Overview

Teaching and Learning in the 21st Century College

The most significant element in facilitating learning at the college is the interaction between learner and the learning facilitator. A variety of factors, including the physical environment, impacts the College’s ability to ensure student learning.

Research in education best practices and student retention indicates the value of space that encourages active and collaborative learning both inside and outside of the formal classroom. Technology enhanced teaching and student engagement are critical to student success. Implications for facilities include more versatile learning space, technology enabled classrooms and group study space. Flexible instructional space to serve a variety of learning activities, and spaces outside classrooms for students to meet and learn during non-class times is vital for TCC to become a learning centered college. Physical space must be able to accommodate advanced and constantly changing instructional technology. Learning communities and cross-disciplinary coordinated study courses have proven to be particularly powerful learning models, and require modern facilities that are capable of flexible teaching and learning styles.

Moreover, professional/technical faculty require physical spaces that accommodate lectures as well as active and collaborative learning experiences such as labs and virtual simulations. These learning spaces require modern classrooms for students to learn and demonstrate mastery of required technical skills. In addition, the increasing demand for Allied Health Professionals requires that educational institutions be able to simulate clinical experiences as a component of the instructional space. The physical & natural sciences have long utilized combinations of lecture rooms and intricately equipped laboratories and these spaces are growing more complex as technology improves the effectiveness and efficiency of teaching and learning. Both of these areas of higher education demand 21st century learning spaces that will increase the learner’s ability to greatly synthesize and analyze very complex, high consensus information.

While lecture may have been the original didactic methodology of higher education, technology is increasingly changing the teaching-learning process. Organizational planning requires accommodation of classes with wired and wireless internet access, multi-media projection, interactive whiteboards, virtual reality/simulation software, and/or computer workstations. The physical infrastructure of an institution must support flexible and collaborative use of technology infused instructional spaces. Institutions must effectively plan for continual upgrading of instructional technologies without requiring costly and complex remodels and retrofitting.

During the past five years, TCC has promoted innovation and experimentation in teaching methodology and pedagogy to enhance the quality of student learning. In the last decade, TCC has aggressively implemented the use of technology to promote learning, expand student services, and facilitate administrative work. The interface of learning and technology is critical to addressing the new, global economy.
Learning Support Services and the Learning Resource Center

Tacoma Community College has the highest percentage of developmental students of any college in the Washington State Community and Technical College system. Twenty percent of the college’s enrollment is in these two areas. In addition, the college is located in a community that has a “rapidly growing” immigrant population that utilizes the college’s English as a Second Language program. Students in these programs require intense academic and student services as well as comprehensive learning support services in the form of computer assisted instruction centers in reading, writing, math and language. The college has recently been able to increase the Fall-to-Fall retention rate (one year of academic work) from 27% to 38% by offering comprehensive learning support services that aid student learning outside the formal classroom. However, these services have been located in various places across an already crowded campus making it difficult for students to find the disparate services necessary for their success.

With co-location of the College’s comprehensive learning support services, seamless academic support will increase the College’s ability to increase its Fall-to-Fall retention rate to 45%—increasing the number of students reaching the critical “tipping point” by 322 FTE per year.

Additionally, the role of the Learning Resource Center is undergoing a significant shift at the 21st century learning institution. The role of the Learning Resource Center is moving away from being a collection of books and reference materials to becoming the division of the College that prepares students in the area of information literacy. This shift has changed the purpose of the learning resource center from being a place to find information to a place that teaches students how to manage information. This shift profoundly changes the physical nature of a learning resource center.

The Learning Resource Center also plays a critical role in training faculty on technology that allows for the expansion of instructional design principles and methodologies which increase access to time-bound, place-bounds students. TCC has witnessed phenomenal growth in the use of technology in recent years allowing for asynchronous curriculum delivery to an ever increasing population that is unable to attend the College in a traditional manner. Distance learning courses are the fastest growing courses in the College’s curriculum growing by an average of 17% per quarter. The learning resource center provides the critical infrastructure for providing learning-on-demand, just-in-time instruction, and alternative delivery methods.

