encouraged to attend. Theme: Service Learning and Reflective Judgment |
| June      | GPS faculty teaching EDUC 200 and MGMT 232 are invited to participate in RJ-workshop opportunities. |

**Year Two: Practicing in the Classroom**

| September | Residential students encounter RJ-enriched CMNS/SCOL 251 courses (service learning); faculty teaching these courses are encouraged to participate in RJ teaching circles. |
| September | GPS students encounter RJ-enriched Management 232 and Education 200. |
| Fall      | Work with relevant Committees to approve phase two of QEP (additional program requirements). |
| Spring    | Department designees work with identified campus specialists/directors to fashion new RJ-enriched program requirements for service-learning, internships, or research. May workshop on designing RJ experiences through experiences outside the classroom. |

**Year Three: Reflective Judgment in the World**

| Fall      | Residential and undergraduate GPS programs initiate new program-level requirements in which students participate in either RJ-enriched research, RJ-enriched internships or RJ-enriched service learning, all within the major. |
| Fall      | Faculty members in the residential program heading these new Departmental initiatives meet monthly in Teaching Circles. |
| December  | Examine data and speak with faculty in small groups to assess faculty development needs as it relates to the QEP and design new faculty development efforts for implementation in the next academic year in response to these identified needs. |
| May       | Four day faculty development workshop on teaching for RJ (May Institute). All faculty invited; faculty teaching senior seminar courses the following year are especially encouraged to attend. |

**Year Four: Reflective Judgment in the World**

| 2013 - 2014 | Continuation of previously initiated programs; modifications as suggested by feedback / Institutional Effectiveness data. |
| 2013-2014   | Students encounter senior seminar courses enriched with RJ. |

**Year Five: Reflective Judgment in the World**

| 2014 - 2015 | Continuation of previously initiated programs; modifications as suggested by feedback / Institutional Effectiveness data. |

* repeated each subsequent year
Institutional Capacity

Tusculum College commits to funding and sustaining the Quality Enhancement Plan with funds resident in the annual operational budget. Across five years of the QEP, the budget is projected to be $462,079.

Overview of Notable Programmatic Expenses

Pre-implementation
July 1, 2009– June 30, 2010

1. Personnel Costs
   1a. Direct Costs: QEP Director stipend July 2009, May and June 2010 $6,000
   1b. Indirect Costs: Course releases for the QEP Director and in-kind contributions of time from other QEP IT members. $29,509

2. Development Activities
   2a. May Institute, with the theme Teaching for Reflective Judgment $4,000
   2b. ACA T&L Conference Costs (Team of 12) $4,500
   2c. Books or other similar material for faculty, especially for Teaching and Learning Circle $2,000
   2d. Consultants-Speakers: will variously offer development across campus and provide continued assistance with the QEP (i.e., assessment) $1,000
   2e. Publicity: Intensive as the QEP is being announced and initiated $1500

3. RJ Resource Center and Supplies
   3a. Books and library resources $500
   3b. Testing supplies (Reasoning about Current Issues Test) $800
   3c. Duplication and printing $500
   3d. Other non-printing office supplies for the RJ Resource Center $500

4. Miscellaneous
   4a. Travel on behalf of the QEP to Tusculum’s different campuses $100
   4b. Meals to cover people’s need for food while participating in development activities, as well as to incentivize participation. $750
   4c. Phone $250
   4d. Postage $10

Total Pre-implementation budget $52,419
Year 1
July 1, 2010 – June 30, 2011

1. Personnel Costs
   1a. Direct Costs: QEP Director stipend July 2009, May and June 2010 $6,000
   1b. Indirect Costs: Course releases for the QEP Director and in-kind contributions of time from other QEP IT members. $46,444

2. Development Activities
   2a. May Institute, with the theme Service–learning and Reflective Judgment $4,000
   2b. ACA T&L Conference Costs (Team of 12) $4,500
       2c. Books or other similar material for faculty, especially for Teaching and Learning Circle $2,800
   2d. Consultants-Speakers: will variously offer development across campus and provide continued assistance with the QEP (i.e., assessment) $1,000
   2e. Publicity: Intensive as the QEP is being announced and initiated $750
   2f. Student resources: This will be money to aid RAs (26) in their programming and provide financial assistance for students $2,600
       This money could be used for materials or incentives (pizza)

3. RJ Resource Center and Supplies
   3a. Books and library resources $1,500
   3b. Testing supplies (Reasoning about Current Issues Test) $1,800
   3c. Duplication and printing $500
   3d. Other non-printing office supplies for the RJ Resource Center $2,000

4. Miscellaneous
   4a. Travel on behalf of the QEP to Tusculum’s different campuses $400
   4b. Meals to cover people’s need for food while participating in development activities, as well as to incentivize participation $3,000
   4c. Phone $250
   4d. Postage $15
   Inflationary increase of 3% $2,327

Total Year 1 $79,886
Year 2
July 1, 2010 – June 30, 2011

1. Personnel Costs
   1a. Direct Costs: QEP Director stipend July 2009, May and June 2010 $4,000
   1b. Indirect Costs: Course releases for the QEP Director and in-kind contributions of time from other QEP IT members $49,348

2. Development Activities
   2a. May Institute, with the theme Reflective Judgment and Real World Problems $4,000
   2b. ACA T&L Conference Costs (Team of 12) $4,500
   2c. Books or other similar material for faculty, especially for Teaching and Learning Circle $2,400
   2d. Consultants-Speakers: will variously offer development across campus and provide continued assistance with the QEP (i.e., assessment) $1,000
   2e. Publicity: Intensive as the QEP is being announced and initiated $500
   2f. Student resources $2,600

3. RJ Resource Center and Supplies
   3a. Books and library resources $750
   3b. Testing supplies (Reasoning about Current Issues Test) $1,800
   3c. Duplication and printing $500
   3d. Other non-printing office supplies for the RJ Resource Center $500

4. Miscellaneous
   4a. Travel on behalf of the QEP to Tusculum’s different campuses $400
   4b. Meals to cover people’s need for food while participating in development activities, as well as to incentivize participation $2,500
   4c. Phone $250
   4d. Postage $15
   Inflationary increase of 3% $2,319

Total Year 2 $77,382
# Year Three Programmatic Costs

### July 1, 2012 – June 30, 2013

## 1. Personnel Costs

1a. Direct Costs: QEP Director stipend July 2009, May and June 2010  
   - $4,000

1b. Indirect Costs: Course releases for the QEP Director and in-kind  
   - Contributions of time from other QEP IT members  
   - $54,188

## 2. Development Activities

2a. May Institute, with a Reflective Judgment theme  
   - $2,000

2b. ACA T&L Conference Costs (Team of 12)  
   - $3,000

2c. Books or other similar material for faculty, especially for  
   - Teaching and Learning Circle  
   - $2,000

2d. Consultants-Speakers: will variously offer development across campus  
   - and provide continued assistance with the QEP (i.e., assessment)  
   - $1,000

