THE DEPARTMENT OF VISUAL COMMUNICATION AND TECHNOLOGY EDUCATION
PROGRAM REVIEW COMMITTEE REPORT

The Department of Visual Communication and Technology Education prepared a self-study following program review guidelines. A two-person external review team visited the campus; reviewed the self-study documents; interviewed unit personnel, university administrators, undergraduate students, and graduate students; and submitted an external review report. The Program Review Committee (PRC) studied all written materials. The PRC liaison for the Department discussed the self-study materials with the department chair and faculty. The PRC discussed the Department with the Dean of the College of Technology. This document reflects the PRC’s findings and recommendations.

SUMMARY OF THE SELF STUDY

Introduction

Mission. The mission of the Department parallels that of the College of Technology yet is specific to its particular needs and constituency. The mission, as written in its self study, is as follows: “…to develop technical and design professionals for leadership roles who are adept at the application of technology, responsive to change, innovative in problem solving, and skillful in the communication of concepts and ideas.”

History. The Department is housed in the College of Technology. The College was chartered in 1985 and includes two departments, of which Visual Communication and Technology Education is one. The Department responds to the demand for technology graduates in industry and to a lesser degree, education. Since the last review in 1998, the Department has approximately doubled to more than 800 students. The faculty has grown from 9 full-time faculty to 32 full-time faculty, including 6 new architects.

The Department houses five undergraduate programs and several centers (see the Program Identification section on page 2 for details). The faculty also provide service courses to a Master of Education degree, with a major in Career and Technology Education. In addition, the Department participates in a consortium Ph.D. program in Technology Management offered through Indiana State University. Current plans are underway to develop a separate master’s program in Architecture (with seven faculty), and to combine the Mechanical Design program with the Manufacturing Technology program (from the College’s Technology Systems department) to form a Design and Engineering Management major.
The year 2005 is the first year that the Department undergoes an independent evaluation process. In 1998, the evaluation process covered the entire College of Technology. The 1998 PRC report included thirteen recommendations. These recommendations and the department responses are described in a later section of this report.

Description of the Unit

Program identification. The Department resides in the College of Technology. The College also includes the Department of Technology Systems. Organizationally, the chair reports directly to the dean of the college.

The College is unusual in requiring that students participate in three semester-long, full-time, paid co-op work assignments that alternate with semesters spent on campus. Thus, the College also includes a Cooperative Education Program that aids students in meeting this requirement. Organizationally, the director of this program is at the same administrative level as the chairs of the departments.

The College also includes several centers and laboratories related to the field, including the Center for Applied Technology (CAT), the Large Format Digital Imaging Laboratory, and the Digital Media Research Group lab, and has direct connections to the National Institute for the Study of Digital Media. These facilities enable students and faculty to develop industry-related experience and to provide services to the community.

The headquarters for the Academy of Human Resources Development (AHRD) Office also resides in the College of Technology. AHRD focuses on the study of human resource development and serves those with scholarly and professional interests. Finally, the Interactive Distance Education for All Learners (IDEAL) Office, which promotes and develops distance education for the University, is mentioned in the self study, although it reports to Continuing and Extended Education.

Programmatic and curricular offerings. The Department offers five undergraduate majors and one master’s degree. The baccalaureate programs include Advanced Technological Education (ATE), Architectural/Environmental Design Studies, Mechanical Design, Technology Education, and Visual Communication Technology (VCT). ATE is offered completely online, while the others offer coursework on campus.

The master’s degree is in Career & Technology Education (C&TE) and offers specializations in Training and Development and in Technology/Technical Education. In addition, there is a consortium Ph.D. program in Technology Management offered through Indiana State University.

Faculty resources. The distribution of faculty in the Department is presented in Table 1. The Chair is listed under Technology Education and C&TE, so to avoid double counting, he was placed in C&TE in Table 1. Note that while Mechanical Design has one tenure-track position, another position has remained unfilled for two years.
Table 1. Distribution of VC&TE Faculty

<table>
<thead>
<tr>
<th>Program</th>
<th>Tenure Track</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture</td>
<td>3</td>
</tr>
<tr>
<td>ATE</td>
<td>1</td>
</tr>
<tr>
<td>Mechanical Design</td>
<td>1</td>
</tr>
<tr>
<td>Technology Education</td>
<td>-</td>
</tr>
<tr>
<td>VCT</td>
<td>6</td>
</tr>
<tr>
<td>C&amp;TE</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
</tr>
</tbody>
</table>

Graduate assistant resources. Graduate Assistant Resources include 9 for VCT (6 @ 0.5, 2 @ 0.44, and 1 @ 0.25 AY); 4 for ATE (1 @ 0.5, 1 @ 0.4, 1 @ 0.26, and 1@ 0.25 AY); and 4 for DMRG (3 @ 0.5 and 1 @ 0.2 AY).

Staff resources. The Department has one secretary, one full-time recruiter for the ATE program, and student assistants (no number presented in the self study).

Student credit hour production. The student credit hour production per semester has steadily increased from the fall of 2000 to the fall of 2004. Student credit hour production equaled 5016 in the fall of 2000; by 2004 the total was 7120. The increase represents a 42 percent increase in student credit hours per semester.

