Draft--Online Quality Learning Community--Draft
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The Online Quality Learning Community (OQLC) is a consortium of two-year educational institutions, the American Society for Quality (ASQ), and BGSU. Currently engaged OQLC organizations, with BGSU, are Firelands College, Rhodes State College, Northwest State College, Owens Community College, Terre Community College, and Toledo Section ASQ.

OQLC takes existing transfer and assessment systems to a new level, using electronic portfolios in a learning community to collaborate academicians and practitioners in the quality field in direct support of students. A pivotal element is the student branch of ASQ at BGSU as a key part of the community for enhanced recruitment, retention and completion of quality-related students as aspiring professionals, regardless of geography, focused on BS degree completion anywhere.

Created in the late 1980's at BGSU in response to quality professionals, the QS has been offered as part of the Manufacturing major in the Technology Systems Department, and 100% online since about 1999. Based on recently approved curriculum changes (May, 2002), the QS curriculum now has four undergraduate courses designed and delivered as core online offerings. These are:

o   QS 326. Data-based quality improvement
o   QS 327. Process and productivity documentation
o   QS 426. Quality change services
o   QS 427. Synchronous quality planning

Courses reflect ISO 9000 standards and team-based problem solving in manufacturing and service environments. Quality principles collaboratively applied are documented and assessed in electronic portfolios as projects within a technical course infrastructure (see note 1). Custom courseware embodies the QS core, currently available through the BGSU bookstore as a CD. Teaching and courseware examples can be seen at www.bgsu.edu/colleges/technology/qs (see note 2).

Five additional 100% online courses are planned, currently in the proposal stages. These are:

o   QS 3XX. Quality e-commerce culture
o   QS 4XX. Quality seminar
o   MFG 3XX. Geneology of lean
o   MFG 4XX. Time-based management
o   MFG 4XX. Foundations of lean manufacturing

The above courses are 3 credits each, and students will also do two cooperative education experiences at 4 credits each. Total hours in the OQLC curriculum will be 35, all at the 300 and 400 level.

Target OQLC student is an associate degree holder who is ready to complete a BS degree to advance in level of technical management. The OQLC "mimicks" services and functions provided for on-campus, traditional students, but online for non-traditional persons, available 24 hours a day, and in innovative and novel ways, to be accessed from anywhere. Selected ASQ student branch elements and broad advising and support relationships have been configured at the author's site to illustrate this (see notes 3 and 4). OQLC will enhance student opportunities through several key objectives:

Objective 1: Develop electronic portfolio assessment as foundational to learning community.
o   Use electronic portfolioing systems with practicing professionals to grow students, work

o   Provide support services and advising, integrated with student branch functions
o   Engage educational partners to help define portfolio character and systems in community

Objective 2: Operationalize ASQ core knowledge, BS degree completion, professionally.
o   Integrate ASQ values, ISO rubrics, developing and validating courseware as key infrastructure
o   Do student project applied research with practitioners/industrial partners
o   Align courses as online BS degree completion, efficient transfer, certification, accreditation

Objective 3: Broaden, enhance OQLC network, engaging key partners to build community.
o   Do online BS degree completion with two year community/technical colleges in Ohio, beyond
o   Develop local/regional/state conference, eventually electronically facilitated, networked
o   Develop compatible systems with participating institutions, as a networked community

Built in Blackboard instructional systems, courseware will be matured and enhanced around core knowledge based on projects engaging students, faculty and practitioners. Electronic portfolios will be built and assessed, demonstrating and applying core knowledge, used as part of graduation criterion. Electronic conferencing will be prototyped, linked to project documentation in portfolios.

Data and documentation would evolve over time to evaluate OQLC based on GPA, time to graduate after transfer, program dropouts, portfolio reviews of projects by practitioners, student certifications, course evaluation, and others at the institutional, program and course level. Various partners would be sought to "define and grow" the learning community, eventually to expand well beyond Ohio.

OQLC Relationships, Roles And Assumptions

OQLC and QS and lean curriculum has evolved out of the Manufacturing Technology Program in the Technology Systems Department. OQLC courses are different in several important ways, primarily related to 100% electronic delivery, and use of electronic courseware to do work in several courses.

