Assessment Report on the STC and STA Undergraduate Degree Program at Michigan Technological University

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The following report describes the assessment procedures we followed to evaluate the graduating class of 2004. It also summarizes the results of the assessment research and suggests improvements in the program and in the assessment process itself.

Purpose

As in past years, we catalogued and evaluated the skills and abilities students had acquired during the course of their academic work and thus assessed the effectiveness of our program. Our goal for assessing the STC/A program was to determine how well we are meeting our mission statement:

> The mission of the STC program at Michigan Tech is to prepare students to think critically and act responsibly as members of the profession of scientific and technical communication. In order to achieve this goal, we encourage our students to consider the ethical and social dimension of their work, become contributing members of a local production team, produce quality communication products, become habituated to efficient writing and production processes, and gain facility with emerging technology and software.

This year we expanded the purpose of the STC/A assessment and implemented several significant changes to the assessment procedures. More specifically, we wanted students to benefit from the feedback on their portfolios as a way of preparing them to interview for professional workplace positions or to apply to graduate programs. As a result, we refined the senior portfolio requirements (see Appendix A) and required that students present their portfolios formally to an audience comprised of the program co-directors and other interested faculty and students. We thus changed the previous policy that mandated keeping student portfolios for three years after students had graduated and made this year's portfolios and reader comments available to students within a week after the assessment.

Assessment Methods

We used four assessment methods:

- First, we conducted exit interviews and surveys to get our graduating seniors' self-reports on their own experiences and competencies and to get their evaluative comments on different parts of our program.
- Second, we scored senior portfolios that included documents and media that students had chosen to represent their best work. These portfolios were scored by a team of five graduate students and the two co-directors based on standards established in a norming session.

- Third, we examined the grade point averages of graduating seniors.
- Fourth, we read reports from clients for whom our students worked, some from co-op sponsor reports for our senior projects class and one from a co-op sponsor.

Results

Exit Interviews and Surveys
Following are the major findings from the senior exit interviews and surveys.

Demographics. Most of our students opted for the BS degree (14, 70%) as opposed to the BA (6, 30%). Numbers of women and men were fairly evenly balanced (9 women, 45%; 11 men, 55%). Nineteen students (95%) were between 20-25 years old at graduation while the remaining individual (5%) was between 26-30. All fourteen of those responding to the question about ethnicity identified themselves as Caucasian (100%).

Where they came from and how long they stayed. Most of our students came to us as transfers from other Tech programs (15, 75%) while four entered as first-year students (20%) and one transferred from a community college (5%). Most of our students were in the program for three to four years (9, 45%) while six were in the program for two years (30%). One each (25%) reported being here for nine, six, five, two and one half, and one and one half years.

Co-op experience. Of the sixteen graduates responding to this question, nine reported having had a co-op or internship (56%). Sites for internships included IBM, Rochester MN (2), MTU, Houghton MI (2), J. Edwin Associates, Houghton MI (1), Fitness Connection, Houghton MI (1), Pfizer, Ann Arbor MI (1).

Employment and educational plans. Students could mark more than one answer to this question. Of the sixteen students responding to the question about their work plans, most said they planned to go to work upon graduation (12, 75%). Half planned to combine work and education or to enroll immediately in graduate programs (8, 50%). Fields of graduate study included rhetoric and technical communication, management information systems, sound for theatre, graphic design, student affairs, and cultural studies. Eighteen students responded to the question about whether they had actually applied for jobs. Thirteen of the eighteen responding reported that they had applied for positions (72%). Ten of the thirteen who had applied for positions had already had interviews by mid-May 2004 (77%) with two accepting job offers (15%), all as technical writers or document designers.

How they defined themselves. Students could mark more than one answer to this question. The majority of our students defined themselves professionally as document designers (11, 55%) and writers (11, 55%) thus maintaining the percentage of those identifying as designers from two years ago, but decreasing by 5% those identifying as writers. Further, students identifying as media specialists two years ago totaled 27% while this year 45% (9), graphic designers two years ago totaled 32% while this year 35%

(7), and other, such as sound designers, reporters or editors, two years ago totaled 5% while this year 25% (5).

When asked, in the exit interview, how they would describe their work to someone who doesn't know about STC, many used the words "translator" and "interpreter."

> I take a complex and black-boxed system and make it an understandable system for users. I translate it for them.
>
> It's like being a liaison between tech people and "people people." It's like there's a roomful of machinists in a dark alley and a roomful of flashy sales rep guys in another and the tech com is the person who goes between them.
>
> You're someone who has the ability to learn under pressure.
>
> Technical communicators are teachers.