Recruitment and retention efforts. The self study indicates that most recruitment and retention efforts are coordinated at the college level. The college faculty regularly participate in university recruitment events. In addition, individual programs have taken the lead in recruitment. The ATE faculty, in conjunction with the university’s IDEAL Center, have developed promotional literature and web pages for outreach efforts. Mechanical Design faculty have developed presentations that showcase student projects and have display boards in the CAD laboratories. Technology Education faculty regularly meet with teachers and students during on-site visits and at conferences to facilitate recruitment. The Department’s freshmen retention rate has increased from 67% in 2002-2003 to 84.1% in 2003-04. The College indicates that using Program Services for advising is highly correlated with this increase. In addition, VCT senior faculty are assigned beginning classes, which enhances the students’ first experience with the program.

Facilities and equipment. The Department is housed in several locations on campus. The main facility is the College of Technology building, where the Department uses a number of specialized spaces. The Technology Education program uses the large laboratory space. The Digital Imaging Laboratory was renovated to incorporate intensive computer technologies into the VCT program. The Department also includes upgrades in several areas: a digital media laboratory to replace a suite of photographic darkrooms; the film and slide presentation room has become the Falcon Theater; new equipment, including rapid prototyping devices, laser cutters, large format printers, and powerful...
computers are used by all programs; and C&TE students have 24-hour access to computer labs with the latest technology. In addition to these general services, ATE and C&TE use upgrades related to Blackboard 6. The Saddlemire building houses a special computer lab. The Architecture/Environmental Design Studies program uses facilities in the Technology Annex and in Saddlemire. Mechanical Design and Architecture use space in the Offenhauer complex. VCT uses an additional media lab in the College Park building.

Information resources and services. The Department uses a number of advanced technologies to enhance program offerings. ITS supports a wide range of computer software for curricular needs. Computer network hubs were installed in several of C&TE spaces on campus and elsewhere, which enhances the information exchange and work completed by students and faculty. Faculty computer resources are regularly upgraded and connected with high-speed and wireless networks. The Department also makes use of Ohio Link and encourages its students to do the same.

Financial resources. The self study includes a list of financial resources in addition to the operating budget of $33,990. In addition to computer related resources, the Department also has internal grant dollars and new faculty startup funds to help faculty in their research and teaching duties. The Department receives dollars through lab fees and external training via the National Institute for the Study of Digital Media. The Department also receives instructor fees through its distance learning courses with Firelands and Northwest State Community College; the ATE program generated $600,000 in the most recent academic year. The Ohio Board of Regents also provides $40,000-60,000 to the College biannually for equipment purchases. The Digital Magicians, a group of advanced students who work on “real world visual communication problems for the campus and surrounding business community,” provides revenues that fund a co-op manager. The Digital Media Research Group develops software products that are likely to become revenue-generating in the future.

Self-evaluation

Faculty quality and productivity. The self study provided separate evaluations of faculty in each of its programs.

VCT. As noted earlier, the VCT program has seen a large increase in enrollment and retention. In order to meet the rising demand for the program, several new tenure-track faculty were added in the areas of multimedia and print; trade show display technology; videography; multimedia and distance learning; and large format printing. Most of these same faculty are associated with the C&TE program. In addition, a faculty member in this area received the 2004 Master Teacher Award. The Department also includes nontenure-track faculty who have industry backgrounds.

Architecture. The seven professors/instructors for this program bring a rich background in theory and practice. Their work with the Toledo Design Center allows for contextually-based learning and has allowed the Department to expand operations to the
Saddlemire building on campus. The program is moving toward separate department status.

**Advanced Technological Education.** In 1998, this program was formally renamed and revamped from an earlier program. In 2000, a new lecturer (and Master Teacher Award winner) was hired to help build the program. The faculty group includes four other faculty members who have worked together to design a web-based program that attracts individuals from Ohio and outside of the state.

**Technology Education.** This program is perhaps the largest of the four institutions in Ohio that produce Technology Education teachers (self study, page 29). The current head of the program was twice president of the International Technology Education Association and has consistently received high scores in his teaching evaluations. Other professors from the Department who have expertise in this field have added to the reputation of the program; the Department finds that this reputation has enhanced its master’s program. Efforts are underway to fund a national test site for Design and Technology in conjunction with industrial leaders.

**Mechanical Design.** This group is currently comprised of two tenure-track lines (one of which is currently unfilled) and two instructors. As noted earlier, this program is combining with Manufacturing Technology in order to make both programs stronger.

**Graduate Education.** The College’s Associate Dean for Graduate Studies heads the two graduate programs. The majority of the faculty hold graduate faculty status; new hires enable the program to better manage the demand of thesis and project committees.

*Student entry attributes.* Thirteen percent of entering undergraduate students have an ACT score about 25; 20% have an ACT score below 20. These scores are on par with the University, and in fact the Department has a much lower percentage of students with ACT scores less than 20.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>VC&amp;TE</th>
<th>University*</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT &gt; 25</td>
<td>13%</td>
<td>14.6%</td>
</tr>
<tr>
<td>ACT &lt; 20</td>
<td>20%</td>
<td>28.9%</td>
</tr>
<tr>
<td>GPA Fall 2003</td>
<td>2.72</td>
<td>2.86</td>
</tr>
<tr>
<td>Job Attainment/grad school (by graduation)</td>
<td>90%</td>
<td>**</td>
</tr>
</tbody>
</table>

*Statistics provided by Institutional Research. Note standard deviations are not available in order to test for statistical differences in percentages.*