The Learning Resource Center is the center of learning for the TCC learning community.

Community and Workforce Demands

The economic transitions of the 1990s and early 21st century insist that the curriculum and services of the modern community college be the driving force of the new economy. At present, Pierce County is experiencing a high rate of immigration, job growth, and job creation in the areas of life sciences, allied health, technology, and the importation and distribution of goods.

A recent study conducted by the Washington State Workforce Training and Education Coordinating Board (WTECB) reveal "substantial evidence that employer demand for workers who have completed a postsecondary vocational program is greater than the current supply of workers." Recent research conducted by the State Board for Community and Technical Colleges found that 1 in 6 Washington residents does not possess the academic skills to fill a livable-wage job.
Local workforce data predict increased workforce demand in the following program clusters: information technology, health care, human services, law and justice, engineering, life and nature sciences, and business. TCC offers programs in all these areas. This data reflects a shift from manufacturing to the knowledge and service industries as the largest sectors of the Pierce County economy.

Allied Health is the second largest industry in the college’s service area and accounts for approximately 37% of the sector’s jobs. At present, there is a pronounced shortage of qualified healthcare personnel, which has been largely created by an unprecedented growth in the number of persons approaching retirement age and requiring long-term, and/or other health services. This shortage of trained health care workers has subsequently placed an unprecedented demand on academic institutions to provide essential education and training in a variety of healthcare areas. Local hospitals desperately seek a cure for their debilitating illness—not enough nurses and other medical workers. In a recent article, which appeared in the News Tribune, Cassie Sauer, of the Washington State Hospital Association, states “It’s a very serious concern right now. If we don’t do something about it, it will become a crisis when all the baby boomers start to retire.” The aging population that increases demand on health care also creates an unprecedented need for trained workers from our health related technical programs. The growing use of new technologies further increases the need for trained technicians and medical personnel. The registered nursing shortage is especially acute and will intensify as nurses retire. Recent statistics stated that 73% of nurses in the U.S. are over 40 years of age. In the five county area immediately surrounding TCC, the number of new registered nurses needed to replace retiring nurses and fill new positions is estimated by CCbenefits to be 13,543 between 2005 and 2015. The number needed for Pierce County alone is estimated to be 2,995. The college has tried to keep up with the demand, but its efforts have been hindered by existing space limitations and “simulated clinical” options.

The college has been approached by Tacoma area radiologists, hospital administrators, diagnostic imaging clinicians, and other health care community members regarding the pronounced shortage of trained radiologic technologists and sonographers. The college has developed a two-year Associate degree program to train ultrasound sonographers to meet local demand. CCbenefits estimates that 1022 new radiology and sonography technicians will be needed between 2005 and 2015. Currently, the radiology program is limited to one cohort of 24 students per year and the diagnostic medical sonography program is limited to one cohort of 12 students per year. The most serious obstacles to expanding the diagnostic medical sonography program and the radiologic technology programs are the availability of clinical sites and additional physical space for equipment and clinical simulations.

Likewise, programs in health information technology and management and respiratory care face similar demands by students seeking training and by employers seeking trained workers. Without additional physical space to expand the vital programs, TCC will be unable to fulfill its mission of being “an accessible, comprehensive, flexible [institution that] addresses the personal, professional and social needs of its diverse community.”
Capital Analysis Model Findings

The Capital Analysis Model (CAM) for Washington State Community and Technical Colleges evaluates each Community College against a prototypical model for area allocated to educational and administrative functions based on student FTE. Findings from the 2005 CAM are summarized below. See Appendix A for supporting data.

Student Population

Of all community and technical colleges in the state, TCC has the highest percentage (20%) of students in Developmental Education courses. TCC has a significantly higher percentage of ESL students than other colleges in the SBCTC system. Trends are that these populations will grow faster than the rest of the student population.

The CAM projects FTE growth of 981 students from 2004 – 2014; from 5,047 to 6,028 FTE

TCC is ranked among the highest anticipated FTE growth among the state colleges over the next 10 years.