2e. Publicity: Intensive as the QEP is being announced and initiated  
   - $500

2f. Student resources  
   - $2,600

2g. Awards and support for RJ efforts (promoting accomplishments such as  
   - Conference travel, rather than underwriting research efforts)  
   - $5,000

## 3. RJ Resource Center and Supplies

3a. Books and library resources  
   - $750

3b. Testing supplies (Reasoning about Current Issues Test)  
   - $1,800

3c. Duplication and printing  
   - $300

3d. Other non-printing office supplies for the RJ Resource Center  
   - $500

## 4. Miscellaneous

4a. Travel on behalf of the QEP to Tusculum’s different campuses  
   - $300

4b. Meals to cover people’s need for food while participating in development  
   - Activities, as well as to incentivize participation.  
   - $2,500

4c. Phone  
   - $250

4d. Postage  
   - $15

Inflationary increase of 3%  
   - $2,569

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Total Year 3  
$83,272
Year Four Programmatic Costs
July 1, 2013 – June 30, 2014

1. Personnel Costs
   1a. Direct Costs: QEP Director stipend July 2009, May and June 2010 $4,000
   1b. Indirect Costs: Course releases for the QEP Director and in-kind contributions of time from other QEP IT members. $54,188

2. Development Activities
   2a. May Institute, with the theme Teaching for Reflective Judgment $2,000
   2b. ACA T&L Conference Costs (Team of 12) $3,000
   2c. Books or other similar material for faculty, especially for Teaching and Learning Circle $2,000
   2d. Consultants-Speakers: will variously offer development across campus and provide continued assistance with the QEP (i.e., assessment) $500
   2e. Publicity: Intensive as the QEP is being announced and initiated $500
   2f. Student resources $2,600
   2g. Awards and support for RJ efforts (promoting accomplishments such as conference travel, rather than underwriting research efforts) $6,000

3. RJ Resource Center and Supplies
   3a. Books and library resources $750
   3b. Testing supplies (Reasoning about Current Issues Test) $1,500
   3c. Duplication and printing $300
   3d. Other non-printing office supplies for the RJ Resource Center $500

4. Miscellaneous
   4a. Travel on behalf of the QEP to Tusculum’s different campuses $300
   4b. Meals to cover people’s need for food while participating in development activities, as well as to incentivize participation. $2,500
   4c. Phone $250
   4d. Postage $15
   Inflationary increase of 3% $2,644

Total Year 4 $83,297
### Year Five Major Programmatic Costs
July 1, 2014 – June 30, 2015

#### 1. Personnel Costs
1a. Direct Costs: QEP Director stipend July 2009, May and June 2010 $4,000
1b. Indirect Costs: Course releases for the QEP Director and in-kind contributions of time from other QEP IT members. $54,188

#### 2. Development Activities
2a. May Institute, with the theme Teaching for Reflective Judgment $2,000
2b. ACA T&L Conference Costs (Team of 12) $3,000
2c. Books or other similar material for faculty, especially for Teaching and Learning Circle $2,000
2d. Consultants-Speakers: will variously offer development across campus and provide continued assistance with the QEP (i.e., assessment) $500
2e. Publicity: Intensive as the QEP is being announced and initiated $250
2f. Student resources $2,600
2g. Awards and support for RJ efforts (promoting accomplishments such as conference travel, rather than underwriting research efforts) $7,000

#### 3. RJ Resource Center and Supplies
3a. Books and library resources $750
3b. Testing supplies (Reasoning about Current Issues Test) $1,500
3c. Duplication and printing $300
3d. Other non-printing office supplies for the RJ Resource Center $500

#### 4. Miscellaneous
4a. Travel on behalf of the QEP to Tusculum’s different campuses $300
4b. Meals to cover people’s need for food while participating in development activities, as well as to incentivize participation. $2,500
4c. Phone $250
4d. Postage $15
Inflationary increase of 3% $2,621

**Total Year 5** $86,274

**Overall Five Year Total** $462,079
Direct $149,359
Indirect $312,720
Human capital and organizational structure. However, the plan’s most important resource is not financial, but human. Beginning in May 2010 the QEP Steering Committee will formally dissolve, to be succeeded by another set of dynamic and effective people who have offered to
contribute their leadership and expertise to carrying out this PSRJ initiative. This group, referred to as the QEP Implementation Team (QEP-IT), is comprised of key figures in general education, assessment, service learning, career services and the co-curricular. The QEP-IT will function as a collaborative team, but with individuals functioning within their area of expertise. The QEP-IT, will be chaired by Dr. Bill Garris, who has agreed to serve as the QEP-Director. The Team will be consist of faculty and staff in the following roles.

Focus: Implementation and Evaluation

The **QEP Director** will oversee the implementation of the PRRJ initiative. This person will need to have strong organizational and communication skills, and knowledge about faculty development and the scholarship of teaching and learning.

The **Director of Institutional Research** will aid PSRJ’s assessment efforts by contributing their expertise with statistics, research methodology, and the institution’s existing institutional effectiveness plan. The Director of Institutional Research will work closely with the QEP Director to track the progress of the educational initiatives and capture direct and indirect measures of change to student learning.

The **Director of the Commons Program** will oversee Tusculum’s general education programming and help the PSRJ particularly with Commons course level implementation and evaluation. This person will also encourage faculty who teach Commons courses to participate in faculty development and cultivate new teaching approaches that will support students’ development of Reflective Judgment skills.

The **Director of College Communications** or another individual with strong communication skills will participate on the QEP-IT for purposes of publicizing PSRJ
activities. Proofreading skills, the ability to craft eye-catching messages, and to communicate simply and effectively will be essential requirements for this position.

The QEP-IT also includes an individual who serves as a Liaison with Provost’s Office. Customarily, this person will be the **Associate Vice President for Academic Affairs**. The person in this position must be familiar with the governance of the institution and have administrative responsibilities with the College.

| Focus: Faculty Development and Course Re-design |

The **Faculty Learning Circle Coordinator** will serve on the QEP-IT and support PSRJ by maintaining ongoing faculty development for the strengthening of student Reflective Judgment skills through “learning circles” or “communities of practice” discussion groups.

The **Director of the Hobbie Center for Civic Advancement** assists faculty in developing the civic arts and service-learning in their course design. The Director will play an important role the QEP-IT, and, in particular, the latter phase of PSRJ as the focus shifts to solving problems as they manifest in the world. More specifically, the Director of the Hobbie Center and the QEP Director will aid faculty with the inclusion of service-learning in their majors.

The **Director of Career Development** will also serve on the QEP-IT. In this capacity the Director of Career Development and QEP Director will work with faculty to help them design coursework to help students recognize and resolve ill-structured problems while they are engaged in internships, practica, or work experiences. Such coursework will complement these external work experiences.