The C&TE graduate program attracts students from across the country and to a lesser degree, from outside of the United States. The majority of students come from Ohio and Michigan institutions. The average GRE scores have risen slightly since 1998 (self study, page 31). As shown in Table 3, in 2003-04 the GRE scores of C&TE students are slightly lower but fairly similar to the average scores for the University.
Table 3. Graduate (MS) GRE Scores 2003-04

<table>
<thead>
<tr>
<th></th>
<th>C&amp;TE</th>
<th>University**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal</td>
<td>453</td>
<td>460</td>
</tr>
<tr>
<td>Quantitative</td>
<td>504</td>
<td>536</td>
</tr>
<tr>
<td>Analytical</td>
<td>4*</td>
<td>4.2</td>
</tr>
</tbody>
</table>

* New GRE scoring. **Statistics provided by the Graduate College. Note that standard deviations are not available in order to test for statistical differences in the mean scores.

Assessment of student learning outcomes. Each program within the Department provides an assessment table in the self study (pp. 32-38). These assessment tools are particular to each program and are appropriately chosen. The 2004 college assessment report and the self study indicate that these assessment tools were used for student evaluation and to reassess program direction.

Curriculum, instruction, and support services. While the self study did not include a specific section on curriculum, instruction, and support services, the study has indicated positive and negative attributes related to these items in other sections of the report. As noted earlier, the Department has several distinct programs and the curriculum is designed to meet student needs for each program. Major changes include the proposal to move Architecture to a separate department and a proposal to combine Mechanical Design with Manufacturing Technology. As student enrollment grows, the Department has grown in terms of faculty and support services.

The self study and interviews with department members also indicate that the growth has led to some problems with space and support services. The VCT program currently has labs open every day and on most evenings. Lab locations have been added in other campus buildings. In addition, the Architecture program must have space that meets certain requirements from the National Architectural Accreditation Board (NAAB).

A second problem is related to tenure-track lines. The National Association of Industrial Technology (NAIT) requires that at least 50% of VCT faculty be tenure track. The NAAB has raised concerns that the Architecture program currently does not include women in tenure-track positions. Mechanical Design has not been able to fill its one tenure-track line for two years. This decision was made as a cost saving strategy and the Department has not advertised for the position. Finally, the graduate studies program is stretched in terms of faculty required for coursework and service.

Service. As noted earlier, the Department serves the general education program with two courses and has worked with other university departments to offer suitable coursework. The Department also houses centers that serve the University and local industry.

Comparative advantage and program distinctiveness. As noted in the self study, the comparative advantage and distinctiveness of the Department include the following elements:
ATE
- Available throughout the U.S. for working adults
- Asynchronous delivery meets needs of adults
- Strong faculty and excellent curriculum
- Specialized software “Campfire” developed at BGSU
- Increasing specializations
- Poised for growth
- North Central accreditation

Architecture
- Very rigorous curriculum
- Toledo Design Center
- Excellent faculty
- Growing demand by students
- Contextually-based learning
- NAIT accredited
- Excellent coop program

Mechanical Design
- Attracts students on a regular basis
- Strong demand for graduates
- Excellent facilities and computing
- Strong ties to manufacturing faculty
- Rapid prototyping

Technology Education
- Long history of excellence
- Excellent faculty
- NAIT approved
- One of the largest programs in Ohio
- Steady demand for graduates

VCT
- National leader in visual communication
- Strong set of faculty
- Outstanding facilities including large format
- Contextually-based learning
- Co-op is among the best in the country
- Strong demand for program from students
- NAIT accredited

C&TE
- Steady and growing graduate program
- Rich in thesis/project development
- Meets needs of a wide range of students
- Increasingly strong in combining instructional design with media
- Assistantships are strong incentive
- Excellent reputation for over 25 years

Demand. The self study indicates that overall demand has grown in the Department. As indicated in Table 4, enrollment has increased from 429 in 1998 to 838
in 2004, a 95% increase over a seven-year period. Much of this growth is driven by the almost 135% increase in student enrollment in the VCT program. The only declining growth is in the “Other” category, which includes undeclared or dual majors.

<table>
<thead>
<tr>
<th>Table 4. Student Enrollment, 1998 and 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
</tr>
<tr>
<td>Architecture</td>
</tr>
<tr>
<td>ATE</td>
</tr>
<tr>
<td>Mech. Design</td>
</tr>
<tr>
<td>Tech Ed.</td>
</tr>
<tr>
<td>VCT</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Connection to the mission. The President has identified the VCT program as one of the University’s top programs for attracting students (self study, page 41). The Department sees itself as an integral part of the University mission of becoming a premier learning community. Several of the programs have gained national prominence or had a strong regional prominence for many years. The Department is also involved in a number of “engagement” activities, a new focus for the University. As noted earlier, the Center for Applied Technology, The Large Format Digital Imaging Laboratory, The Digital Media Research Group lab, and the National Institute for the Study of Digital Media provide services to the community in addition to serving students.

Financial considerations and adequacy of resources. The current operating budget is $33,990 for 32 full-time faculty. Ten years ago the operating budget was $32,000 for nine full-time faculty. VCT faculty are allocated $500 for travel; instructors can get up to $250. The self study states that these numbers do not compare favorably with other programs on campus.

The use of instructors who teach a 4/4 load has helped keep instructional costs down.

Doctoral programs. An addendum to the self study and an informational report about the program provide the majority of the information in this section.