Self-report on sense of preparation. 94% of those students answering this question (17 of 18) agreed that the program had been effective in preparing them for their post-graduate careers. 48% of those who answered specific questions about computer skills (9 of 19) felt very confident about learning software and coding on their own after having completed course work in the program, seven (37%) felt confident, and three (16%) felt neutral or uncertain. Replying to questions about tools skills, out of twenty responding, 5% (one) claimed to have learned 80-100% of these skills in our classes, 35% (7) claimed to have learned 60-80% of these skills, 35% (7) 40-60% of these skills, 20% (4) 20-40% of these skills, and 5% (one) 0-20% of these skills. Focusing on rhetoric and communication theories, fifteen students out of nineteen (79%) claimed to have learned half or more than half of their knowledge about these concepts here.

CCLI access, equipment and software. Out of nineteen students reporting, fourteen (74%) agreed that access to the CCLI and the equipment/software it provides are excellent or very good. Focusing on CCLI access alone, one student (5%) judged it to be good, one (5%) judged it neutral, and three (16%) judged it weak. Turning to the lab/equipment and software specifically, three students (16%) said it was neutral, one student (5%) said it was good, and one (5%) said it was weak.

Advising and support services. Noting frequent turnover of advisors during the past four years, six out of nineteen students reported that they had often been confused or unclear about what to take or from whom to seek advice; two said that advising had been weak to very weak. On the other hand, nine of the nineteen said that their advising experience had been good to excellent and eight said that it had been neutral. Support services, such as job announcements, received a rating of excellent to very good from six students (30%), of neutral to good or okay from nine students (45%), of weak to very weak from five students (25%).

STC membership. This group of graduating seniors was not active in the STC Student Chapter. Out of twenty students, five (25%) reported belonging to the group.

General effectiveness. As a bottom-line measure, 95% (18 of 19) of the graduating seniors who responded to this question said that they would definitely or probably enroll in the program again if they had it to do over. When invited to comment on weaknesses in the program, students most frequently cited not enough writing classes and not enough emphasis on writing user documentation, especially real-world documentation. Other common concerns were too little recruiting information for jobs and/or grad schools, too little corporate knowledge about what professional communicators do, and overlap among classes. One last concern was too much turnover in program directors and advisors.

On the other hand, students consistently described program faculty in the most positive ways: as "excellent," "outstanding," "diverse," and "good teachers." Students also consistently commented that the program is "flexible," "gives a taste of many ways to use technical communication," "maintains good student to teacher ratios," and "offers strong graphic design and computer courses with lots of opportunities to use diverse software." Students appreciated the fact that the program is situated in a technological university, commenting that such a location has helped prepare them for real-world jobs.

When invited to make recommendations, students asked for more writing classes, more technical writing classes, more documentation classes that build in "real technical cases—not mousetraps," reading and writing integrated into classes in general, more advisement about how to use the degree in the workplace, more links to Enterprise and more Enterprise-friendly degree schedules. Students also wanted to see more media offerings, advanced coding classes, stronger corporate connections, and instruction in FrameMaker, Quark X-Press, RoboHelp, Citrix ICA Client, and sound (as in audio) software. One student who had double majored in STC and electrical engineering did say that software is irrelevant—it's the ability to learn new concepts that counts.

> The computer part of the STC program is quite good, thanks in large part to the CCLI, which is more than just a computer lab, but a little community where I genuinely enjoy spending time.
>
> Awesome media program.
>
> The program does a lot of things well, but mostly the faculty. They're personable, knowledgeable, willing to push you to think a little harder.
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> Overlap among classes can be okay, but the more advanced classes should work with material that's already been introduced in a different way, making it clear why it's being taken up again.
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> I think the STC program is missing classes on technical writing. I've encountered many excellent scientific writers, for example James Gleick and David Quammen. There are also myriad technical magazines and journals which monthly publish scores of great technical writing—"The New Scientist" and "Wired," for instance. And yet we never examined samples of this good technical writing.

Portfolios

Twenty-three portfolios were scored. Each portfolio had two readings; each reading assessed (1) appearance or visual consistency and professional look; (2) transmittal letter

to employers and readers; (3) arrangement of the portfolio pieces; (4) brief introductions to each portfolio piece; (5) the pieces themselves; and (6) overall impression. Scorers were asked to consider the portfolios in the context of three dimensions—analysis and complexity, readability, and composition and design. The scoring rubric indicated four levels of competency for each dimension: (1) minimally acceptable, (2) uneven quality, (3) competent, and (4) sophisticated (see Appendix B). The average scores follow:

(1) Appearance	3.75
(2) Transmittal letter	3.50
(3) Arrangement	3.10
(4) Introductions	2.95
(5) Samples	3.15
(6) Overall impression	3.20

Overall Grade Point Averages (GPA)
The average overall GPA for the STCs was 3.2; the average for the STAs was 3.6; the combined average for both groups was 3.4.