ASQ is a key driver in the OQLC, providing guidance, leadership and definition of many rubrics and values inherent in the quality movement. ASQ section leaders will be called upon to provide expertise and resources, offer advice as systems are evolving, review portfolios as they develop, help connect their companies with opportunities for degree completion of employees, development of possible projects, support of the student branch, and perhaps in other ways via existing advisory committees.

Dr. Sinn is lead faculty in the learning community, directing all work, with graduate assistants, at the start, and new tenured faculty and staff over time. Linkages to two year institutions have leaders engaged to facilitate recruitment and alignment of work and systems. Several important infrastructural and procedural assumptions also underscore and help define the OQLC. These include:

o   Students will be primarily part time, with work experience in quality, or wishing to be in quality
o   Non-traditional associate degree holders who would not have come to BGSU will be sought
o   35 required minimum BGSU hours (see first page), are organized as "best fit" for student
o   Course/non-course activities are done electronically, students may never be physically at BGSU
o   Courses offered annually for completion of the 35 BGSU hours in 3 years at 12 hours/year
o   Students will be encouraged to take at least three QS courses per year, continuously enrolled
o   Electronic portfolios document student progress, demonstrating professional growth

OQLC provides a strong articulated program, attracting new students to electronically facilitate BS degree completion, a common ground area where all courses, services and functions are offered. A

laptop PC (Dell Inspiron 8100) is recommended as baseline technology, to be outfitted with similar software, MS Office Suite including Front Page for portfolio work, and full Adobe Acrobat.

What Are People Saying About OQLC?

Several groups external to BGSU have been solicited to provide an indication of the overall view of the OQLC. The groups include the Integrated Manufacturing Systems Advisory Committee (IMSAC), the ASQ in various forms, and regional two year institutions, all which have been pivotal in the evolution of the OQLC plan. Each of the individuals have provided feedback and guidance over time, and the various views are paraphrased in table 1 below.

Table 1. What People Are Saying About OQLC.		
Who/Affiliation	*Comments/Feedback*	*Date/Context*
David Mead, Plant Manager, Eaton Corp. IMSAC Co-chair.	An excellent idea, long overdue. Will work to engage Eaton Corporation as one of the key suppliers of students with associate degrees. Indicates there could easily be many students annually in various plants around the world from Eaton.	10-4-02, IMSAC fall meeting.
Brad Daubenmire, Manufacturing Eng., ITT Corp. IMSAC member.	Timely program and project, an asset for quality professionals. Work to integrate six sigma principles more fully in curriculum. Many plants world-wide to draw associate degree holding students into the quality services emphasis.	10-4-02, IMSAC fall meeting.
Michael Mead, Quality Manager, Bosch Corp. IMSAC, ASQ member.	Valuable project which should be moved along to reflect and support core values such as certifications and core knowledge of ASQ and other professional bodies. Unclear how many students may participate through Bosch worldwide.	10-4-02, IMSAC fall meeting.
Jim Smith, Chair of Ind. Tech. Dept., Firelands College, BGSU.	Firelands supports initiative but must assure all offerings are online to facilitate place-bound students. Large recruitment pool available based on quality initiatives at Firelands. Five students per term is doable for prospective students.	Various discussions, 2001, 2002.
Tom Wiley, Dean, Eng./Ind.Technologies, Northwest State College.	NCC is working with BGSU to do the OQLC project via systems for transfer of the 3 + 1 concept. Need clear systems to communicate with students how to transfer. There are several students ready to transfer when systems are in place.	Fall, 2002. Various discussions.
Mark Durivage, Chair, Operations/ Ind. Tech., Owens Comm. College.	Owens has transferred many students into quality at BGSU across the years. Need course-by-course transfer checklists in place to assist students in what/how to transfer. Mark indicates 25-30 students per term is target pool.	Personal discussion, Fall, 2002.
Jim Dunlap, Director, Quality Eng. Program, Rhodes State College.	RSC was instrumental in developing OQLC and plans to transfer early students in fall, 2003. Enhanced course guides and checklists are needed to help 3-5 quality students transfer per term. Likely additional students in other programs.	Summer, fall, 2002 discussions.
Tom Kissel, Dean, Eng. Technologies, Terre Community College.	Terre was first two year institution to endorse OQLC, providing positive influence from start. Tom gave feedback on courseware, and shared OQLC concept with other deans. 5-10 students/term coming from TCC, easily.	Various discussions, 2001, 2002.
Craig Hollingsworth, Quality Mgr, Burgess Pigment, ASQ member.	Use one computer platform and software for best performance from all in OQLC. Team projects are excellent to engage students with practitioners in ASQ and facilities. Interesting use of courseware systems to do projects online.	Fall, 2002, QP/ASQ article.
Pat Phillips, Quality Manager, Mark IV Auto. ASQ member.	Excellent program, should be moved forward to facilitate online learning. Need sufficient staff and faculty to facilitate emails and maintain communications in timely ways. Basing OQLC around ASQ branch is excellent idea.	Fall, 2002, QP/ASQ article.
Vince Morgilla, Corp. Quality Dir., Dana Spicer Div. ASQ member.	Students using work related experiences, and associate degree, in BS online from anywhere is needed. Has referred two students to the program, one now enrolled, and there are other persons at each of several plants world-wide.	Summer, fall, 2002, discussions.