The Doctor of Philosophy in Technology Management employs the resources of five universities and produces a degree from Indiana State University. All content-based coursework is taught via the internet. The internship and dissertation (other than dissertation defense) do not require attendance on campus; the program requires campus attendance to one research seminar and two five-day, on-campus sessions at Indiana State University.

The program is designed to prepare students for positions of leadership in the public and private sectors of society. At the conclusion of the program, graduates will have developed skills in research procedures, will have acquired expertise in instructional processes, and will be able to provide service to the industrial and educational
community. Students must have the expected educational requirements for graduate study and at least three years of documented work experience related to their specialization.

This program has five areas of required study including a core, a specialization, research, internships, and a cognate. Each student identifies a specialization based on previous degrees, industrial experience, and future career plans. These specializations are Construction; Digital Communication; Human Resource Development; and Industrial Training, Manufacturing, and Quality Systems.

Program Faculty. The program uses the expertise of thirteen technology faculty who have graduate faculty status at Bowling Green State University. The Department provides several faculty who regularly teach coursework in the Human Resource Development and Industrial Training concentration. Seven faculty members regularly serve on and/or chair preliminary exam committees and dissertation committees. The faculty hold graduate faculty status at both the University and Indiana State University after a significant credential review.

Program Graduates. The Ph.D. program has 153 students, of which 22 are Bowling Green State University students. These are students who have identified the University as their home institution and therefore their advisor and dissertation chair are from Bowling Green.

Program Vitality. Per the addendum to the self study, the program is the largest in the country in terms of faculty and student numbers. The doctoral candidates associated with the University have played an important role in research for our faculty.

Program Demand. The self study indicates the demand for this type of Ph.D. is high in both universities and industries. The College of Technology has had nearly 250 inquiries related to the program this year. Because of the high interest, the program has been able to become increasingly selective, and only 25% of the applicants are accepted into the program.

Program Interactions. The doctoral program was developed through collaboration among the deans of the participating institutions during a national conference, where the need for a Ph. D. in the field was evident, but individual institutions were unable to financially support a Ph. D. program on their own. While there is no formal arrangement with this program and other doctoral programs at the University, graduate students from other disciplines are able to take courses through the program.

Program Access. Prior to the development of the consortium, University students were unable to pursue a Ph. D. program in technology management. Once students have been admitted to the program, they can work with the program via distance-learning. However, coursework outside of the program is not advisable and will likely not count toward graduation requirements.
Student Outcomes Assessment. Since its inception six years ago, the program has had eleven graduates and twenty-eight in candidacy. Two of the eleven graduates were associated with Bowling Green State University. One is a research associate professor in the Department of Technology Systems at Bowling Green State University, where he works with Project Oversight of NASA related University grants. The second graduate formerly associated with Bowling Green State University is now an assistant professor at Bemidji State University.

Program Revisions from Previous Reviews. Because the program is only six years old, there is no previous review of the program. The program is currently undergoing a program review at Indiana State University.

Unit planning (next 7 years)

The planning process. Each program used a strategic planning model to determine goals. Many of the programs meet several times per month to develop a seven-year plan.

Goals and strategies. The target listed in each program’s seven-year plan summarize the general goals of the Department:

ATE: Establish BGSU as the premier provider of technical completion degree in the country with a goal of multiple bachelor degree completion options and certificates offered in areas including technical management, leadership, and training areas.

Architecture: Establish a NAAB accredited master’s degree in architecture with unique strengths to serve the region, the state of Ohio, and the nation with quality graduates.

TechEd: Provide national leadership in educating individuals with a growing understanding of technology, design, and engineering as it relates to educating youth.

VCT: Be a national leader in teaching and research in visual communication. Take a problem-solving approach to communication studies, promoting media agility through a strong background in both technology, aesthetics, a blend of industry and scholarly perspectives, state-of-the-art facilities, and cooperative education experiences.


C&TE: Strengthen concentration pathways, develop distance delivery, and change program name.

Ph.D.: A strategic plan was rewritten two years ago. The long term goals of this strategic plan indicate that the program participants are developing methods to increase quality instruction and to revise the program as it matures.

Timetable and implementation plan. Each of the programs has a number of specific strategies to reach their targeted goals and each program has a separate timetable (self study, pp. 43-51). From discussions with individual faculty and the department
chair, it appears that the master’s degree in architecture has become a priority for the Department. The proposed program has gone through extensive planning at the department, college, and university levels.

Relationship to the Academic Plan. The Department ties its goals to the University Academic Plan, especially in the area of employing New Media and Emerging Technologies. The Department demonstrates the use of innovative technology in a variety of ways and in each program. The Department also maintains a scholarship of engagement by its work with employers and its co-op program, which ensures that students have a solid background in theory and practice before graduation.

Questions for the external team.
1. Implementing a fair and agreed upon workload plan will require additional resources. How can our department make the case for living up to the faculty expectations outlined in the load document and simultaneously face potential budget cuts?
2. Instructors hired to meet what were once considered somewhat temporary or emergency roles are becoming more permanent each year. Should a $30,000 salary be considered adequate compensation for instructors, given their degrees and responsibility within the College of Technology?
3. A review of other NAIT programs would indicate that the Department is the largest among its counterparts in the U.S. What are your recommendations regarding the size and composition of a department? Any suggestions about a name that would better reflect the diverse programs in the Department?

