Chapter XII: PORTFOLIO ASSESSMENT

Portfolio Assessment

Who takes it?
Right now, only seniors in classes that require creation of a Liberal Arts and Sciences Portfolio (most often capstone courses or senior seminars) submit portfolios. Currently more than 65% of graduating seniors turn in portfolios.

When is it administered?
The instructor of the course requiring participation in the portfolio assessment distributes guidelines and collects portfolios during the course during whichever semester seniors take the course.

How long does it take for the student to compile the portfolio?
The average is about three hours and one-half hours.

What office administers it?
The class that requires it.

Who originates the submission requirements for portfolios?
Faculty readers and evaluators, the Assessment Committee and the director of the portfolio assessment design, evaluate and publish the requests for specific portfolio items.

When are results typically available?
The portfolios are read and evaluated in May and generally the results are available in late summer or early fall.

What type of information is sought?
The types of works requested from students are designated by faculty evaluators and the Assessment Committee. It is expected that with the arrival of the new Liberal Studies Program (that will be required of all undergraduates), the Undergraduate Council and Faculty Senate may have a greater say as to what is requested of students. In the past, many of the requested items have remained fairly constant. In fiscal year 1997, the portfolios sought two items showing growth as a thinker, an item showing thinking in an interdisciplinary way, an item demonstrating the application of quantitative reason, one demonstrating the application of scientific reasoning, one showing aesthetic analysis and evaluation, a work or experience that the student considered most personally satisfying, and a cover letter that asks students to reflect on ways they have changed during their time at Truman or anything else that they would like to say about their experience here. Other items may also be included, and a few disciplines may require more items relating specifically to their major.

From whom are the results available?
The director of portfolio assessment.

Are the results available by division or discipline?
By assessment tradition at Truman, results are not reported by division or discipline. However, results can be generated from the database for divisions or disciplines who request them. Several disciplines used data from the fiscal year 1996 for disciplinary workshops or retreats.

Distribution regularly made to?
Taskforce findings are shared with faculty and administrators through planning workshops, faculty development luncheons, and written reports. Specifically in 1994 and 1995, the university used quantitative and qualitative information in a self-study report which led to reaccreditation for ten years by the North Central Association. The Undergraduate Council (which has the responsibility for overseeing and evaluating the core curriculum) looked at four years of findings while it discussed core reform. The reports had a particular impact on interdisciplinary and quantitative requirements. The reports also were available to Faculty Senate and Student Senate when they worked on planning documents. In discipline committees, some faculty use the information while they review their major and its program, both for curricular reform and program improvement. Portfolios have also affected the assignments and syllabi of faculty who have read and evaluated them. A written report for this last year is due in August 1997.

Are the results comparable to data of other universities?
No. Few universities are using portfolios for assessment of general education or liberal studies; however, many institutions have inquired about the development and results of the portfolio assessment at Truman.

1996 and 1997 Liberal Arts and Sciences Portfolio Assessment

The scope of the Liberal Arts and Sciences Portfolio Assessment changed significantly over this two year span of assessment. Senior participation increased 15% to 62% in 1996 and leveled at 61% in 1997. The disciplines of Chemistry, Spanish, and Theatre joined the assessment project in 1996; Economics and German joined in 1997, bringing the number of participating disciplines to twenty.

Forty faculty from nineteen disciplines assessed 661 portfolios in 1996 while sixty faculty from twenty-four disciplines assessed 712 portfolios in 1997, continuing a tradition of faculty ownership of portfolio assessment and increasing interdisciplinary discussions about student learning and achievement. Eighteen of forty readers in 1996 were new readers and twenty-six of sixty readers were new in 1997.

A process to establish interrater reliability for Interdisciplinary Thinking submissions resulted in reliability ratings of 83% in 1996 and 86% in 1997, establishing appropriate baselines for future assessments of interdisciplinary thinking in the Liberal Studies Program. The 1996 portfolio guidelines included an expanded prompt which defined interdisciplinary thinking more fully and provided specific examples of students working in interdisciplinary ways. A "new prompt", which was requested by 1995 faculty readers who were concerned that the quantitative reasoning prompt precluded work from advanced coursework in Mathematics, Computer Sciences, and Physics, called for materials demonstrating that students "used logical thinking effectively."