It is important to note that approximately 150 students annually could be available for transfer from area two year institutions, based on discussions with area leaders (assuming three terms annually). Moreover, general support is very strong, and persons from industry and academia alike indicate the effort should be moved forward.

OQLC Funding And Plan

Budgetary income and cost projections are shown in a multi-year plan for OQLC, and each year is further discussed, summarized in tables at the end of the section. Cost and income projections are

based on undergraduate students enrolled in at least four, three credit courses per year at spring, 2002 subsidy and tuition levels (subsidy = $7794 per 30 SCH's; tuition = $273 per off campus hour enrolled; and, general fees are $606 per term). Subsidy, tuition, and fees income generate $1,656,388 over four years assuming 12 credits taken per year and completion of 35 BGSU hours in three years.

Year 1, 2003-04, emerging infrastructure: 10 undergraduate students are recruited, and project work initiated. During year 1 two Ph.D. doctoral fellows are dedicated full time and project director is increasingly engaged. Year 1 focus is designing, defining, necessary project infrastructure, including all details and issues outlined in tables 2, 3 and 4.

Table 2. Year 1 OQLC Project Deliverables Summary			
Deliverable/Function	*Who Does?*	*Costs?*	*Value Added?*
Document procedures, systems, functions for BS degree completion electronically	Graduate students	$18K, COT provides one	Clear guides, checklists for recruitment, all work, functions
Build relationships with two year institutions, industrial partners, ASQ	Dr. Sinn	$21K annual sunk cost	Development of projects, recruitment of students
Prototype "bridge" course for transitioning associate degree holders	Dr. Sinn	None, part of teaching load	Clear explanation to participating students, smooth start, transition
Build advertising network, systems based around professional journals, groups	Continuing Education	$10K	Communicate project to professional communities
Begin recruiting new tenured faculty, Ph.D students, project liaison staff	Dr. Sinn	$21K annual sunk cost	Development of project staff to deliver, meet project demands
Delivery of QS 326, 327	Graduate students	$18K, COT provides one	Basic knowledge is grown, value added, reflected in portfolios
Delivery of QS 426, 427	Dr. Sinn	None, part of teaching load	Basic knowledge is grown, value added, reflected in portfolios
Delivery of MFG 3XX	Graduate students	$18K, COT provides one	Basic knowledge is grown, value added, reflected in portfolios

Table 3. Year 1 Projected OQLC Income				
Years	*# Of Students*	*Student Fees*	*Tuition*	*Subsidy*	*Annual Income*
2003-04	10	$6,060	$32,760	$31,176	$69,996

Table 4. Year 1 OQLC Anticipated Costs		
Item	*Explanation*	*Cost*
Project Director	One course off each term dedicated to project	22,500 annually
Two doctoral students	COT provides one in year 1, project funds another	16,000 for one
Project advertising	ASQ and other journals	10,000
Technology upgrades	Computers, cameras, general R & D equipment	10,000
Development	Travel, meals, communication to develop project, network	10,000
Year 1 OQLC Sub Total Costs		**$68,500**

Year 2, 2004-05, development and implementation: 30 undergraduate students (10 from year one and 20 new) will participate in year 2, and additional Ph.D. doctoral fellows will help move OQLC forward. During year 2, courseware core knowledge is refined to address projects, early e-portfolios are built and assessed. Team-based improvement projects using courseware address innovative certification explored with ASQ, all as BS degree completion. Year two continues development of systems, but primarily is implementation around key deliverables as defined and explained below.