A person representing library science will serve as a QEP-IT member. Typically, this
person will hold rank as **an Assistant Professor of Library Science** and ensure that library resources are being appropriately utilized in course design. This serves an important function for PSRJ as “reflection” involves developing epistemic sophistication and the ability to discern what constitutes good information. Information fluency and the ability to work with faculty to creatively integrate information literacy in the coursework will be requisite skills.

**A GPS Liaison** will also serve as a member as the QEP-IT. This person will have skills at faculty development, a strong background in Reflective Judgment, and will work to ensure that PSRJ resources are available to faculty at Tusculum’s non-Residential sites.

| Focus: Student Development and Co-curricular |

The **Associate Dean of Students**, who oversees Tusculum’s co-curricular programming, will serve on the QEP-IT. This person will help integrate PSRJ into student life and will work with the QEP Director to connect classroom learning to co-curricular events.

The **Senior Student Life Coordinator** will also participate on the QEP-IT. This team member and the QEP-Director will work together each August to develop the Residence Hall Advisors (RAs) in the use of Reflective Judgment to solve problems typically faced by college students. The ability to develop RAs as RJ peer-mentors will be a central responsibility of this person.

Team members will often work together on shared tasks such as coordinating faculty development, integrating RJ into the classroom, and implementing subsequent assessment. They will also evaluate proposals for undergraduate mini-grants which further RJ on the campus, as will take place during Phase 2 of the QEP. One of the
team’s most important roles will be the consideration of assessment data, described in the next section. Finally, The QEP-IT, under the coordination of the Director, will create reports annually, or more often as requested, as to the progress of the QEP; the Director, working with the QEP-IT, will write the Five Year Report.
VIII. Assessments

Measures for Learning Outcomes

Our plan will use a variety of measures to track, evaluate, and, ultimately, form judgments about our ability to effect student learning. Using multiple evaluation methods not only improves the rigor of our evaluation, but also generates a wealth of valuable feedback about student learning. These data will be part of an important feedback loop that will inform modifications to the plan implementation, and will be integrated into our ongoing student assessment.

Learning Outcome One (LO1): Students will progress in their ability to evaluate complex information and to develop logical and justifiable conclusions to ill-defined problems both independently and collaboratively.

To evaluate our progress toward LO1 the plan proposes to use the Reasoning about Current Issues test (RCI). After a review of several similar instruments, the Steering Committee determined the RCI to be the measure most closely aligned with the Reflective Judgment model central to PSRJ goals. Developed by King and Kitchener, the RCI replaces the now discontinued Reflective Judgment Interview and is an efficient and practical assessment that can be taken online, without supervision, in 20 to 40 minutes. It yields a score between two and seven, which corresponds with the seven stages of the Reflective Judgment Model.

In anticipation of the QEP, Tusculum College began to establish baseline data for Reflective Judgment during spring and fall 2009. At present, the data shows little difference between the scores of the freshmen and senior samples, which means, first,
that present educational efforts are having no effect on students’ RJ, but also that the uncontrolled variable, and potential confound, “maturation” has a minimal effect on RJ scores.

In the plan’s first 12 months of implementation, the QEP Director and Director of Institutional Effectiveness will capture RCI data on freshmen (fall 2010) and this same group the following spring (2011). The results should be available during the summer of 2011. The purpose of this “back to back” testing is to gather early evidence on the effectiveness of our efforts so that changes to the plan can be considered at the end of its first year, before too much time has passed. The results will be shared with the faculty by August 2011, and will be used by the QEP-IT to modify the PSRJ plan.

Following this first year of the plan, the QEP will establish and regular and on-going RCI assessment regimen, with scores collected from freshmen during their first block, juniors during their first block, and seniors in their final year. Further, RCI scores will be captured from students during their orientation to Gateway, the program for nontraditional students, and near the end of those students’ degree programs. Because the plan includes curricular changes which unfold across Tusculum’s general education and major curricula over several years, it will take three years for PSRJ enhanced coursework to be implemented throughout the College’s academic programs; therefore, seniors’ scores will not evince the full effect PSRJ implementation in the curriculum until 2013. As a result, this regimen of testing freshmen, junior and senior each year will produce three years of data on the progress students make - or fail to make – as they “normally” matriculate through Tusculum. Then, beginning in 2013, this assessment plan will result in RCI gain score data that will reflect students’ experiences with PSRJ both “in the classroom” and “in the world.” From this point, subsequent RCI gain scores
that increase from the previous years’ (2009 to 2012) increases would support that the plan is influencing student learning.

This program of testing freshmen, juniors and seniors will continue and allow us, via a longitudinal design, to not only examine students’ gain scores within a three year study period using a t-test for dependent samples, but also to compare changes during subsequent three year periods to the gain scores for the years 2009-2012 using a t-test for independent samples. Both comparisons will allow us to ascertain if the effect is beneficial and significant. Additionally, by testing students in their junior and senior years, we can examine the one-year gains that result from plan components, such as enhanced internships, and also the effect that we are having on a subset of our residential campus students: transfers. This assessment regimen, replete with small incentives for student participation, will continue indefinitely. The QEP Director and Director of Institutional Research will work jointly to collect and analyze these data, and the QEP-IT will use this information as it becomes available to make changes to the QEP as needed.

Whereas the RCI will be administered annually to classes, the plan also calls for the development of a course-level rubric to be used in targeted courses. This rubric, will be used repeatedly in RJ-enriched Commons courses and will track more incremental change in the early years of our plan. Faculty teaching these courses will have been developed in Reflective Judgment and the use of this rubric. They will use the rubric in an authentic assessment of student work and enter student scores into Tusculum’s existing online system for Commons assessment. The QEP-IT will review these data each semester and make change to faculty development and the plan as needed. The rubric is in Appendix H.
Because Reflective Judgment is related to critical thinking (see Figure 2) the QEP Steering Committee decided to use critical thinking measures as a second proxy on our efforts to develop students' Reflective Judgment skills.

Our first measure of LO2 will be the ACT's Collegiate Assessment of Academic Proficiency critical thinking subtest (CAAP). The CAAP test is designed to measure the effectiveness of general education curricula and is typically administered during the sophomore year. Besides the traditional educational skills of reading, writing, and math, the CAAP test provides a score for critical thinking, which is reasonably expected to overlap with RJ.

Tusculum has already established some benchmarking scores with this instrument. From academic years 2001-02 until 2007-08 Tusculum College administered the CAAP, testing sophomores from 2001 until 2005 and seniors from 2006 through 2008. The CAAP will be given to sophomores in 2012 and their scores will be compared to the sophomores who took the instrument between 2001 and 2005, and in 2014 the CAAP will be given to members of the same class who will then be seniors. This will allow two comparisons. First, 2014 seniors' critical thinking scores examined against those of the 2007 and 2008 senior classes and a further comparison will be made to the sophomore scores of these same seniors. This will allow for the evaluation of both the broadest of institutional, cultural shifts – from one decade to the next - as well as changes affected within a group of students as they encounter the QEP initiative.
The plan aims to develop Reflective Judgment skills in the classroom, in the co-curricular, and effect the larger institutional culture. Presently, Tusculum College’s institutional effectiveness regimen assesses a number of number traits, aptitudes and abilities, useful as indirect measures of the plan’s effectiveness. These indirect measures, for which Tusculum has begun to collect baseline scores, support LO3.

