INTRODUCTION

In the university’s 1996 WASC Accreditation, the site team identified the “urgency for a more critical review of general education” and reported that they saw no clear faculty commitment to the program. They recommended that the university develop a “systematic evaluation” based on “broad faculty discussion about the [program’s] principles and goals” (p. 15). The initial result of this charge was two fold. First, there was a university-wide discussion and subsequent reconfiguring of the GE program. This included streamlining the offerings, refocusing existing courses and developing new courses to respond to the university’s mission. Charged by WASC to scale back the hours required for General Education, the university faculty met to evaluate the hours required in each area. In 1998, after a concerted effort, the GE program hours were reduced by 30%. The reduction created an improved balance between major requirements, GE program and university electives. After the concerted effort to reduce the required credits for GE, a more collaborative environment and assessment planning began to develop.

The first efforts at GE assessment were to look carefully at three curricular categories (Basic Skills, Fundamental Knowledge, and Synthesis) in which all students complete requirements. The English faculty (both full and part-time) revised in a step-by-step fashion the three required courses for GE offered by the English Department (English 101, 201, and 315/316), adding integrated themes emerging from faculty expertise to add a content-rich component to courses that were traditionally skills-based.

Next, the GE Committee and history faculty worked together to revise the two-course world civilization requirement of History 201 and History 202. The History 201 course also became a site for collaboration. In addition to teaching a global perspective on the history of the world prior to 1500, History faculty now collaborate with Library faculty to teach students how research and write a successful term paper.

Notable among new courses is History 202 “World Communities.” Drawing on interdisciplinary expertise from faculty across the College of Arts & Sciences and departing in many ways from traditional world history courses, World Communities has become in many ways a signature General Education class. One of the overt objectives of this required course is to increase intercultural understanding by introducing students to alternative (non-Western) perspectives from which events were experienced and histories were written and interpreted, and thereby broadening students’ worldviews. This course has an annual budget of $2,600 to bring in outside
speakers, $13,000 for student wages to support instructional assistance, $9,000 for course materials and supplies, $60,000 for non-FTE part-time faculty, and $30,000 every three years for professional development trips for faculty members who teach this course. Past trips have been to China, Mexico and New Zealand. Though expensive this course represents an interdisciplinary effort to internationalize our curriculum in response to the university’s mission and the international nature of our student body.

After identifying inconsistencies in delivery and assignments across the interdisciplinary studies courses (IDS), the GE committee carefully reviewed what was offered in relation to the original objectives for IDS courses. The committee found through review of syllabi, student evaluations and workshops, that the IDS courses did not always offer the level of interdisciplinary discussion, rigor of thought, or quality of writing originally envisioned. Thus, the committee explored ways to restructure the courses and developed a pilot course which involved three professors in a team-teaching format. These faculty rotated among three sections meeting at a concurrent class time, each teaching their perspective on a topic to each section in a given week. Thus each faculty member would cover one third of the curriculum for each section. Additional class time was created for moments of synthesis when all faculty were present for a discussion. In the first pilot, professors explored different vantage points on what it means to Pursue Truth (one of the core GE qualities) in their respective fields: science, the humanities, and religion. Another pilot course on the same topic was taught in 2005, after which the GE Committee decided to make the course a permanent addition to our IDS offerings. A second course, Global Responsibility (another core quality), was initiated in 2007 and will also become an annual IDS offering. The GE Committee is beginning the formulation of another IDS course based on a third core quality, Behave Ethically, with a roll out date of winter 2008.

Many of our students enter the university with weak math, English, and study skills. In response, the GE Committee has encouraged and approved changes in the curriculum (new courses, existing courses re-labeled as preparatory courses for GE credit-bearing courses, infusion of information literacy skills) in order to better prepare students in these areas. Assessment should help sharpen our thinking about how the GE program relates with and benefits the rest of the curriculum, and helps us know whether or not these efforts are bearing fruit.