The 1997 portfolio guidelines included a revised quantitative reasoning prompt requesting work in which a student "applied mathematical skills and techniques at the highest level attained in discovering new knowledge through quantitative reasoning." Both years, students were also asked to submit entries demonstrating application of scientific reasoning, aesthetic analysis and evaluation, growth over time as thinkers, and the "most personally satisfying" results of their education at the University. Each year students were encouraged to write cover letters to reflect on their education and the process of assessing and selecting materials for their portfolios.

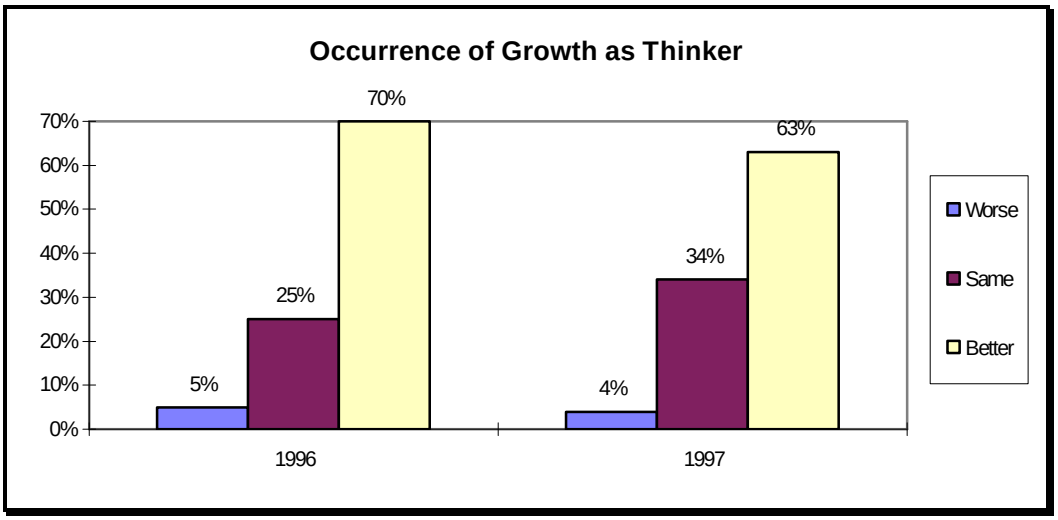
Findings of the Liberal Arts and Sciences Portfolios Task Force

Growth as a Thinker

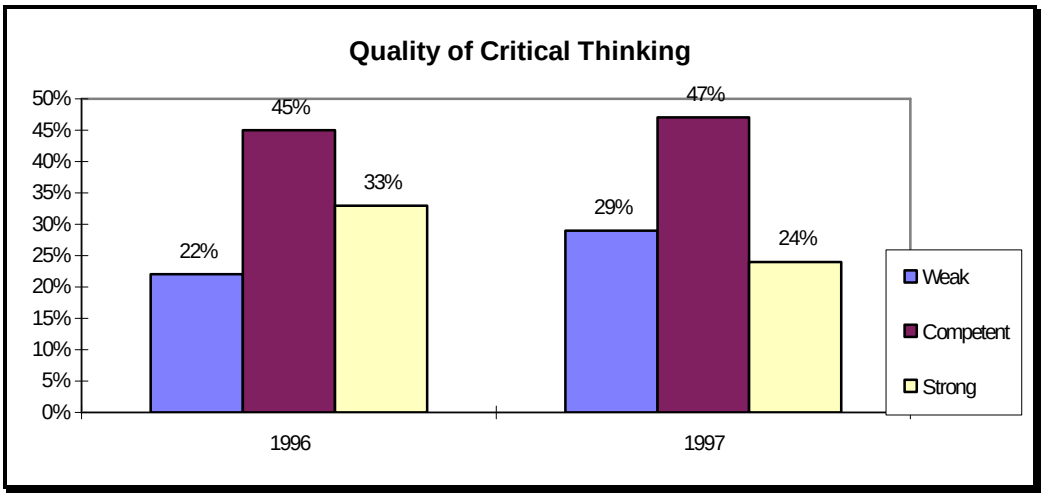
Students were asked to submit "two items (one early and one more recent) which best reflect your growth as a thinker." Faculty readers compared the two items to assess whether the second work demonstrated "better" thinking and evaluated the quality of thinking in the second piece as well as the accuracy of student self-assessment of the items.