RESULTS OF PREVIOUS REVIEWS

The year 2005 is the first year that the Department undergoes an independent evaluation process. In 1998, the evaluation process covered the entire College of Technology. The 1998 PRC report included the following thirteen recommendations; department and college responses to these recommendations are in italics (responses come from the 2005 self study; the report entitled “Update of the 1998 Final Report on Academic Program Review, College of Technology, October 2004; and responses to the PRC liaison):

1. Reword the mission statement to identify the intellectual raison d’être of the College.
   In February 2004, the College faculty and staff approved a new strategic plan titled “Creating a Legacy of Excellence” which ties our vision to the University Academic Plan. The 2005 VC&TE self study indicates that the mission was reviewed and rewritten.

2. University faculty, particularly in technical areas in a four-year doctoral university, should provide financial support for their programs and contribute to the overall economic health, as well as professional reputation, of the University.
2A. The PRC recommends the College faculty and the Dean, in collaboration with the Vice Provost for Research, develop a mechanism to aggressively increase College extramural funding. The 2004 College report and the VC&TE self study indicate that the establishment of the Center for Applied Technology has helped to increase extramural funding for the College and the department. VC&TE is individually related to the National Institute for the Study of Digital Media, Digital Magicians, and the Digital Media Research Group. VC&TE is also associated with the Large Format Digital Imaging Lab, obtained an Academy of Human Resource Development grant and an ATSE grant.

2B. The PRC recommends that future resources provided the College expand opportunities to educate technical professionals in fields that can achieve external support from state and national agencies. VC&TE received a $390,000 grant from Ohio Learning Network.

3. The College should focus its programmatic offerings.
3A. The Dean, in collaboration with the appropriate faculty, should review programs and staffing patterns throughout the College, with the purpose of strengthening or eliminating small programs. As noted earlier, VC&TE plans to expand the undergraduate program in Architecture to a Master’s program and professional school. The College will combine two programs, one of which is Mechanical Design, to create a new Design and Engineering Management major.

3B. The College should review instructional policies and curricular collaborations to improve staffing efficiencies.

The Dean, after consulting with his colleagues and the Dean of other Colleges, should develop a strategy to involve the faculty of the College of Technology with their colleagues in departments and programs in other Colleges at the University. VC&TE is part of a university effort, the New Media and Emerging Technology Effort. Collaboration between the two departments in the College of Technology is stronger; the architecture program works with Art/Interior Design; Technology Education is involved with an international effort in design and technology; and the department has assisted with the Springboard project. Also note that Tech302 (Technology Systems in Society) and its honors section meet university general education guidelines for the social sciences and fulfills the international perspective (serving 240 students per year).

4. Faculty in Visual Communication & Technology Education should meet with their counterparts in the School of Art and the School of Communication
Studies to study collaboration as well as possible overlap in programs and curriculum.

VC&TE faculty work collaboratively with the School of Art, offering a new joint course, VCT104 (Problem Solving in Visual Media) that serves 200 students per year. VCT also functions as New Media in Emerging Technologies (NMET) scholars, shares printers at Large Format, and cooperates on computing with the National Institute for the Study of Digital Media (NISDM).

The 2004 College Report indicates that the College found very little redundancy between VCT and courses offered in the School of Communication Studies. Therefore, VC&TE does not have current collaborative projects with that school.

5. The College should explore the development of 2+2 programs with Ohio community colleges.

The ATE program collaborates with 17 community colleges. In 2000, formal articulation agreements were signed with Owens Community College, Northwest State Community College, and Terra Community College. There are also 4-year completion programs with the Firelands campus in Manufacturing and VCT. The VC&TE department also has relationships with the Ohio Learning Network, and departments on campus. The ATE program also developed a completely on-line degree that articulates with two-year Applied Associate degrees from community colleges, and has led to the establishment of the University as an approved site for the North Central Association.

6. The Committee recommends that the College discontinue the hiring of Bowling Green alumni and alumnae into faculty positions.

The College report and department self study indicate that they hire the best candidates for positions.

7. Bowling Green State University’s involvement in the consortial Ph. D. program in Technology should undergo authentic review, comparable to reviews of Ph.D. programs under our own degree authority.

The College report indicates that the Ohio Board of Regents has presented a “hands off” approach to this program. It is expected that the program will be reviewed through various accreditation agencies.

8. Each program in the College should review the appropriateness of its learning objectives and implement at least one new assessment activity by the end of the Spring term, 1999.

The department has conducted exit interviews, increased retention rates and improved advising through midterm evaluations. The College indicates that it will reestablish an assessment committee and that it has created an annual calendar of assessment events in order to keep faculty and staff informed of...
assesssment-related activities and events. The College also has plans to develop e-portfolios for every CT student as a way to evaluate student performance.

9. The PRC recommends that new facilities for the College of Technology be tied to performance, including increased research activity of College faculty, enhanced extramural funding levels, active involvement with assessment, improvement of staffing efficiency, definition of mission, consolidation of program offerings, and response to other recommendations in this report. New facility plans are related to enrollment and retention targets. Both the 2004 College report and the 2005 department self study indicate that growth (in terms of student enrollment and retention) has met or exceeded goals.

The College created a new laboratory for VCT in College Park through the National Institute for the Study of Digital Media (NISDM) funds. The Architecture/Environmental Design Studies Program is temporarily housed in the Saddlemire Student Services Building until more appropriate accommodations are found.