First, Tusculum administers the Noel-Levitz Student Satisfaction Survey (SSI) every three years to review student satisfaction with various campus activities and services. Several items serve as indirect measures of student learning and the academic culture at Tusculum. Item 39 states, “I am able to experience intellectual growth here.” Item 41 states “There is a commitment to academic excellence on this campus.” Item 58 states, “the quality of instruction I receive in most of my classes is excellent.” Our previous collection of SSI data was during the fall of 2008. The next survey of students will occur during the fall of 2011, which will be the second year of the QEP and, subsequently administered in the fall, 2014. The results will be reviewed by the QEP-IT as they become available and used to modify our efforts as the QEP-IT determines.

A second measure of LO3, “engagement,” will be student responses to the Enriching Educational Experiences domain of the National Survey of Student Engagement. The Office of Institutional Effectiveness collects this data every three years, with the next scheduled administrations occurring in the springs of 2010, 2013, and 2016. In particular, the plan aims for items SNRX04, Culminating Senior Experience, and INDST04 independent study or self-designed major, both currently low scores, to increase 50% by 2013. Though these measures will assess students’ upper-level
experiences, in 2010 the plan will also examine DIFFSTU2, measuring students’ serious conversations with those holding different political, religious, or personal beliefs, as an early indicator of effects the QEP is having on student culture. The Director of Institutional Effectiveness will be responsible for collecting these data and the results will be shared with the QEP-IT, which will make changes to the plan as suggested by the data.

Other Measures of Change

Our plan aims to affect student learning by modifying teaching practices and course design. One measure of a change in teaching and course design is to examine syllabi before and after faculty development and note evidence of changes made. To this end, in January 2010 the QEP-IT collected syllabi of targeted courses and reviewed them for activities that promoted problem-solving with reflective judgment or other critical thinking activities. In June 2010, following the May Institute faculty development opportunity, the QEP-IT will review the same course’s syllabi for changes in course design and learning outcomes. The QEP-IT will repeat this process each year in January and June as new courses become affected by the plan, with the results of the January review being used to guide the planning of the May Institute, and the June reexamination assessing the Institute’s effect.

The implementation of the QEP will be informed by feedback, and progress toward learning outcomes tracked by numerous measures. The data will come from course-level assessment and institution-wide surveys, direct measures of improvement to Reflective Judgment skills and indirect measures of student engagement, and ad hoc surveys and interviews of faculty, staff, and students. All this information will be
reviewed by the QEP-IT as it comes available to guide the unfolding of the QEP and planning of activities designed to strengthen Reflective Judgment.
IX. Conclusion

Tusculum College has created a Quality Enhancement Plan will positively impact student learning outcomes. The ability to solve ill-structured problems through Reflective Judgment is a substantive issue in student learning and is a cognitive skill which should developed through higher education. The topic was selected following a broad-based, recursive process that involved faculty, staff and students, culminating in a campus-wide vote. Institutional effectiveness data supports the need to strengthen students’ critical thinking skills, and thus the Steering Committee proceeded to develop the plan in tandem with Tusculum’s ongoing strategic planning and budgeting processes. As the plan matured, it evolved to include more applied elements of “learning in the world,” which brought it into strong resonance with the unique character of Tusculum’s Civic Arts philosophy to education and emphasis upon developing practical wisdom.

Tusculum’s intentions to improve student learning are mapped out in a detailed plan. This plan involves a sequence of trainings and workshops, modified classes and assessments which are overviewed in this document and elaborated in the appendix. While PSRJ is formed upon the literature that describes best practices for teaching and learning, its unfolding will be responsive to feedback. An assessment regimen will use direct and indirect measures, course-level and institution-wide surveys, and other tools to provide this feedback. It is a plan that is both ambitious and achievable.

The College is enthusiastic about carrying out this initiative because it will impact how students learn and is central to the mission of Tusculum. Administrative leadership is committed to providing the financial resources necessary to support this plan across its five year horizon, and the reach of the QEP may be extended through external grants.
Faculty and staff, particularly those members of the QEP-IT, have pledged their talent and efforts to developing students’ ability to solve problems using Reflective Judgment.

Problem-solving with Reflective Judgment is a manifestation of Tusculum’s vision to develop in students the ability to bring practical wisdom – problem-solving for the common good - into their world.
X. References

http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/22/c0/9.pdf


King, P.M., & Kitchener, K.S. (2002). The reflective judgment model: Twenty years of research on epistemic cognition. In B. K. Hofer and P. R. Pintrich (Eds.), Personal epistemology: The psychology of beliefs about knowledge and knowing, (pp. 37-61). Mahwah, NJ: Lawrence Erlbaum, Publisher.


Appendix A: QEP Steering Committee Members

Jonita Ashley-Pauley: Associate Dean of Students
Travis Crabtree: Webmaster
Melinda Dukes: Associate Vice President for Academic Affairs
Robin Fife: Bonners Leader Program Director
Michelle Freeman: Associate Professor of the Business Administration
Bill Garris: Assistant Professor of Psychology
Simon Holzapfel: Student
Jill Jones: Director of Academic Advising
Jeanne Stokes: Director of TRIO Programs
Debra McGinn: Assistant Professor of Biology
Shelia Morton: Assistant Professor of English
Tony Narkawicz: Director of Institutional Research
Corinne Nicolas: Associate Professor of English
Taimi Olsen: Professor of English
Ryan Otto: Director of Adult Learning
Brian Pope: Associate Professor of Psychology
Lynn Reeves: Associate Professor of Economics
Suzanne Richey: Director of College Communications
Sierra Sims: Student
Jack Smith: Professor of Library Science and History, and Director of the Library
Ryan Tassell: Assistant to the Athletic Department
Joyce Doughty: Director of the Center for Civic Advancement
Appendix B: Questionnaire
2. Enrich Students’ Reflective Judgment

**Vision:** Students will demonstrate the ability to evaluate complex information and to produce logical conclusions both independently and in a collaborative environment.

* Initiative: Reflective Judgment QEP Learning Outcome  
  **Action:** Steering Committee reports recommended outcome to BOT  
  **Expected Outcome:** Measurable progress in student ability to think critically about ill-structured, significant problems.  
  **Cost:** 2009-10 $50,000; 2010-15 $150,000 yearly  
  **Timeline:** 2009-10 finalization of QEP for April 2010 on-site team; 2010-11 implementation; 2010-15 five year plan

3. Prepare Students for Success in the Global Society

**Vision:** Every student who enters Tusculum will have the opportunity for an international experience of study or service. Tusculum will develop a regional reputation for preparation of students for international success.