In both 1996 and 1997, 12% of seniors either did not submit materials or did not submit both early and more recent work. Readers evaluated each set of materials to determine whether the quality of thinking in the second entry was "worse than, about the

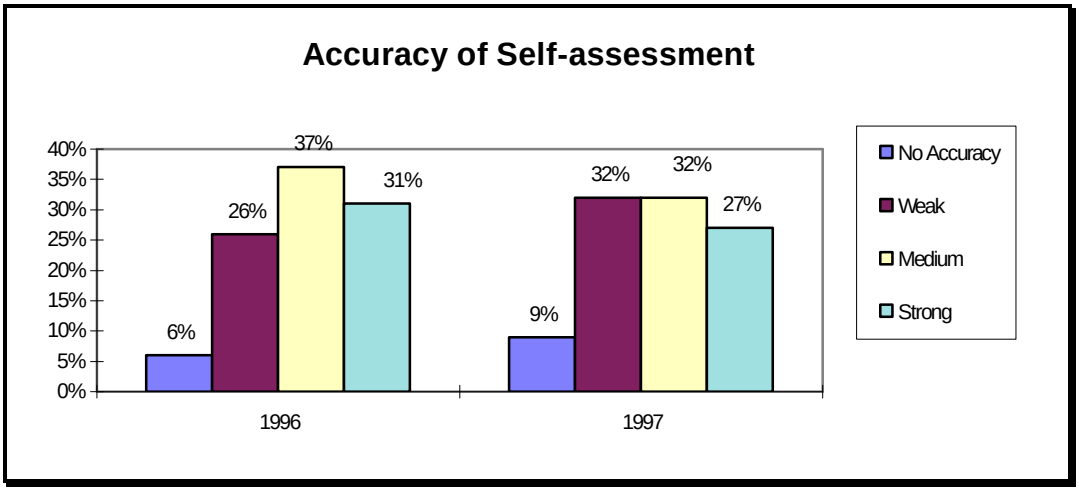
same as, or better than" that in the first entry. In 1996, 70% and in 1997, 63% percent of submissions demonstrated "better" thinking in the later work.



Faculty readers, focusing on the quality of the critical thinking in the second entry, observed that 78% of students in 1996 and 71% in 1997 demonstrated at least "competency" if not "strength" in their mature critical thinking.

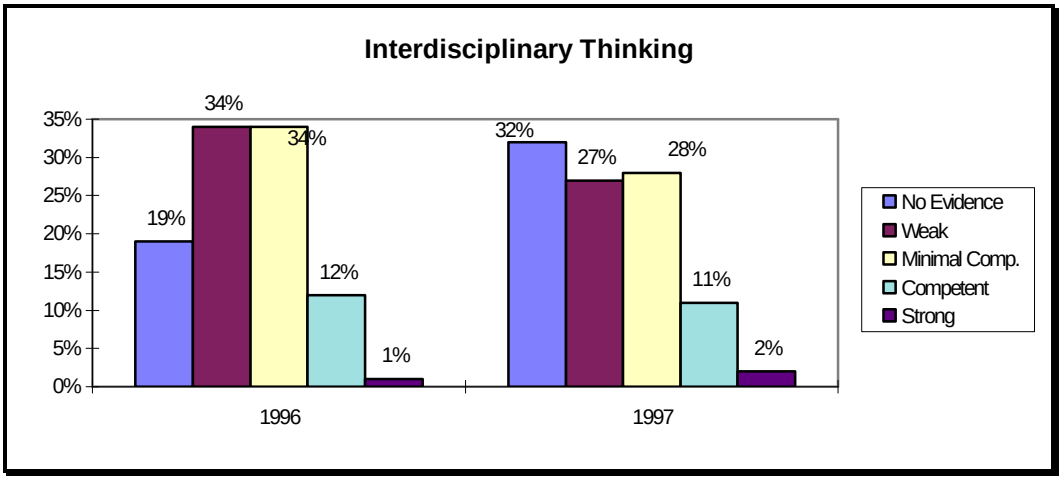


Of those who submitted paired items, 6% of seniors in 1996 and 9% in 1997 did not reflect on and explain their assessment of "growth as thinkers" on the cover sheets which accompany the submissions. Faculty rated the "accuracy" of student self-assessment of their "growth as thinker" submissions by asking to what extent the student's evaluation of the thinking in both items and the student's evaluation of "growth" matched the faculty reader's observation and evaluation of materials.