Review by the Math Department of their GE requirements in comparison with other universities has led the GE committee to raise the GE math requirement to the level of Math 106 (a course also created in response
to the 1997 GE changes) and lower the previous requirement (Math 100) to a pre-college number (Math 97) and level. Math 106 (Mathematical Reasoning, Problem-solving and Applications) has provided one of our most valuable sites for embedded assessment of the quality, Solve Problems.

By 2000, the second GE-related result of the 1996 reaccreditation was becoming visible: an emphasis on developing a university assessment culture. The General Education Committee sought to involve faculty in the entire process of defining outcomes, developing methods, carrying out assessment, and applying findings to program decision making. The Dean of the College of Arts and Sciences, where GE is housed, identified faculty who teach GE as well as those in professional schools and programs that indirectly benefit from GE to compose committees to carry out the development of the assessment process. Each document, outcome, or assessment plan was only developed after discussion and review by many faculty members. Over a four year period, about 50 of about 115 full-time faculty have participated directly in committee work, workshops or training sessions on assessment. In addition, all assessment documents were sent out to the faculty at large for review and comment. When many asked “why are we doing this?” the GE Committee purposefully focused its discussions on better defining the qualities of a BYUH Generally-Educated Person and sought ways to inform their thinking through participation at national conferences. What they learned as a committee was then communicated through university faculty meetings. The ideas generated and documents developed were taken to instructors, chairs, deans and the President’s Council. The combination of streamlining and refocusing paved the way for clear planning and assessment.

The most significant of these documents which was developed by about twenty-five faculty representing a cross-section of the university, is the 2001 General Education Mission Statement and its accompanying Seven Qualities of a Generally-Educated Person, the explicit outcomes of the GE program. These qualities are the concern not of any specific department, but of the university’s entire academic program. The statement articulates the faculty’s broad acceptance of the view that the “generally-educated” person will 1) pursue truth, 2) communicate effectively, 3) solve problems, 4) respond aesthetically, 5) behave ethically, 6) integrate socially, and 7) be globally responsible. This document was then taken to the faculty as a whole for discussion and ratification.
ASSESSMENT OF GENERAL EDUCATION QUALITIES

Communicate Effectively

The GE Committee chose to assess first the writing component of the quality *Communicate Effectively* because of the availability of student texts to identify specific outcomes related to writing and to develop an assessment rubric. A subcommittee wrote an initial draft of outcomes, a Writing Assessment Group (WAG) developed a rubric through reading papers from the Interdisciplinary Studies courses (IDS), considered the GE capstone. The group defined and negotiated characteristics of effective student writing and analysis, as demonstrated in a group of student papers. The group also recognized the inconsistency of writing assignments in IDS classes, leading to an overall review of the course. Since that time, a WAG has convened in 2003 and 2004 to assess GE capstone writing from advanced writing courses (ENG 315 and 316), and have rated each random sample of papers as averaging in the acceptable range in each of the four characteristics of Analysis, Coherence, Language, and Documentation. Eighty-two percent of the papers averaged overall in the “acceptable” range. When compared with non-ESL writers in 2003, ESL students scored 0.3 lower in Analysis, Language and Documentation and the same in Coherence, averaging at the “Acceptable” level. Average scores were slightly lower overall in 2004 (about 7-8%). The 2005 WAG assessed senior theses from majors which fill the GE advanced writing requirement with their senior seminar and thesis. 2005 senior theses revealed lower scores in Analysis and Coherence, compared to 2003 and 2004 samples. Language and Documentation scores were the same as previous years.

Impromptu writing samples were collected from ENG 101, 201 and 315 and were assessed in winter 2007. The GE Committee anticipates that after this year, the WAG for GE capstone writing will convene every two or three years.