* Initiative 3.1: Provide the opportunity for, and actively encourage, faculty to experience international study and/or service within the next five years as a member of a faculty study team. Thereafter, provide refresher opportunities for those with experience and incentives for new travelers.  
  **Action:** Beginning in the summer of 2009, provide funding for 8-12 faculty to study internationally for a week or two, traveling in teams of 4-6  
  **Expected outcome:** Each faculty member will return to the classroom with encouragement for students to make similar journeys during their college careers. Each professor will also make some intellectual contribution to our community through presentations, writings, or other methods.  
  **Cost:** $30,000 for 2010-11, allocated based on faculty proposals refereed by the committee on global studies. Each annual allocation, thereafter, will be determined based on review of the interest and needs as well as available resources. Approximately $30,000-$40,000 per year for five years is predicted, with less after that time to sustain the program for faculty.  
  **Timeline:** Beginning in the 2008-09 academic year and continuing until optimal initial opportunities for faculty have been attained; experienced travelers will have refresher opportunities as a second priority during the initial period

* Initiative 3.2: On a case by case basis, assist and encourage internationally-experienced faculty to travel abroad individually or in pairs in immediate preparation for taking a class of students later.

* Initiatives begin academic year 2009-2010 Approved by Board of Trustees May 16, 2009
5. Campus Engagement and Career Preparation

Vision: To provide all students robust learning experiences, both in and outside of the classroom, that encourage responsible membership, active participation, respect for differences, and informed commitment to serving our community and leading in a global society.

Initiative 5.1: Leadership Institute
Action: Create a centralized Leadership Institute which includes facets of academic, co-curricular, and alumni programming
Expected Outcome: Enhanced leadership development of students and facilitation of new leadership development opportunities; develop leadership program with a minor; help coordinate senior capstone project and speaker’s bureau
Cost: Physical space needed; one full-time staff member to start program, with addition of support staff as program develops. Start—up operating budget of $20,000 first year; total in first year: $30,000
Timeline: 2009-10, start full-blown Pioneers Preparing for life; 2010-11 an annual Leadership Conference; 2011-12 and 2012-13 senior capstone and leadership minor; 2013-14, speaker’s bureau

Initiative 5.2: Career and Life Center
Action: Create a center to address: mentoring/advising; departmental career advising; coordinate a retention program; academic support; campus engagement and eventually intertwine with the leadership initiative
Expected Outcome: Enhanced student success and campus/academic engagement
Cost: 2009-10: $24,000--Part-time professional at $13,000, faculty costs of $7,500 for release and travel funding of $3,500 to businesses for placement of internships and jobs
Timeline: 2009-10—departmental advisors; over next four years to add two staff members

Initiative 5.3: Co-curricular Transcript
Action: Provide an electronic tool whereby students plan and document their co-curricular engagement with the college to demonstrate to employers and graduate schools their accomplishments
Expected Outcome: Support learning outcomes in life skills and provide documentation of achievement
Cost: UNDER $30,000 per year to include staffing; $6,000 software, one time set-up charge of $4,000 and $12,500-$14,000 for staff administration
Timeline: 2009-10 as pilot; following year to go live with entire student body

* Initiatives begin academic year 2009-2010 Approved by Board of Trustees May 16, 2009
Appendix D

QUESTIONS FOR FACULTY INPUT

QEP STEERING COMMITTEE

AUGUST 13, 2008

1. How would you know that your students’ skills in problem solving/reflective judgment had improved as a result of our implementing this Quality Enhancement Plan? What would you hope to see it accomplish?

   • Students will be able to use hardware and software to solve problems in which there is both no single right answer and the problem space is incompletely defined.
   • In the beginning of class exercises are designed to be rote in nature – Follow written steps to learn how to use the computer and new office suite programs. Students gradually progress in there thanks to move from rote performance to creation and development using concepts.
   • Students would know the steps to problem solving. Listening to need, identifying assets, research existing problems, and search out models.
   • Students would know levels of reflective judgment and would use inquiry!
   • Historians already to this through examinations of primary sources. The issue here is really how to gauge improvement. Not certain things, other than by beginning a course with one assignment, and then revisiting the same (or similar) assignment at the end of the course.
   • Increase correct answers on related test questions
   • Increased correct answer/problem solving in class case work, discussion based evidence of decisions made considering process, increased use of referencing of professions code of ethics.
   • Students would be able to form opinions about art and art movements and to understand the susceptive
   • Students would be able to form opinions about art and art movements and to understand the susceptive nature of these opinions. Many students are inflexible at first; a willingness to consider other viewpoints would be a sign of improvement.
   • Since we only have the students for 18 days, it would seem impossible to know if the students improved.
   • I would like to hope that my students come up with more solutions to a problem and select an appropriate solution at the same time not stating it as the absolute solution
   • Ensure students progress through the various states of reflective judgment as they progress through the curriculum.
   • Increased breadth of capstone course
   • Students would be able to convey multiple solutions to case studies.
   • Based on the aggregate results of standardized assignments that ascertain problem solving/reflective judgment
   • A measurable improvement in critical thinking skills for a majority of students
   • At the end of research course sequence they have learned to evaluate information (results of polls, studies, etc.) because they know about sampling/measurement etc.
   • How they reflect or do not reflect an essay exam or during class discussions.
   • For the education department I would like for Tusculum to add an international experience (teaching in another country) for our students. If this was added students would have a deeper understanding of nuances in cultural differences. This would be
a true “innovative approach” to meet our mission statement. Other colleges in Tennessee do this for their students in education.

- Would like to develop cases to determine students’ assessment of evidence and probabilities
- Reviewing projects which follow format as assigned in all my classes: ID problem – design research based intervention – implement – measure outcome – reflection on methods and outcome.
- Pre and post test
- Scores on block and comprehensive exams; performance on clinical work within ATEP; passing rates on GOC exam after graduation
- I would hope that our students learn to solve problems with incomplete information. In Math, work word problems recognizing the limits on the relevance of the answer.
- Inspired by our QEP, my political calculations class has many assignments that require setting up and solving problems that themselves pose questions of judgmental nature. The course homework, discussions, group projects, and tests will help students develop more sophistication in making judgments.
- In developmental English I hope to see the use of making valid inferences, make judgments when reading. In English I and II I ask students to improve writing skills and to be able to evaluate sources. I would know if they improved if they were able to locate sources in the library, evaluate the sources and use critical thinking when writing their papers.
- Math and Physics the students must reflect on what is given to develop the answer.
- We could see progress from the beginning of the block to the end.
- Students more involved in community (local, regional, etc.)
- Improved writing and research, improved overall communication skills, improved reading comprehension – emphasize the student learning outcomes (self-knowledge, etc.)
- Use of assessment instruments?
- Are there assessment instruments to establish baseline and changes? How are stages operationalized in existing measures?
- Ability to solve real world problems using accepted tools for the business environment.
- Use reflective judgment assessment instrument to establish baseline if such instrument exists. Does one exist?
- More thoughtful questions. More balanced solutions to problems, incorporating information processed from all sides of an issue.
- Demonstrated inclusion of relevant facts, beliefs, assumptions, explanation of process, rubric evaluation scores increased
- Self assessment of knowledge gained in course (writing assignment in which student discusses her thinking process during an assignment/project); utilizing rubric system; debate (write essay alone, then write essay a 2nd time after debate/discussion); capstone projects