Interdisciplinary Thinking

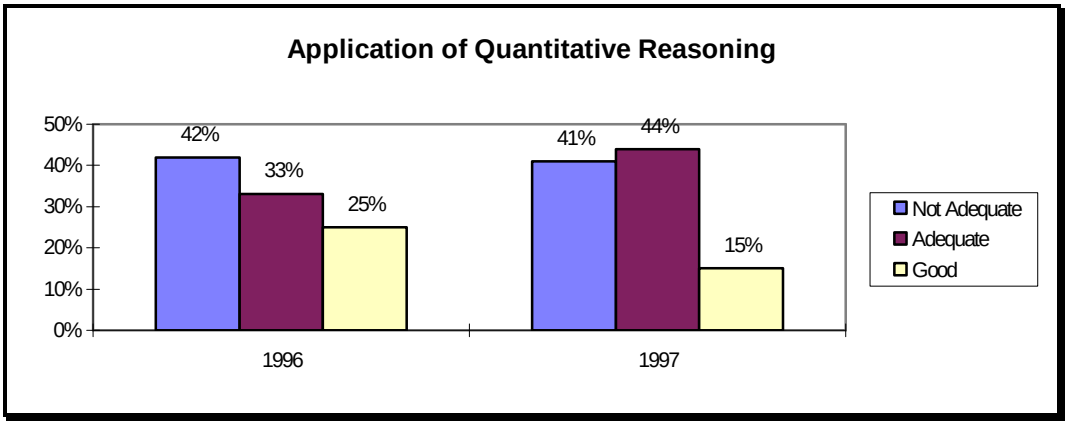
In 1996 12% of seniors and in 1997 13% did not submit entries to demonstrate "interdisciplinary thinking". Faculty readers participated in holistic scoring of interdisciplinary entries, using a scoring range from the best criteria of "strong interdisciplinary thinking" down to "competent", "minimally competent", "weak", and finally "no evidence of interdisciplinary thinking." At least two readers scored each entry; all readers used the entire range in scoring. Three 1996 reading sessions demonstrated interrater reliability across sessions as well as within sessions; two 1997 reading sessions demonstrated interrater reliability across sessions and within sessions.



Student commentary on cover sheets occasionally indicated that seniors, while trying to comply with the request, handed in material which they did not consider "interdisciplinary" but which was "as close as I could get to fitting the definitions". Such student compliance may have skewed the data on "no evidence of interdisciplinary thinking".

Quantitative Reasoning

In marked contrast to previous years, most students selected and submitted items to demonstrate "quantitative reasoning." Only 1% of 1996 and 6% of 1997 portfolios lacked items for this category. Readers evaluated items to determine whether an application of quantitative reasoning was good, adequate, or not adequate



The data repeats a pattern occurring often in Liberal Arts and Sciences portfolios; judgments of "not adequate" fall within the fortieth percentile or higher.

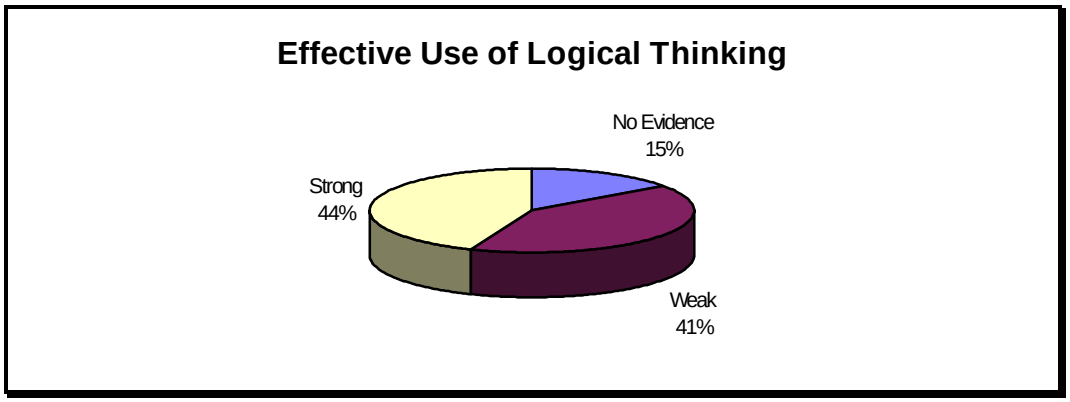
Logical Reasoning

Faculty discussion of assessment results in May 1995, led to a recommendation of a new request in the 1996 LAS Portfolio Guidelines. Faculty readers from Physics, Mathematics, and Computer Sciences argued that their majors were penalized by a focus on explicit application of quantitative reasoning in entries. Explaining that advanced quantitative reasoning subsumes most of the skills demonstrated by non-specialists, they suggested a category where their majors could demonstrate the quantitative reasoning implicit in their mature work. The prompt, designed to elicit the effective use of logical thinking, suggested examples such as oral or written arguments, mathematical proofs, proposition papers, theoretical physics problems, computer programs, or examinations of methodologies.