Fastest growing programs at TCC are in Allied Health and transfer preparation, developmental education, Adult Basic Education and ESL (English as a Second Language) programs. These programs continue to be overenrolled while other colleges in the SBCTC system do not.

Facility Needs

TCC is identified in the CAM as a college with “major capacity issues”.

TCC has the lowest SF/FTE of all state community colleges (71sf/fte). “Committed changes” (new building projects that have already received state funding approval and are currently in planning, design or construction such as the new Science Building) do not keep pace with anticipated growth; in fact, sf/fte is lower (69sf/fte) in future years if no additional new projects are funded. Current average among state community colleges is 112sf/fte. TCC is 31% below state average. The State Board for Community and Technical Colleges’ “desired” size for a two-year academically oriented college is 135 - 140 gross square feet/FTE.

To achieve the state average of 112SF/FTE in 10 years at the anticipated 6,028 students, the TCC would need 675,136sf. That is an additional 258,891sf over the existing area and committed changes. The CAM uses a different standard than the existing state average of all colleges for determining are deficiencies. This information is provided for comparison of the TCC facilities provisions to the other colleges in the state.

The CAM projects a Total Instructional Shortage of 45,026asf

The CAM projects a Student Service Shortage: 23,666asf

The CAM projects a Total CAM Shortage of 68,692asf, combining the shortages of instructional area and area for student services. Vocational programs have additional need as the CAM does not account for the additional space requirements of vocational programs. Allied Health program analysis has identified approx. 18,000asf of additional area required over existing conditions to properly serve student demand and community workforce needs.
Resource Deficiencies and Student Needs

The total area of facilities on campus for the number of students as measured by square footage per student FTE is the lowest in the Washington Community & Technical College system. Allocation at TCC is 71sf/FTE and the statewide average is 112sf/FTE. The facilities that fill that gap on other campuses are buildings and spaces like library study areas, multimedia computer labs, technical and “hands on” learning laboratories, flexible group and independent study spaces, learning assistance centers, comprehensive and cohesive student services and professional development centers for faculty. These programs and activities occur in scattered locations on the TCC campus in spaces that are too small and force students to hunt for services that should be readily available to them.

Many students come to college unprepared for the rigors of college learning. Providing effective developmental education for these students is an important part of the college’s mission. TCC has improved the year to year retention rate to 38%, but it’s still a challenging statistic. Persistence to degree or certification averages about 20% within 3 years, lower for minority students. The College is losing 62% of students annually and 80% of students who begin a program of study with a goal of obtaining a degree or a certificate do not meet this goal. The College does not have the physical capacity to provide the learning resources and support needed to serve its current student population.

A new Learning Resource Center as proposed in this facilities master plan will provide a comprehensive and integrated set of learning support services with leading edge technology and close proximity to the majority of faculty offices on campus.

Gig Harbor Campus Needs

The present Gig Harbor campus is stretched beyond capacity and unable to accommodate projected enrollment growth based on analysis of campus enrollment trends and community growth projections.

Currently, the Gig Harbor Campus serves 210 – 240 FTE (both state and contract) per quarter in its credit classes and 500-600 enrollments per quarter in non-credit classes. The 13,000 square foot building on ten acres was opened in 1995 and has seen significant growth in the past 5 years.

The population in the service area is expected to continue to grow through the year 2020, per demographic data, projections and estimates compiled by consultants for Franciscan Health Services and for the Peninsula School District. Projections of industry growth by clusters (compiled as a part of a Gig Harbor Peninsula Chamber of Commerce study on regional economic development) indicate that tourism/hospitality, service and retail, health and medical and biomedical are the strongest clusters.

It is also expected that the completed construction of the toll-access Narrows Bridge will place an increase on the demand for college classes at the Gig Harbor campus on the west side of the bridge. Presently, students are fairly comfortable taking classes in both Gig Harbor and on the Tacoma campus.

See Appendix D for more information about planning for Gig Harbor Campus growth.