Table 5. Year 2 OQLC Project Deliverables Summary			
Deliverable/Function	*Who Does?*	*Costs?*	*Value Added?*
Develop procedures, systems for assessment, conferencing, electronically	Graduate students	$45K provides three	Clear guides, checklists for recruitment, all work, functions
Continue developing courseware systems for conducting projects electronically	Graduate students	$45K provides three	Clear guides, checklists for teams, projects, all work, functions

Build project relationships with industrial partners, ASQ, based on courseware	Dr. Sinn	$21K annual sunk cost	Development of projects, recruitment of students
Prototype "capstone" course for seminaring, conferencing, assessing student portfolios	Dr. Sinn	None, part of teaching load	Clear explanation to participating students, smooth start, transition
Continue advertising network, systems based around professional journals, groups	Continuing Education	$15K	Communicate project to professional communities
Recruit new tenured faculty, Ph.D students, project liaison staff	Dr. Sinn	$21K annual sunk cost	Development of project staff to deliver, meet project demands
Delivery of QS 3XX, 326, 327, multiple sections	Graduate students	$54K provides three	Basic knowledge is grown, value added, reflected in portfolios
Delivery of QS 426	Dr. Sinn	None, part of teaching load	Basic knowledge is grown, value added, reflected in portfolios
Delivery of MFG 3XX	Graduate students	$54K provides three	Basic knowledge is grown, value added, reflected in portfolios
Delivery of MFG 4XX	Dr. Andrews	None, part of teaching load	Basic knowledge is grown, value added, reflected in portfolios
Delivery of MFG 4XX, QS 427 (in place in summer, 2004)	New faculty hire #1	$30	Basic knowledge is grown, value added, reflected in portfolios

Table 6. Year 2 Projected OQLC Income				
Years	*# Of Students*	*Student Fees*	*Tuition Paid*	*Subsidy*	*Annual Income*
2004-05	30	$18,180	$98,280	$93,528	$209,988

Table 7. Year 2 OQLC Anticipated Costs		
Item	*Explanation*	*Cost*
Project Director	One course off each term dedicated to project	22,500 annually
Three doctoral students	$16K, project funds all	48,000 for three
New tenured faculty person	Half year salary	35,000, half year
Part time project liaison	Half year salary	20,000, half year
Project advertising	ASQ and other journals	15,000
Technology enhancements	Computers, cameras, general R & D equipment	40,000
Development	Travel, meals, communication to develop project, network	20,000
Year 2 OQLC Sub Total Costs		**$200,500**

Year 3, 2005-06, continued implementation, evaluation, improvement: Approximately 30 students will carry over and 40 new will be recruited, totaling 70. Courseware is continually matured and enhanced around core knowledge, and certification, in projects engaging students, faculty and practitioners, doing about 25 projects in number at various locations. Co-op and experiential portfolioing systems are enhanced to be done electronically in OQLC. Mature electronic portfolios will be built and assessed, demonstrating and applying core knowledge, used as part of graduation criterion. Electronic conferencing will continue to be prototyped with experiments conducted by interested participants, linked to project documentation in portfolios, evaluating and improving all:

Table 8. Year 3 OQLC Project Deliverables Summary			
Deliverable/Function	*Who Does?*	*Costs?*	*Value Added?*
Enhance systems for assessment, conferencing, based on evaluation	Graduate students	$45K provides three	Clear guides, checklists for recruitment, all work, functions
Conduct projects with industrial partners, ASQ, based on enhanced courseware	Dr. Sinn	$21K annual sunk cost	Development of projects, recruitment of students
Prototype "capstone" course for seminaring, conferencing, assessing student portfolios	Dr. Sinn	None, part of teaching load	Clear explanation to participating students, smooth start, transition
Continue advertising network, systems based around professional journals, groups	Continuing Education	$15K	Communicate project to professional communities
Collection, analysis of data documented, integrated into student assessment, project	Dr. Sinn, with project staff	$21K annual sunk cost	All participate to connect and collaborate broader goals of project
Convert liaison staff person position to full time	Dr. Sinn	$21K annual sunk cost	Development of project staff to deliver, meet project demands