2. In your classes, what activities would you develop to teach these outcomes?

- CISC – 100: craft formulas and functions from word problems; create questions in Access form data needs.
- CISC – 200: Analyze business problems and design hardware and software solutions
- CISC – 105, 210: Create programs which correctly solve problems. Completely increases during the sequence.
• CISC 215: Create programs and queries which extract the appropriate data for a series of tables etc.
• As a final project my students are required to create, design and present a new company in a team effort. They must develop a storyline; design 4 individual documents on their own without a guide using only examples of completed work that must not bear any resemblance to their design choices. Reflective thinking is required to make appropriate choices that correspond to the thinking of their other team members.
• Solving community issues in our area.
• Help local organizations solve problems.
• Increased use of core studies
• Class analogies of decisions made, particularly in reference to team projects
• Exposure to controversial art followed by discussion of the faults and merits, leading to discussion of the relativity of the student’s opinion.
• In class discussion, it would be important to challenge them in assignments – challenge them to think about what they’ve said and if that is an ultimate point of view/suppor etc.
• I will present some problems, issues, and questions related to the course and challenge them to provide the classmates with a solution(s)
• Partnering with not-for-profit businesses to think through alternatives to past management snafus.
• Compare/contrast successful, yet distinctly, different strategies in solving similar issues
• Evaluate potential solutions and prioritize them
• Structured discussions and debates in a point/counterpoint formula
• Written assignments such as article analysis: succinctly summarize the argument, clearly state the author’s main points, and give an insightful evaluation of the arguments therein.
• Have them complete a literature review on sampling and a topic and then carry out a study with data collection and present results.
• Choose controversial books – Politics of Jesus, Jesus – The Village Psychiatrist, The Young Jesus. Hold trials (put Cain on trial) have students be judge or jury on theologian issues.
• In most Education major classes, students develop lesson plans. While in another country, students would be required to develop lesson plans for children in their classes. Differences in American teaching and teaching students in another country are unbelievable! These lesson plans would require extensive, reflective thinking and “on the spot” problem solving.
• Group debates, perceive differences, individual thinking and then team thinking
• Introduce various research based interventions; mentor implementation and provide forum to discuss outcomes and reflections
• Discussions, can study
• Mystery patients – 10 problems (medical)
• HUPS eval within classes (history, observation, participation, special tests); higher learning software to develop injury assessment/rehab; comprehensive exam samples at end of year
• Work word problems
• Discussing political power and how it might be measured. Analyzing ways to make social choices and how there may compare fairness wise to those making the choice.
Inferences, exercises in making evaluations, using newspaper articles to discuss different points of view about issues. Questions about self knowledge and how one relates to his/her community.

Math – looking into focus on QL versus college algebra.

We do reflective journals daily about their practicum experience – what was happening and how else could the lesson be taught – games and activities. What problems do the students see and how could they be addressed?

Reflective journals

Discussion, problem solving, having students identify different perspectives, strength of different data credibility.

Discuss logical thinking techniques. Assembling required parameters to make a well informed decision.

Finally teach the media ethics class. Emphasize ethics in 2 – 3 level classes.

Scientific Method introduction

Debating techniques, research papers using guidelines, ethical case studies

Use of a variety of decision making models/methods (both individual and group), debate, situational/contextually complex problems – cases

3. What development/training opportunities would help you in creating the kinds of activities that will improve our students’ problem solving /reflective judgment skills?

Some books for the library would be great. I haven’t looked into this as much as I probably should.

A portfolio of ideas that relate to computer skills in computer classes would be helpful.

Hear what others have done, brainstorm with other departments on cross disciplinary ideas.

I’ll give this additional thought, but access to primary sources – via archives, NOT the Internet – would certainly help, as far as our majors are concerned. We (as a department) are working on this.

Dedication time to build on existing material/content related to decision making and ethics and values in profession

Teaching and Learning circle

College/industry “think tank”

Large faculty workshops with outside speakers/moderators

Have the teaching circles work on this development training

They need more courses along these lines of research and statistics courses in their overall curriculum

Teaching circles and faculty training

Parker Palmer – attend a conference led by him or (try) to bring him here – he knows how to get students to reflect in class with their peers. Faculty need to go to conferences to learn how to reflect themselves.

I would like to set up schools in other countries to serve as our “hosts” … we need relationships with more than one country.

Provide portfolio projects – team for every class and individual develop a step ladder for success

Discipline meetings – reach consensus

Use of computer based testing software/procedures

Attend quantitative literacy conferences.
• I already participated in an intense workshop on math and politics this summer, and may develop plans for more study after the experience of my block 2 class.
• I’d like more computer training issues so that I could be more active with student chat rooms/discussion rooms about classroom topics after the class is over.
• Continue interaction with quantitative literacy programs and workshop.
• Release time to develop statistical activities. Workshops on developing critical thinking.
• Bill Kirkwood, vice president of special programs at ETSU. I had him do a 3 – 4 day presentation on critical thinking once upon a time.
• Problem solving using Christian principles; 7 habits of highly effective people – workshops
• Case studies, experiential learning opportunities, service learning that is field specific, active learning exercises/lab
• Scientific research projects
• Concrete explanation and examples of levels/stages, workshops for faculty to develop skills we are expected to teach.

4. Our QEP is expected to grow out of and support our institutional mission. How would you anticipate this QEP relating to:

a. The civic arts?
• The fundamental skill of problem solving and logical thought and organization underpins a democratic society.
• Create storylines that follow the Civic Arts Christian Heritage. This will require a total revamp of my current curriculum best done when I don’t have to learn to present an entire suite of software! But doable.
• Social and community oriented.
• This is especially pertinent to the seated republican values – self-government, wholistically speaking. Reflective judgment is the cornerstone of effective self-government.
• Issues relating to involvement in community based projects and services
• Judgment/decisions relative to the social and political processes
• An engaged citizenry is best suited to make a democracy function as intended in the civic arts. Mold and Maintain an enlightened electorate
• How can students be good citizens if they don’t know how to evaluate information.
• Global awareness
• Clinical and practical experiences
• To provide opportunity for higher level participation by students faculty and staff and intellectual discussion on various disciplines classroom debates, colloquium
• Students participate in community related activities involving athletic health care and make appropriate decisions involving assessment, treatment, referral, rehab
• Applying the methods of mathematics (analyzing arguments, doing proofs, manipulating proportions (rations, percentages), etc.) to cast light on situations involving judgments for the better good of oneself, one’s family, and community.
• Students become passionate about community issues or an issue and feel comfortable in joining the community to address the issue.
• More community involvement as a result of reflective judgment.
• By using Christian beliefs, principles, morals and tenants, teach based on these issues versus the humanistic world view.
• Are we going to teach ethics along other ethical though because Judeo Christian ethics is only one though that does not work in all situations.
• Willingness to listen to others and consider their views.
b. Our Judeo-Christian/Presbyterian heritage?
   • Ethical, compassionate, humanitarian efforts.