In 1996 23% of portfolios lacked entries to demonstrate the effective use of logical thinking. Despite the expectation that some entries would be sophisticated computer programs, mathematical proofs, or theoretical problems, most students interpreted the prompt as soliciting formal arguments from their English Composition II classes or any writing in which a logical organization was apparent.

While observing and evaluating submissions, readers discussed scoring descriptions ranging from "no evidence" through "not adequate", "weak", "adequate", or "strong." After conversations about what might constitute "adequate" in such widely

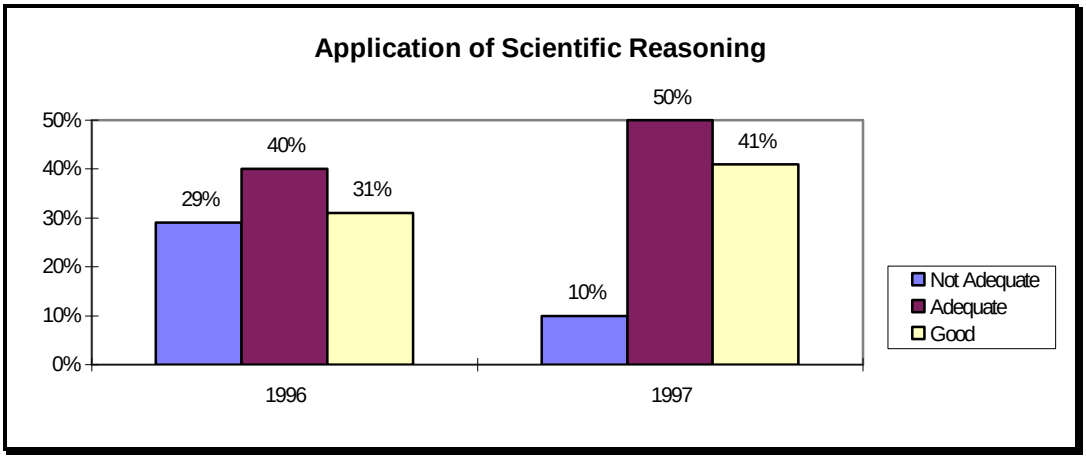
ranging student interpretations of effective use of logical thinking, readers made a rough cut, judging the logical thinking as either "weak", "strong", or providing "no evidence." 15% of the entries were cited as providing no evidence, 41 % weak, and 44% strong.



Readers concurred that some assessment of effective logical thinking might be warranted to distinguish essential quantitative reasoning skills from the reasoning within a mathematical mode of inquiry. They suggested that the issue be deferred until the mathematical mode of inquiry section of the Liberal Studies Program has been determined.

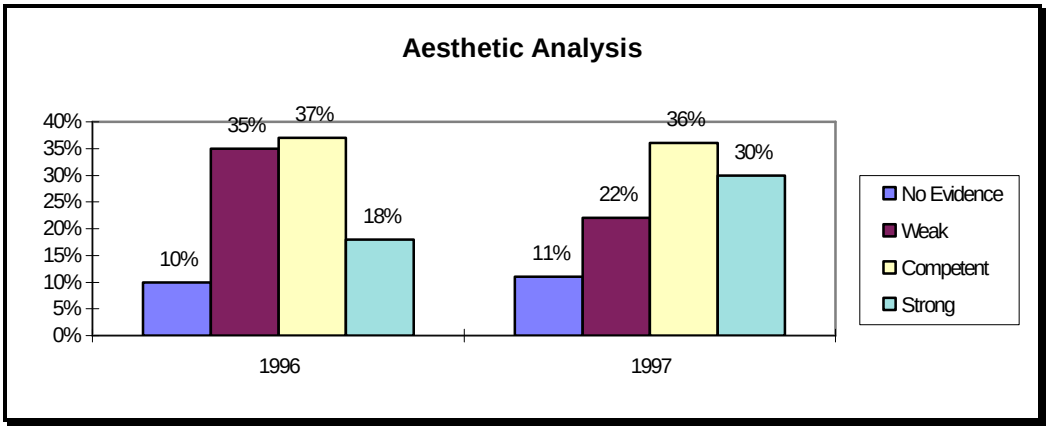
Scientific Reasoning

In 1996 11% and in 1997 15% of seniors did not submit materials which demonstrated application of scientific reasoning. The 1997 prompt called for demonstration of an "ability to reason scientifically." Readers assessed whether scientific reasoning was evidenced at all and evaluated the evidence as good, adequate, or not adequate demonstration of scientific reasoning.