10. The PRC does not support the recommendation for a technology transfer office in the College of Technology. The 2004 College report indicates that the Center for Applied Technology serves as an outreach program, but is not intended to serve as the academic outreach unit of the university. The College indicates that with this center, as well as with the general College philosophy of “theory into practice,” the College should be recognized as an example of “scholarship of engagement.”

11. University policy on the use of the term “Institute” and “Center” should be followed. The 2004 College report indicates that the two institutes housed in CT follow university policy for recognition.

12. CQMA should be externally reviewed to determine whether its current configuration is self-sustaining. If so, a national search for a director and regular reviews are warranted. CQMA was reviewed, closed in 1999, and replaced by the Center for Applied Technology.

**Summary of the External Report**

The external reviewers provided a very strong and positive review to the Department of Visual Communication and Technology Education. They listed a number of department strengths and suggested a few areas for improvement. The strengths of the Department lie in its reputation as a leader in the field. The reviewers provided a detailed list of the positive attributes of the Department:

- Innovation. The Department engages in innovative programs and nurtures an atmosphere of entrepreneurship.
• Leadership. The Department encourages its members to exercise leadership in various curricular and programmatic initiatives.

• Unique Programs. The Department is unusual in its configuration, with several different programs not usually situated under one roof in other technology departments. The reviewers find this uniqueness important for the Department, but believe it leads to challenges as the Department finds ways to identify core curricular and conceptual themes.

• Center for Applied Technology. The Center has much potential to extend the work of the Department within and beyond the University. The reviewers suggest that the challenge for the Department as the Center matures will be to find the right balance between providing services to faculty, students, and external constituents.

• Program Growth. Enrollment growth is strong and unusual in the field. The Department has effectively anticipated education and industry trends. The reviewers indicate that one challenge in the future will be to stabilize and manage enrollment levels.

• Student Orientation. The Department has developed a strong, student-oriented culture.

• Positive Work Environment. The Department has a positive and supportive work culture.

• Faculty Commitment. The faculty are committed to the Department and programmatic goals and initiatives. The Department leadership has facilitated goal-setting and faculty ownership of programs.

• Facilities and Resources. The facilities and computer resources are well equipped and appropriate for the department education mission.

• Cooperative Education and Industry Connections. The Department has strong ties with local and regional business partners. This is facilitated through the Center for Applied Technology and an emphasis on the student Co-op Program.

• Distance Education. The Department makes appropriate use of distance education. This format works particularly well for the Advanced Technological Education program and for the master’s program.

• Graduate Program Flexibility. The graduate program provides flexibility and generally aligns with similar programs. The reviewers found that the broad configuration of training and development and the technology emphasis will provide students with strong skills for future careers.

• Cross-campus Collaboration. The Department is engaged in collaborative efforts across campus. The reviewers make note of two courses, TECH302 and ARCH231, that meet the University’s general education requirements.

The external reviewers made suggestions for improvements in several areas:

• Need for Programmatic Focus. The reviewers worry that the very activities that are a strength for the Department may lead to too many foci. The reviewers suggest that the Department search for unifying themes across the diverse programmatic offerings. The reviewers suggested that because some individual programs are disproportionately larger than others, there can be a tendency to autonomy rather then cohesiveness. Given this problem, the
reviewers suggest the need for smaller units to band together along programmatic lines. In relation to this recommendation, the reviewers support the merger of Mechanical Design with Manufacturing Technology, not only because it bands together two smaller units, but because the new program can address new demands in the field. The reviewers suggest that an alliance between this new unit and Technology Education would meet the growing demand of middle and high education for teachers with an engineering focus.

• Level of Scholarship. The level of scholarship and research productivity needs to be enhanced across departments. The reviewers suggest a reward system that places significant emphasis on research and publications.

• Grant Writing Opportunities. The reviewers suggest that the Department explore NSF grants that emphasize technology and engineering education, and more generally, explore grant writing opportunities.

• Graduate Programs. The reviewers agree with the self study that the graduate program’s quality suffers from too few active graduate faculty and reliance on non-tenured faculty.

• Architecture Program. The reviewers strongly support the creation of a separate Architecture department and encourage immediate movement in that direction.

• Nontenure-track Faculty. The Department relies too heavily on the services at the instructor/lecturer position. They suggest a rebalance of staff so that a higher percentage of faculty would be in tenure-track position. The enrollment growth also indicates the need to increase tenure lines and to replace some instructor/lecturer lines.

• Co-op Program. While the Co-op Program has strong support from alumni and industry, it should be positioned within a strong curricular focus.

• Center for Applied Technology. The reviewers suggest that the Center be positioned with the larger academic mission of the Department, as they did not see evidence that the Center provides a basis of coursework for students.

**PROGRAM REVIEW COMMITTEE FINDINGS AND RECOMMENDATIONS**

The Department of Visual Communication and Technology Education possesses many positive attributes that are important for current and future academic growth. Over the past seven years, the Department has enjoyed increasing enrollments and gains in reputation through its various centers and programs. The Department leadership fosters a culture of friendliness and support among its many units. The faculty are enthusiastic about teaching and training students for careers in a variety of technological fields. To that end, the Department has developed innovative student experiences in and out of the classroom.