The GE Committee is also working on ways to assess oral communication skills that form part of the *Communicate Effectively* quality. Using the "Oral Presentation Rubric" developed in 2004, a sub-committee of the GE Committee scored a sample of oral presentations collected in the 2005 fall semester. Average scores (3 point scale) in the four attributes were: a 2 for Delivery; 1.7 for Thought; 1.6 for Organization; and 2.1 for Language. A pleasant surprise was finding that those students whose first language was not English did not score lower on the categories. The GE Subcommittee is encouraged by the ability of BYUH students to
communicate effectively while speaking orally, especially in the categories of Delivery and Language.

After conducting the first round of assessments the subcommittee found that it was too difficult to assess the quality of individual student’s oral communication skills when assessing group presentations. The subcommittee also decided that the oral presentations for our assessment purposes need not be so long.

In the spring 2007 term, we will recruit other classes with oral presentations to continue the assessment project in order to further extend the initial benchmark averages reported in the findings.

The GE Committee will need to report its findings to the faculty, especially the IDS instructors, as the Capstone GE class where these GE qualities can best be measured. We should also propose a specific numerical average to reach and compare the ongoing 2006-2007 academic year with subsequent years.

**Solve Problems**

In 2001, each department was asked to determine which of the seven qualities they could address. Mathematics, science (Biology and Biochemistry) and Exercise Sports Science Departments all chose to address problem solving in their GE classes. Committee members were chosen largely from these areas in an attempt to utilize faculty interest and input. Course assignments to be evaluated were also chosen from these three areas.

In year one (2004), the problem solving assessment focused on selecting a measurement criteria for evaluating students’ problem solving ability. The committee determined that a student should be able to: (1) identify the problem, (2) develop a plan to solve the problem, (3) analyze relevant information, and (4) solve the problem. The committee developed a rubric to determine if the outcomes could be used to effectively evaluate problem solving skills of BYU Hawaii students. The committee determined that the rubric could be used as a problem solving assessment tool. No findings were made for 2004. The problem solving committee met again in fall 2005 to use the student outcomes to assess assignments collected from the Physics 100 class and a Math 106 class. Instructors from each of these classes were asked to embed a question in their final that could be used to determine the students’ ability to solve problems. The assessment tool was modified to only include a pass/fail option on each of the four student outcome areas.

Members of the committee expressed some reservations about the physics assignment because of the perception that some of the questions on
the assignment were leading questions and did not allow students to develop a plan on their own. Other concerns focused on the wording in the assessment rubric of what is "adequate?" And would "adequate" be the same for all types of assignments?

The results from the Physics 100 and the Math 100 class show that these students had little trouble identifying problems. However, in general, the students lacked the ability to adequately solve the problem.

For a third year (2007), the GE problem solving subcommittee met to evaluate student work from general education classes. Problems were collected from Biology 100 (general education Biology), Math 110 (College Algebra) and Math 106 (Mathematical Reasoning, Problem-solving, and Applications.) From Biology 100, 20 out of 34 collected assignments were analyzed. From Math 110, 20 out of 105 collected assignments were analyzed. 20 out of 78 assignments from Math 106 were analyzed. The results (fig.1) of the subcommittee’s assessments demonstrate the natural progression of most students in problem solving. This trend was similar for the measurement of student outcomes on each of the chosen student assignments and was similar to the results found in 2005. The Math 106 graph was chosen as representative.

The graphs on the following page show the result of the assessment from each of the three assignments (figs. 2-4). The graphs show that only 20-35% of the math students were able to solve the problem, as evidenced
by scores above 3. Although direct comparison between problems from different assignments lends little valuable information, biology students seemed to fare better. Still, only about half of the students were able to solve the problem. The committee noted that the students seemed to have a particularly hard time solving problems involving quantitative reasoning. The data collected should serve as a background for establishing a baseline on which to improve in the area of problem solving. The data suggest that changes need to be made which will help our students with the ability to address quantitative problem solving.