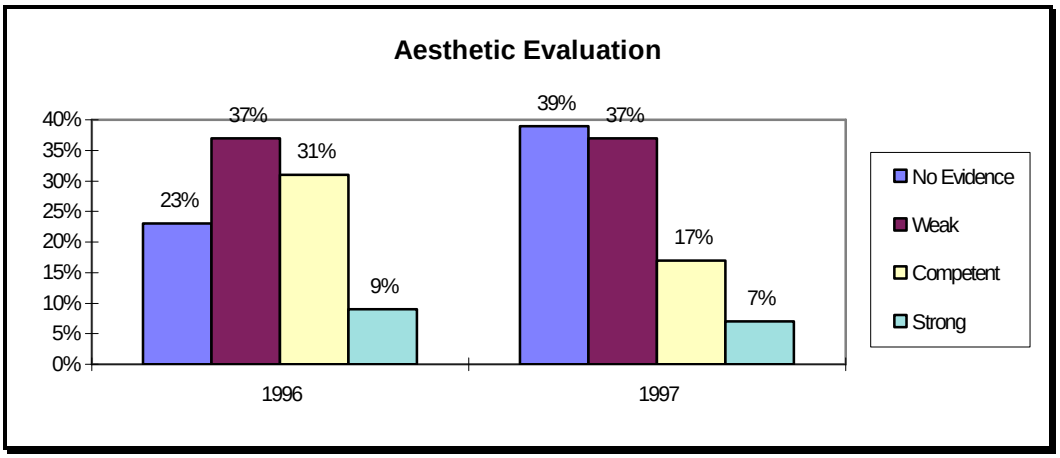


Aesthetic Analysis and Evaluation

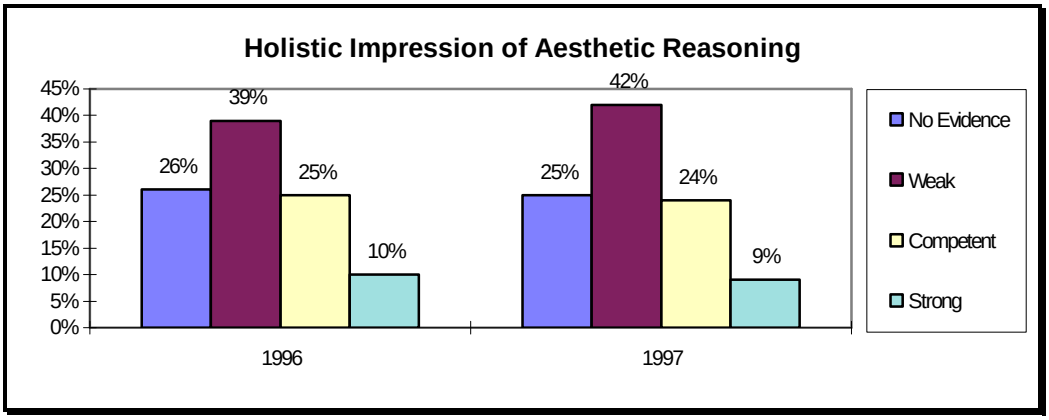
In 1996 10% and in 1997 13% of portfolios lacked submissions demonstrating aesthetic analysis and evaluation. The prompt asked for a demonstration of "aesthetic analysis and evaluation of some artwork or creative work." The request for work that shows both analysis and evaluation has challenged many students with each iteration of the assessment. Readers assessed the quality of the aesthetic analysis, the quality of the aesthetic evaluation, and the overall quality of all aesthetic reasoning in each submission. They used scoring categories of "no evidence", "weak", "competent", and "strong".



A pattern appears annually: many students submit work and describe the assignments which led them to engage in aesthetic analysis but have no materials that couple aesthetic analysis with evaluation. In 1996 15% and in 1997 18% of entries demonstrated only aesthetic analysis.