The Department is poised to move to a higher level of integration that will enhance the educational quality offered to its students and provide meaningful academic experiences for the faculty. The following findings and recommendations are presented in providing direction for the Department as it moves forward.
1. Program Focus

*Finding.* The PRC concurs with the external reviewers that the Department’s diverse program structure may be problematic. The reviewers suggested that the Department search for unifying themes across the different programs. This recommendation was also included in the 1998 College program review. The lack of a common department-level focus is evident in the current self study, where individual programs have contributed greatly to each section of the study and offer many strong ideas in the strategic planning section. However, there is not a dominant theme in terms of department strategic planning and goals. The historical development of the Department (and the College of Technology) has likely led to the diversity problem, and may pose roadblocks in developing unifying themes in the future. Despite these roadblocks, the Department has made some movement in this area by supporting the move of the Architecture program to a self-contained department and with the merger of Mechanical Design and Manufacturing Technology.

*Recommendation.* The external reviewers suggested that the Department combine Technology Education with the new Design and Engineering Management major. While this particular suggestion need not be taken, the PRC recommends that by December, 2005, the Department (1) develop and prioritize departmental level goals and (2) consider alternative alliances among the smaller programs. The list of common goals should be relatively small and written so that the Department can prioritize among the many demands of the individual programs. These goals should include input from the Dean of the College to ensure that the directions taken by the Department will be fully supported.

2. A Separate Architecture Program

*Finding.* The reviewers strongly advocated for the creation of the Master’s in Architecture degree. The PRC concurs with this finding. A professional school will enhance the reputation of the University. In addition, the program clearly is limited in its current structure. The department title makes no mention of the program, which restricts recruitment efforts, and the lack of a professional degree leads to some undergraduate majors transferring to institutions that have five-year programs (where matriculation from the school’s undergraduate program is essential).

*Recommendation.* The PRC recommends that the College and the University move forward on the Master’s of Architecture degree. The proposed program could lose vital momentum if delayed.

The next four findings are highly related and require common consideration. Although most departments on campus would enjoy the enrollment growth rate of the Department, such growth comes at a heavy cost in terms of faculty and equipment resources. While this growth was necessary for the Department and the College and demonstrates successful recruitment and retention strategies, adding a large number of students so quickly has also resulted in several problems. Fast growth has led to “Band-Aid” decisions related to faculty hiring. In addition, the fast growth is connected to the limited
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research output of the group. The co-op program, one of the highlights of the Department, also places a constraint on faculty during the summer months when research time is usually available for most tenured and tenure-track faculty members. The Department is to be commended for the enrollment growth it has experienced, but now is the time to consider remedies to the problems the growth has created.

3. Department Size and Faculty Mix

Finding. The self study and external reviewers indicate that the enrollment growth has placed a strain on faculty resources. The external reviewers were especially concerned that the number of graduate faculty was low and therefore led to one or two faculty members performing much of the master’s thesis advising. Additionally, the Department has relied heavily on non tenured faculty. Conversations with faculty members also indicate a consensus that the faculty have heavy workloads and a reliance on instructors who can teach 4/4 loads to reduce teaching loads for new tenure-track faculty.

Recommendation. The next academic year can be used to answer questions about how large the Department wishes to be and how it wishes to supply courses, given its financial constraints. The Department must consider what combination of tenure-track, non-tenured, and support positions will enable it to meet the goals developed under recommendation 1. The College Dean and the Department should develop a plan by December, 2006, which addresses carefully managed enrollment growth and resource needs. This plan will help to prepare the Department as it faces its accreditation process, when tenure-track versus non-tenure lines will be one issue reviewed.

4. Level of Scholarship

Finding. As noted by the external reviewers, the level of scholarship and research productivity should be enhanced across programs. The external reviewers suggested a “reward system that places significant emphasis on research and publication.” Conversations with the department faculty indicate that this goal is sometimes difficult to achieve because of the nature of the field and the lack of normal outlets, such as conventional journals. However, the University’s new focus on engagement and the department’s natural fit in that area will develop an avenue for faculty research efforts.

Recommendation. The Department should develop a multifaceted approach to facilitate research and increase the number and quality of refereed publications. We offer three suggestions below, but the Department should not feel limited to these ideas.

• The Department should work with the Graduate Dean and the College Dean to develop avenues for scholarly activity and to create a reward system for research quality and productivity by spring, 2006. The current tenure and promotion document was created from the 1997 university template; it emphasizes traditional outlets as primary evaluations for tenure and promotion decisions. Although these outlets are still a priority and heavily weighted for the tenure and promotion decision, given the administration’s emphasis on engagement, the
Department should update its current tenure, promotion, and merit documents to include engagement-related research outlets. The Provost has written a “Perspectives on Research and Creative Activity,” which provides a template for promoting and rewarding research with a focus on engagement (see http://www.bgsu.edu/offices/provost/perspectivesonresearch.htm).

- A second avenue to consider is the development of a research agenda around the educational process of co-op programs. Most disciplines encourage research in relation to the education of their majors; the engagement of department faculty with the scholarship side of co-op programs seems to be a natural union. The Department has a unique advantage in this case because of the large amount of data generated by its co-op program and because the program has been in existence long enough for analytical purposes.

- A final suggestion is that the Department consider developing research groups, in which research-active faculty help others develop research agendas that will lead to research culminating in publication in refereed outlets. This latter plan may include co-authored work, regular meetings to discuss research progress, or general colloquiums where faculty members can present ideas and current work on a regular basis.