Client Comments

All eighteen students enrolled in the spring semester of 4634 conducted internships with local companies, school boards, or individuals. All internship sponsors signed contracts agreeing to assess the work students did for them on an ongoing basis and all did so at least once during the semester.

Assessment results were mixed for internships: four sponsors reported complete satisfaction with student work, twelve reported qualified satisfaction, and two reported disappointment. Those sponsors who were completely satisfied reported that students kept in touch with them on a weekly basis, that face-to-face meetings were informal but focused, that students were prepared to hear criticism of their work and to revise it, that students initiated changes themselves to improve the final deliverable, and that they produced results that met, and at times exceeded, their original proposals. Those sponsors who were satisfied reported that students kept in touch often enough to report their progress and to ask for further directions, that "meetings" were often conducted via email and tended wander, that while students did revise their work, they were slow to report changes, and that they produced results that were in keeping with their original proposals. Those sponsors who were disappointed with student work reported that students did not keep in touch with them in a timely way, that they seldom initiated meetings and when they did so, they seemed unclear about their work or the purpose of their projects, that they shared little of their work during the semester, making it difficult to assess it, and that ultimately they produced mediocre products.

One student was on co-op downstate in the spring. Her sponsor was completely satisfied with the quality of her work, her work habits, her quickness to acquire new skills, and her ability to learn the organizational culture.

Recommendations and Discussion

Demographics. While increased numbers of women helped to diversify the major, the fact that so few students identified as non-traditional and/or ethnically diverse needs to be considered in upcoming recruitment efforts.

Patty Sotirin and Ann Brady will meet with Admissions this summer to discuss ways to increase STC/A visibility in university-wide recruitment efforts.

Co-op experience. MTU is far from corporate and industrial centers, making co-ops difficult to secure. Nevertheless, we need to find co-op partnerships beyond the Upper Peninsula and in other states.

Sotirin is organizing trips for STC/A students to IBM, Rochester MN, and JR Automotive, Holland MI, for Fall 2004; it is hoped that contacts such as these will help to secure internships. In addition, Brady has contacted graduates of the program, some having served on the STC Advisory Board, to investigate more placements.

Employment. Compared with two years ago, students were about as aggressive in applying for and securing jobs. Nevertheless, we should consider ways to increase student placement as well as strengthen alliances between the program, local and national businesses, alums, and MTU's career placement services in order to make certain that our graduating seniors hear about as many job opportunities as possible.

Brady and Sotirin plan to meet with Career Placement this summer to strengthen the program's relationship with this office. In addition, the client project list, updated this past year and maintained by the STC/A associate, may serve as another resource for finding prospective employers.

Professional identification. Maintained or increased student identification with document design, media, graphic design, and related specializations suggests increasing strength and attractiveness in these areas of the program. Thought should be given to how to increase comparable outcomes for writing.

To increase students' understanding of their professional identities as communicators, the program sponsored three speaker events during this academic year. The first was an Enterprise forum that called for increased participation by STC/A students in key roles on a range of Enterprise teams. Two day long visits by professional communicators, one from environmental education and the other from business, rounded out the series. Both speakers addressed classes and met with STC/A students for informal discussions.

This spring, the STC/A committee renamed the "Media Showcase" the "Humanities Showcase" and expanded it to include writing and a wider range of entries throughout the department. Once students entered their work, it was evaluated and given professional feedback, then "showcased" at a reception and dinner where prizes were awarded.

CCLI access. Several students requested that access to the CCLI be made available 24/7 for all STC/As, as it is now only for consultants.

Dickie Selfe advises considering the pros and cons of such a policy change carefully since full CCLI access is one of the only rewards consultants now receive in exchange for the work they do in the lab.

Support services. Brady and Sotirin hosted a senior portfolio information meeting during the spring semester and plan to continue this practice next year. In addition, the STC Advise listserv could be used to keep students informed about programmatic requirements and meetings as well as job postings. The program might also expand its scope, for instance, by sponsoring its own job network.

Advising. Although advising was given a low rating, a new STC/A advisor, Evelyn Vidal Johnson, has already turned this aspect of the program around. In fact, even those students who reported that their own particular advising experiences had been problematic during their time in the program frequently commented that their concerns have been addressed.