7 stages of reflective judgment:

   • Absolute knowledge
   • Correct answer – authoritarian, leaders know
   • Authorities may not know all truth answer will become known
   • No one can know for certain 1 opinion as valid as another (relativism)
   • Make conclusions from evidence depends on persons perspective
   • Conclusions based on context and person’s development
   • Process of reasonable inquiry solutions based on reasonable or probably according to current evidence
   • Through the cardinal virtues, which overlap with civic virtues
   • Current “conditions” of individuals and communities/society as a whole are grounded in past decisions. What are the historical conditions/factors that led to those decisions.
   • Being engaged civically involves thinking of and helping others. This equates to the Golden Rule and the other primary aspects of our Judeo Christian heritage.
   • Search for truth requires these skills even spiritual truth
   • Innovative approach
   • Ethics intervention
   • Understanding the world view and acceptance of different belief systems
   • Informed citizen: our students should be able to reflect on the information given and make the best course of action that effects civility of life.
   • Emphasis on developing ethics using ethics to guide/be part of reflective judgment.

   • Interfaith discussions, interfaith service projects, religious diversity

c. Furthermore, the college uses innovative approaches to teaching and learning at the undergraduate level
Appendix E. Assessment of Critical Thinking Through CAAP

Residential College CAAP Scores

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CRITICAL THINKING RUBRIC

Students will interpret, evaluate, and convey complex ideas drawn from quantitative and qualitative information.

Inquiry

5. Demonstrates curiosity about the subject of study and poses significant questions.
4.
3. Raises relevant questions or demonstrates understanding of question(s) raised by others.
2.
1. Raises irrelevant, inappropriate question(s) or misinterprets question(s) raised by others.

Knowledge

5. Demonstrates ability to find significant, meaningful information.
4.
3. Demonstrates ability to find some useful information.
2.
1. Fails to find appropriate information.

Argument

5. Shows an ability to propose a hypothesis/ theory/ principle/ conclusion/ prediction.
4.
3. Proposes a reasonable hypothesis/ theory/ principle/ conclusion/ prediction.
2
1. Fails to generate a workable hypothesis/ theory/ principle/ conclusion/prediction.

Analysis

5. Applies sophisticated analysis to evidence through examining ideas and identifying and analyzing arguments.
4.
2.
1. Fails to perform satisfactory analysis of evidence.

Interpretation

5. Proposes valid new insights or unique perspectives based on analysis.
4.
3. Draws logical conclusions from analysis.
2.
1. Fails to derive valid results from analysis.

Score: __________________________
Enriching Educational Experiences (EEE)

Complementary learning opportunities enhance academic programs. Diversity experiences teach students valuable things about themselves and others. Technology facilitates collaboration between peers and instructors. Internships, community service, and senior capstone courses provide opportunities to integrate and apply knowledge.

- Participating in co-curricular activities (organizations, publications, student government, sports, etc.) (COCURR01)
- Practicum, internship, field experience, co-op experience, or clinical assignment (INTER06)
- Community service or volunteer work (VOLNTR04)
- Foreign language coursework & study abroad (FORLANG04, STDAB04)
- Independent study or self-designed major (INDESTD04)
- Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.) (SNREXP)
- Serious conversations with students of different racial or ethnic background (DIVERS02)
- Serious conversations with students of different race or ethnicity (DIVERS03)
- Using electronic technology to discuss or complete an assignment (ITEACH03)
- Campus environment encouraging contact among students from different economic, racial, and cultural backgrounds (ENVDIVRS03)
- Participate in a learning community or some other formal program where groups of students take two or more classes together (LENCOM03)
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 Avg 30.5

 Avg 38.4
Appendix H. Detailed Timeline

**Pilot Phase and Planning (2009-2010)**

**August 2009**  
Tusculum Experience (Orientation): Select faculty introduce students to the basic concepts of Reflective Judgment *(Student Services)*

**September 2009**  
Freshmen in Tusculum Experience and other students are tested with the RCI *(Director of Institutional Effectiveness)*

**September 2009**  
Logo and slogan competition *(QEP Director and Director of Communications)*

**Fall 2009**  
Coordinate efforts between QEP Steering Committee and Commons Steering Committee designees to revise existing Commons rubrics for Critical Thinking and Information Literacy *(QEP Director and Commons Director)*

**Fall 2009**  
Initiate internal education / communication campaign. *(Director of Communications)*

**January-February 2010**  
Approval of QEP by faculty, Board of Trustees, and QEP mailed *(QEP Director and SACS Leadership Team)*

**Spring 2010**  
NSSE administered to all students *(Director of Institutional Effectiveness)*

**Spring 2010**  
Modification of select Commons courses to replace critical thinking with Reflective Judgment as learning outcome *(QEP Director and Commons Director)*

**April 2010**  
SACS onsite visit *(SACS Leadership Team, QEP-IT, and QEP Steering Committee)*

**May 2010**  
Two day faculty development workshop for Residential and Gateway faculty teaching Social Science Commons courses (GEOG 200; Hist 101, 102, 201, 202; POLS 203, 205, 207, 209; PSYC 101; SOC 101 and BUSN 201) and ENGL 111. Training on the use of the rubrics. *(QEP-IT)*

**May 2010**  
Development of Gateway contract faculty one weekday night each week during May *(QEP Director and GPS Liaison)*

**June 2010**  
Creation of web-based instruction in RJ for Gateway/GPS orientation classes *(QEP Director and staff from Information Technology)*

**June 2010**  
Development of Gateway and GPS faculty using online resources *(QEP Director)*

**August 2010**  
Development of RAs in Reflective Judgment with planning of Reflective Judgment activities in the residence halls for the coming academic year. *(QEP Director and QEP-IT)*
**Year One: Problem-solving with Reflective Judgment in the Classroom (2010-2011)**

**Fall 2010**
- Tusculum students learn about Reflective Judgment in their orientation experiences. (QEP Director and Commons Faculty)

**Fall 2010**
- Freshmen in Tusculum Experience are tested with the RCI. (QEP Director and Director of Institutional Effectiveness)

**Fall 2010**
- Residential and Gateway students take (Commons) Social Science and composition (ENGL 111) courses enriched with Reflective Judgment. Student development of Reflective Judgment skills to be assessed in embedded assignments using online T.C.R.E.T scoring method. (QEP-IT)