Faculty also reported their holistic impressions of each entry, judging the quality of the aesthetic reasoning they observe.



Most Satisfying Work or Activity

Senior Seminar students in 1992 who reviewed drafts of the portfolio guidelines recommended that the portfolio include a site where seniors could describe and discuss experiences that they were most proud of. This prompt annually produces the highest percentage of submissions to a category: 98% in 1996 and 97% in 1997. Entries range across the curriculum and co-curriculum. Faculty observe the entries, categorize them if possible, and tally entries.

Both years, "most satisfying work or activity" entries originated from these sites in these proportions:

30% from the major
23% from liberal arts and sciences core courses
7% from residence hall life
6% from independent research, practicum, and internships
5% from capstone experiences including recitals, readings, and gallery shows
5% campus employment
5% athletics
5% social sororities and fraternities
4% minors and elective courses
4% leadership roles in Student Senate, SAB, academic / honorary fraternities
2% service fraternities and volunteer work
2% study abroad or other travel

The "most satisfying" entry may include some artifact (published essays or poetry, theatre or concert programs, photocopies of certificates, photo of a fiancee or a newborn child, audiotape, videotape). It may refer to other entries in the portfolio, or it may describe the work or activity and its significance on the cover sheets. A variety of written texts (research proposals and research papers, case studies, interpretative essays, lab notebooks, Fulbright applications, grant proposals, and exams) accounted for 10% of the two years of report. Specific class assignments or projects which presented challenges were frequently described.

Each year, several themes recur when students explain what makes the work or activity meaningful. The data indicate that an average submission sets out three reasons why the work or activity was most satisfactory. Among those reasons, successful collaborative learning and work was cited in 27% of the collected reasons. Establishing a personal best (17%) and achieving personal goals (17%) were twinned. Seniors described a work or activity as challenging and an impetus for growth in 15% of the data collection. The remaining 29% of explanations often focused on friendships, relationships, and family issues which were affected by unanticipated connections with pursuing a college education.

Cover Letters

Seniors are encouraged to draft reflective cover letters for their portfolios, describing the processes of assembling the portfolio and reporting the time invested in the process. They are invited to reflect on what they learned or affirmed through the process of assessing and selecting materials for their portfolios, to discuss change or growth during their tenure at Truman and elsewhere, and to make any assessments or recommendations they wish about the curriculum, student learning, teaching, or the University at large.

Faculty read cover letters on the last day of the portfolio assessment to capture a fuller sense of student aspirations and achievements. They described and recorded discreet data: time involved in compiling the portfolio, use of computer disks to store work, and indications of the students attitude toward the portfolio process of toward the student's education at Truman. Readers assess and report whether students engaged in reflection and self-assessment in the cover letter. They call attention to statements in letters which should be shared with some or all constituents of the university. Roughly a third of the letters in 1996 and 1997 included data on how much time students invested in the portfolio process. The average time reported was 4.5 hours, with a range from one hour to one week of time invested. In 1997 forty-seven seniors talked about investing time over four or five years as they maintained portfolios and used them for reflection, self-motivation and goal setting.

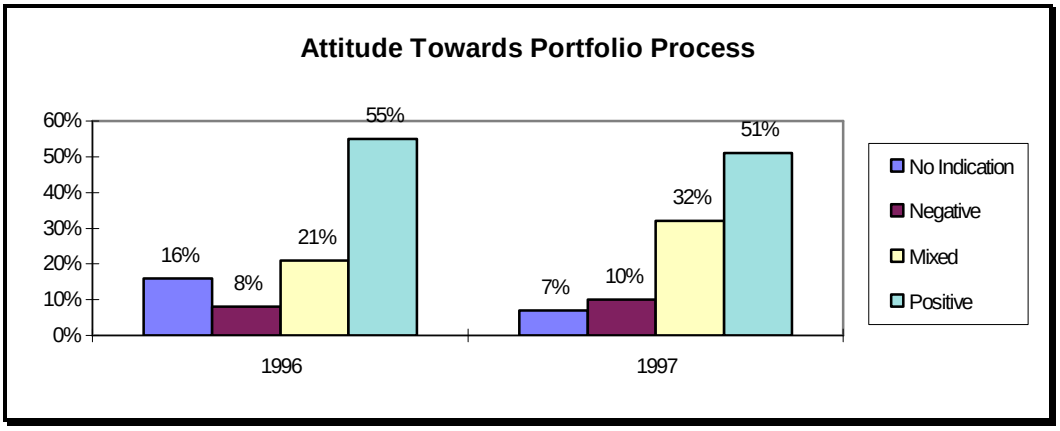
Cover letters often provided personal and thick description of a student's "summing up" of his or her experience at Truman. Some writers are specific and terse while others expand on their opinions about assessment, the curriculum, future goals, outcomes achieved, and skills that they have acquired which are not easily demonstrated in assessment projects,.