5. Co-Op Program

Finding. Conversations with the College Dean and Department Chair indicate that the co-op program is a strong component of the Department. It provides students with several practical experiences that ultimately lead to strong resumes for technology careers. However, the co-op program consumes faculty time and energy during summer months when research productivity could be increased. Individual faculty receive six credit hours to manage fifteen co-ops. Managing a co-op requires travel to the site to investigate each student’s progress and written reports about this progress.

Recommendation. The current management of co-ops may be made more efficient so that faculty have increased time to devote to research activities. Perhaps on-site visits could be limited through the use of information technology to manage the data gathering process. This process could also help in the development of research-related activities as noted in Recommendation 4. The PRC recommends that the Department investigate ways to increase the efficient operation of the co-op program and to consider how faculty can use the data-gathering process for research purposes.

6. Faculty Diversity

Finding. The 1998 College program review questioned the number of graduates of Bowling Green State University who become faculty in the College. The Department still faces this problem in 2005. A review of the faculty indicates that 43% of tenured and tenure-track faculty have Bowling Green degrees, and 65% of instructor/lecturers have Bowling Green degrees (see Table 5).
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The Department has a strong team of teachers who are enthusiastic about their jobs and the University. However, two problems result when an institution hires too many of its own graduates. First, there is a perception that the institution lacks quality if it fails to attract external candidates. Second, the faculty members who spend their Ph.D. years and then their faculty years at the same institution have limited experiences, which can lower the level of the scholarly exchange of ideas. For these reasons, universities often have restrictions in regard to the hiring of their graduates.

<table>
<thead>
<tr>
<th>Program</th>
<th>Tenured and Tenure-Track</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture</td>
<td>3 (1 BGSU Ph.D., one does not list degree)</td>
<td>4 Instructors</td>
</tr>
<tr>
<td>ATE</td>
<td>1 (1 BGSU Ph.D.)</td>
<td>1 Lecturer (MEd BGSU), 3 Instructors (1 Ph.D. BGSU in IPC)</td>
</tr>
<tr>
<td>Mechanical Design</td>
<td>1</td>
<td>2 Instructors (BGSU degrees)</td>
</tr>
<tr>
<td>Technology Education</td>
<td>-</td>
<td>1 Lecturer (MEd BGSU)</td>
</tr>
<tr>
<td>VCT</td>
<td>6 (3 BGSU Ph.D.)</td>
<td>6 Instructors (All BGSU degrees)</td>
</tr>
<tr>
<td>CTE</td>
<td>3 (1 Ph.D. BGSU)</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>14 (6 BGSU related degrees)</td>
<td>17 (11 BGSU related degrees)</td>
</tr>
</tbody>
</table>

**Recommendation.** During the next academic year, the Department should work with the Dean and the Provost to develop a plan to hire new tenure-track faculty external to the University. As the Department develops and implements this plan, the Dean and the Provost should approve recruitment plans, applicant pools, and hiring decisions. The Provost’s involvement should continue until University concerns about faculty hiring practices have been alleviated. Second, the Department should develop a plan to help current faculty find avenues to enrich their academic life with interactions outside of the University. This plan should go beyond dollars allocated for presentations and may require that current faculty take short leaves to work with professors at other schools or to attend workshops that require interaction with a diverse group of colleagues.

**7. Extramural Funding**

**Finding.** The PRC concurs with the external reviewers that the Department should explore major grants, particularly with the National Science Foundation. The reviewers had personal experience with the NSF and suggested that grant submissions with a focus on technology and engineering were in demand.

**Recommendation.** The Department should seek out NSF funding by working with SPAR. In the near term, members of the Department should visit the NSF office to meet with program directors and to inquire about the types of funding available. This visit can also be used to develop relationships that may help with future grant writing.
8. Ph.D. in Technology Management

*Findings.* The Ph.D. program housed in the College of Technology is only six years old. Therefore, it was not part of the college program review in 1998. Because there was some miscommunication regarding which University organization would tackle the program’s review process, the Department had little time to complete a thorough investigation. Thus, the addendum to the self study regarding the Ph.D. program provides a strategic mission as it relates to the goals of the program, information about the nature of the coursework, and student outcomes, but it could not provide a thorough analysis of costs. On the whole, it appears as though the Ph.D. program provides a number of benefits to the Department and the College and may help to build the reputation of the College and the University.

*Recommendation.* Although the program has provided positive returns to the Department and the College of Technology, it would behoove the Department to conduct a thorough cost-benefit analysis of the program during the 2005-06 academic year, especially given that the next review of the Department will not occur again until 2012. A current review would bring the level of review of the Ph.D. program in line with the rest of the Department and help the Department analyze whether the benefits of the program adequately cover its costs. Further, a cost-benefit analysis during the next academic year would coincide with the consortium’s planned review for the next academic year.

9. Assessment

*Finding.* Each of the programs employs a variety of assessment tools to analyze the progress of the students. However, one common theme among the programs is the use of a student portfolio and/or project work as a measure of student accomplishment. The tools have produced a range of inferences, and each program has used the assessment analysis to make improvement to the students’ education.

*Recommendation.* The Department has indicated that it is working to develop an e-portfolio system for ongoing assessment of each student in the program. We support this plan and the current assessment system for each program. Progress on assessment should continue to be reported annually to the Student Achievement Assessment Committee.

_The Department of Visual Communication & Technology Education should report annually to the Dean of the College of Technology, with a copy to the Provost, on the implementation of these recommendations._