**Fall 2010**
- Faculty teaching Reflective Judgment enriched courses will participate in a Reflective Judgment focused Teaching Circles during the fall of 2010 (approximately three circles [twenty faculty]). (QEP-IT with Teaching and Learning Circle Coordinator)

**Fall 2010**
- Presentation in Knoxville to GPS faculty on Reflective Judgment occurring as part of their regular meetings. (QEP Director)

**Fall 2010**
- Petition Committees to approve the QEP Phase II changes to Tusculum Programs (QEP Director)

**Fall 2010**
- Service learning Directors and Commons Director will meet with consultant to learn about newest developments in service learning (QEP Director)

**December 2010**
- Development of Gateway and GPS faculty using online resources

**2010-2011**
- Service learning Directors (Hobbie Center Director, CCA Leaders) will meet throughout the year to plan common vision (expectations, definitions, rubrics) for service learning with Reflective Judgment

**Spring 2011**
- Freshmen in are tested again with the RCI. (QEP Director and Director of Institutional Effectiveness)

**May 2011**
- Faculty teaching SOCI 251 or CMNS 251 will receive development in a multi-day workshop format to aid them in connecting problem solving with Reflective Judgment to service learning.

**May 2011**
- Development of Gateway contract faculty teaching a Commons social science course one weekday night each week during May

**May 2011**
- Faculty development offered to GPS faculty teaching EDUC 200 and MGMT 232. This training will occur in three “modules,” taught during three weekday nights, and will be repeated throughout the four weeks of May to afford people multiple opportunities to learn how to encourage Reflective Judgment through course design and pedagogy. (QEP Director with GPS Liaison)

**June 2011**
- Development of Gateway and GPS faculty using online resources (QEP Director)
August 2011   Development of RAs in Reflective Judgment with planning of Reflective Judgment activities in the residence halls for the coming academic year  
(QEP Director).

Year Two: Problem-solving with Reflective Judgment in the Classroom (2011-2012)

Fall 2011   All previously initiated activities (modified instruction, changed orientation, and RCI testing of Freshmen, Juniors and Seniors) continue. (QEP-IT)

Fall 2011   Administration of Noel-Levitz Student Satisfaction Survey (Director of Institutional Effectiveness)

Fall 2011   Residential students encounter a Reflective Judgment enhanced SOCI 251 and CMNS 251 service learning course (QEP-IT)

Fall 2011   GPS students enrolled in Management 232 or Education 200 experience coursework with an enhanced focus on Problem Solving with Reflective Judgment. (QEP-IT with special attention by GPS Liaison)

Fall 2011   Faculty teaching Reflective Judgment enriched CMNS 251 or SOCI 251 will participate in a Reflective Judgment focused Teaching Circle during the fall of 2011 (one or two circles) (QEP-IT with Teaching and Learning Circle Coordinator)

October 1: Departments indicate which of the three directions they want their Reflective Judgment in the world to take (service learning, research-creation, or internships) and report this to the QEP Director (QEP Director)

December 1: Departments identify faculty who will be heading up their selected initiatives. Faculty members heading up Departmental initiatives in service learning meet in a group with the Hobbie Center Director bi-weekly to work on connecting their coursework to service learning and Reflective Judgment. (QEP Director)

December 2011: Development of Gateway and GPS faculty using online resources (QEP Director)

Spring 2012   Faculty teaching CMNS 351, 354, and 356 will meet in a group with service learning leaders to redesign course so that there is a greater emphasis on service learning as problem solving with Reflective Judgment (QEP-IT with special attention by Hobbie Center Director)

Spring 2012   Faculty members heading up Departmental initiatives to connect a senior capstone course to Problem Solving with Reflective Judgment and faculty presently teaching CMNS 480 meet in a group bi-weekly to discuss and plan integration of capstone with Reflective Judgment (QEP-IT with special attention QEP Director)

Spring 2012   Juniors and Seniors tested with the RCI (Director of Institutional Effectiveness)

Spring 2012   Faculty members heading up Departmental initiatives in internships meet biweekly in a group with the Director of Career Development and QEP Director to plan the new internship requirement and develop its connection to problem solving with Reflective Judgment. (QEP-IT with special attention by Director of Career Development)
May 2012  Development of Gateway contract faculty one weekday night each week during May *(QEP-IT with QPS Liaison)*

May 2012  Two day workshop for faculty involved in Phase II on Reflective Judgment *(QEP-IT)*

June 2012  Online development opportunity for GPS faculty *(QEP-Director)*

**Year Three: Problem-solving with Reflective Judgment in the World (2012-2013)**

Fall 2012  All previously initiated activities (modified instruction, changed orientation, and RCI testing of Freshmen, Juniors and Seniors) continue. *(QEP-IT)*

Fall 2012  Faculty members heading up Departmental initiatives noted above meet bi-weekly in themed Teaching Circles *(QEP-IT with Teaching and Learning Circle Coordinator)*

Fall 2012  CAAP Testing of sophomores compared to 2001-2005 data

Fall 2012  Residential programs require their students to participate in either research or creative production, internships, or service learning, all within the major. This becomes a graduation requirement for students finishing in May 2014 and beyond. *(QEP-IT)*

December 2012  Online development opportunity for GPS faculty *(QEP-Director)*

December 2012  Now that the QEP is fully implemented, examine data and speak with faculty in small groups to assess faculty development needs as it relates to the QEP *(QEP-IT)*

Spring 2013  NSSE administered to all students *(Director of Institutional Effectiveness)*

Spring 2013  Juniors and Seniors tested with the RCI *(Director of Institutional Effectiveness)*

May 2013  Development of Gateway contract faculty one weekday night each week during May *(QEP Director with GPS Liaison)*

June 2013  Online development opportunity for GPS faculty *(QEP-Director)*

August 2013  Development of RAs in the basics of Reflective Judgment *(QEP-Director)*

**Year Four: Problem-solving with Reflective Judgment in the World (2013-2014)**

Fall 2013  All previously initiated activities (modified instruction, changed orientation, and RCI testing of Freshmen, Juniors and Seniors; and new program requirements) continue.
Fall 2013  Faculty members interested in support for trying new RJ related teaching efforts meet bi-weekly in Teaching Circles (QEP-IT with Teaching and Learning Circle Coordinator)

Spring 2014  Juniors and Seniors tested with the RCI (Director of Institutional Effectiveness)


**Fall 2014**  Administration of Noel-Levitz Student Satisfaction Survey (Director of Institutional Effectiveness)

**Fall 2014**  All previously initiated activities (modified instruction, changed orientation, and RCI testing of Freshmen, Juniors and Seniors; and new program requirements) continue. (QEP-IT)

**Fall 2014**  CAAP testing of sophomores and Seniors. Senior scores compared to their previous scores as sophomores. (Director of Institutional Effectiveness, QEP-IT)

**Spring 2015**  Juniors and Seniors tested with the RCI (Director of Institutional Effectiveness, QEP-IT)

**Spring 2015**  Fifth year report (QEP Director)
Appendix H: Reflective Judgment Rubric