Readers assess attitudes as "negative", "mixed", or "positive". "Mixed" attitudes are discerned in letters which often begin with statements like this from a 1996 cover letter:

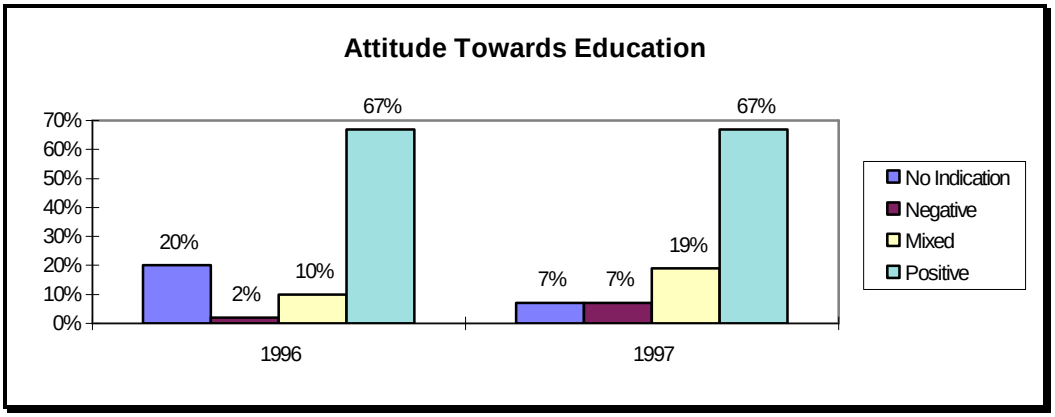
> "Seniors have more important things to do their last semester than wasting their time on this useless assessment. If it's so important, why haven't I heard from you {faculty} about it since Freshman Week?"

These letters often conclude with statements similar to these from the same 1996 cover letter:

> "Okay, so maybe it's not so wasted, if you hadn't forced me, I doubt I would have stopped to look hard at my five years here. I discovered that some things I've learned connected more than I realized going through classes. I also saw that I didn't give myself enough credit for some good stuff I wrote that got B's."



In a similar manner, a student's attitude about his education at Truman might be at times positive, at times cynical, at times respectful, at times negative, and then optimistic and grateful in the last paragraph. A faculty reader would describe the attitude exhibited as more mixed than either negative or positive. During the 1997 reading sessions, one colleague read aloud a well-crafted and painful letter from a senior from Chicago who talked at length about his satisfaction with his major, his pride in his undergraduate research results, and his strong sense of belonging to an educational community. He then detailed at length his experiences as an American-Arab in northeast Missouri, his continuous confrontations with racism on the Kirksville streets, and a lack of tolerance of diversity on campus to buffer his experiences beyond the Quad.



Readers report whether cover letters are reflective. Writers reflect on their experiences at Truman and share their opinions about learning, teaching, the curriculum

and co-curriculum, assessment, and other aspects of Truman's culture. In 1997 there was a marked increase in the number of students who engaged in some self-assessment. To distinguish the tenor of the self-assessment, readers use "yes" to report that self-assessment is presented as generalizations and "yes, with findings" to report that the writer develops the insights further. "Yes, with finding" cover letters usually extend beyond one page; often readers shared those essays with each other because of the full portrait they found of the senior. One cover letter captured a reader's attention for ten pages.

Readers highlight passages in cover letters that should be shared with audiences, be they the first year students who learn about the processes and benefits of maintaining Liberal Arts and Sciences from the cover letters of graduated students or the Portfolio Task Force who hear recommendations about improving the process or specific offices and disciplines singled out for praise or critique. The cover letter and portfolio entries will be returned to graduates ten years after submission. In the interim, the materials are available for use as baseline data and for longitudinal research by individual faculty, disciplinary faculty, and other members of the Truman community.