STC membership. A new STC Student Chapter advisor has energized this group and contributed to the recruitment of new members. Erin Smith encouraged students to attend the National STC Association Conference in Baltimore MD, May 2004, and raising money for conference fees and expenses became the mandate for this year's chapter activities. Ultimately thirteen students and Smith attended the conference and plans are being laid for a similar effort this year.

Student recommendations. Student recommendations fall into three categories: a wider array of classes, more Enterprise opportunities, and more professional development.

In order to highlight ways in which already existing classes might be clustered to satisfy particular areas of interest or specialization, last year the STC/A committee began work on a new curriculum design featuring related subject pathways, such as "Workplace Issues" and "Language and Culture." In addition, anticipating the need for more writing classes, the STC/A committee revised 3629, "Practical Writing," renaming it "Special Topics in Workplace Writing" and focusing it more on the production of transactional writing genres, among them reports, proposals, and grants. While we would like to offer more classes, we have a limited number of faculty members to cover them and financial constraints and hiring freezes point to these limitations continuing into the next year.

Interest in opportunities for students to work on existing Enterprise teams or for students to establish their own STC/A Enterprise has increased this year. Responding to and reflecting this interest, Brady and Sotirin met with Mary Raber and Michael Moore, Enterprise representatives hoping to recruit STC/A team members visited classrooms, HU 2600 student teams produced feasibility reports exploring possible ways to advance Enterprise opportunities, and the STC/A Speakers' Series sponsored an Enterprise informational forum. While students now have the latitude to create an Enterprise

concentration within the existing degree framework, Sotirin and Brady will meet with Raber again this summer to discuss team advisors' time commitments, avenues for funding, and organizational plans or charts that could be used as planning documents.

Anticipating the need for increased professional development, co-Directors Sotirin and Brady initiated the STC Speakers' Series. Sotirin is arranging trips to workplaces and opportunities to shadow communication professionals; Brady is contacting STC graduates who might serve as co-op or internship sponsors. Further, STC Student Chapter advisor Smith plans to take students to the STC National Conference next spring. Finally, the STC/A committee will sponsor a second Annual Humanities Showcase where students receive professional feedback on their entries.

Skills and abilities. Design skills are apparently some of the strongest our students possess at graduation since these scores were the highest in the portfolio assessment and students often commented that design assignments by professors like Anne Wysocki challenged them to think creatively about the rhetorical aspects of design. We applaud and support the excellent work that occurs in these classes.

"Samples," "introductions," and "arrangement" earned the lowest scores in the portfolio assessment and the relationship may be more than accidental. That is, if students have not reflected on or revised the pieces they include in their portfolios until the submission deadline approaches, they may not include what could be their best work or see rhetorical connections among the sample pieces they do submit.

The spring semester 4634 effort to require practice in writing rhetorically sophisticated transmittal letters apparently met with some success, and the new 2640, 3640, and 4640 sequence should continue to stress this kind of practice in the introductions to the portfolio pieces. All classes—in addition to 2640, 3640, and 4640—should require students to prepare for their portfolios by revising their work and by practicing critical self-reflection on an ongoing basis.

GPAs. These numbers suggest that our students are performing well. Nevertheless, we might consider ways to encourage them to engage more fully in classes outside of STC/A or outside their specialization within their major.

Sponsor and Client Comments

While little can be done to guarantee that all internships and co-ops will be successful, the characteristics of productive working relationships and the expectations for students, sponsors, and clients entering into professional agreements can be spelled out. Working with an ICUP student this summer, Brady revised documents outlining such characteristics and expectations and hopes to have them posted to the STC webpage by mid-August.

Assessment Process

This year, exit interviews and surveys began in November 2003, and ran through May 2004. Each one of the twenty interviews was at least thirty minutes long; the transcription of each took about ten minutes. Portfolio presentations lasted from 9:00 a.m. through 5:30 p.m. on May 3rd with a thirty-minute lunch break. Portfolio scoring lasted from 9:00 a.m. until noon on May 4th. Preparing to write this report—that is, tabulating portfolio scores and analyzing interview and survey data—in addition to writing the report took one month. While careful triangulation and data analysis is crucial to understanding our program's strengths and challenges, we might consider ways to streamline the evaluative process without sacrificing its rigor. One way to do this would be to redesign and alternate measures. For instance, since surveys and interviews ask very similar questions, we could redesign the survey to gather demographic information alone and then combine it with interviews one year, portfolio presentations the second, and portfolio readings the third.