Figure 2

Figure 3
Problem solving skills of exiting students in Math 110 (College Algebra) and Math 106 (Quantitative Reasoning) were compared by measuring the students willingness to address the problem as well as measuring their success in solving the problem placed before them. Students in the Math 110 in general have a stronger mathematical background and have had problem solving experiences in the class while students in the Math 106 course have specifically addressed problem solving as a subject within their curriculum. There was a significant statistical deference between the proportion of students willing to address the problem (p<.01). 97.5% of the 77 students in Math 106 attempted the problem while only 87.1% of the 109 students in Math 110 attempted to find a solution. Classes where direct instruction in problem solving is included in the curriculum are more likely to attempt problem solving. The ability to carry problem solving to a successful conclusion might be affected by mathematical background although those conclusions are not supported statistically. Direct instruction in problems solving rather than just modeling of problem solving will result in more students attempting the problem solving process.

**REFLECTING ON ASSESSMENT**

**What we Learned**

We have learned much from this process of involving faculty in assessment. A faculty survey reveals that at least 1/3 of the faculty claim to not be aware of the Seven Qualities of the GE Mission Statement, to not feel that the mission statement helps them teach more effectively, and to not know about assessment standards for general education. A surprising 66% say they haven’t participated in the assessment development process, though the GE committee has identified over 43% who have participated in training or committee work directly. Faculty perception (and misperception) of the process is often blurred by ever-changing faculty assignments, faculty
turnover, competing departmental agenda, and differing levels of faculty involvement and understanding. However, the progress we can mark validates our need for faculty contributions.

We also discovered how valuable administrative support can prove in involving faculty. Our administration has sent groups to national conferences or workshops. These efforts not only provided training, but with time together away from other university responsibilities, the participants drafted or finalized outcomes, assessment plans, or other documents. Significant products resulted from conferences in Asheville, Cincinnati, Chicago, and Philadelphia. Though costly, the contribution of these conferences toward the developing of our assessment process made them worthwhile. The administration also has supported course development budgets, training sessions and workshops, assessment groups, and other efforts to develop and strengthen the GE program and its assessment. Each of these has facilitated wider faculty involvement.

The most significant thing we learned about faculty involvement, however, was to not overextend the demand we place on faculty. While we are pleased with the products that have involved faculty over the past four years, we came to realize that we were wearing them out. Many faculty, including most of the GE Committee, serve on other demanding university committees besides completing GE assessment tasks and the responsibilities faculty bear in their respective academic units. We have determined to be more selective in how we use our faculty in the assessment process.

What We Will Do in the Future

While wide faculty involvement enabled us to generate a statement of outcomes to guide our GE assessment, functional rubrics to assess capstone writing and problem solving, and other valuable products to facilitate assessment, we realized that we cannot put as much faculty energy into each of the outcomes we need to assess. We will involve faculty in other ways. First, we will mostly rely on embedded assessment, which will allow faculty to contribute to the assessment process, but without serious reassignment of time. We are also considering new, perhaps more inviting, ways to engage faculty. For example, we can selectively use them to lead occasional discussion faculty groups or to facilitate student or faculty focus groups for assessment. We can also invite faculty to consult with the GE Committee as experts in their areas.

What we have accomplished so far in assessing and redirecting our general education efforts has been due to the valuable but somewhat demanding participation and critique from our faculty. By finding new ways
to employ our faculty’s expertise in the assessment process, we can strengthen our program without draining or alienating our most important resource.

The challenge for the General Education Committee in the future will be two fold: 1) to use the data gained from the assessment rubrics to develop ways to advance the GE curriculum; and 2) to continue to develop means of assessing the other GE qualities, particularly those that seem difficult to quantify. The committee will continue to follow the procedure used so far to identify outcomes, devise means of assessment, test and refine those assessment tools, and implement them in the curriculum. As new GE qualities are added to the assessment schedule and others are implemented within the GE curriculum, the committee will likely be at some stage in assessing 3-4 qualities in any given year.

-need to work on WAG section of report.
-need comments about specific curricular changes and how we will approach implementing changes.