Initiate #2 full time tenure track faculty position search	Dr. Sinn, with project staff	$21K annual sunk cost	All participate to connect and collaborate broader goals of project
Publication of project findings, use in seeking external grants	Dr. Sinn, with project staff	$21K annual sunk cost	All participate to connect and collaborate broader goals of project
Delivery of QS 3XX, 326, 327, MFG 4XX multiple sections	Graduate students	$54K provides three	Basic knowledge is grown, value added, reflected in portfolios
Delivery of new approved QS 4XX Seminar course, expansion into graduate programs	Dr. Sinn	None, part of teaching load	Basic knowledge is grown, value added, graduate and undergraduate
Delivery of MFG 4XX	Dr. Andrews	None, part of teaching load	Basic knowledge is grown, value added, reflected in portfolios
Delivery of MFG 3XX, 4XX, QS 426, 427	New faculty hire #1, 2	$60	

Table 9. Year 3 Projected OQLC Income				
Years	*# Of Students*	*Student Fees*	*Tuition Paid*	*Subsidy*	*Annual Income*
2005-06	70	$42,420	$227,320	$218,232	$487,972

Table 10. Year 3 OQLC Anticipated Costs		
Item	*Explanation*	*Cost*
Project Director	One course off each term dedicated to project	22,500 annually
Four doctoral students	$16,000 each, project funds all	64,000
New tenured faculty person#1	Full year, full time, tenured track salary	70,000
New tenured faculty person#2	Half year salary	35,000, half year
Full time project liaison	Full year, full time, salary	40,000
Project advertising	ASQ and other journals	20,000
Technology enhancements	Computers, cameras, general R & D equipment	50,000
Development	Travel, meals, communication to develop project, network	30,000
Year 3 OQLC Sub Total Costs		**$331,500**

Year 4, 2006-07, optimization, continuation: Systems mature to optimize support relationships in two and four year institutions in state and beyond. Project income increases with maturity in work by students and practitioners. Undergraduate students engaged at year 4 are about 120, with enhanced graduation rates. Robust courseware facilitates core knowledge as a base for electronic functions. Undergraduate student growth levels at year four, anticipated to be optimal in size, and maintained and improved thereafter. Expansion and growth, integrating graduate curriculum into OQLC is a central focus as undergraduate numbers are optimized (to be addressed under a separate proposal):

Table 11. Year 4 OQLC Project Deliverables Summary			
Deliverable/Function	*Who Does?*	*Costs?*	*Value Added?*
Mature the systems for assessment, conferencing, based on evaluation	Graduate students	$60K provides four	Clear guides, checklists for recruitment, all work, functions
Conduct projects with industrial partners, ASQ, based on enhanced courseware	Dr. Sinn	$21K annual sunk cost	Development of projects, recruitment of students
#2 full time tenure track faculty position search completed, faculty in place	Dr. Sinn, with project staff	$21K annual sunk cost	All participate to connect and collaborate broader goals of project
Initiate #3 full time tenure track faculty position search	Dr. Sinn, with project staff	$21K annual sunk cost	All participate to connect and collaborate broader goals of project
Continue advertising network, systems based around professional journals, groups	Continuing Education	$15K	Communicate project to professional communities
Collection, analysis of data documented, integrated into student assessment, project	Dr. Sinn, with project staff	$21K annual sunk cost	All participate to connect and collaborate broader goals of project
Publication of project findings, use in seeking external grants	Dr. Sinn, with project staff	$21K annual sunk cost	All participate to connect and collaborate broader goals of project
Delivery of QS 3XX, 326, 327, MFG 4XX multiple sections	Graduate students	$60K provides four	Basic knowledge is grown, value added, reflected in portfolios
Delivery of graduate courses	Dr. Sinn	None, part of teaching load	Basic knowledge is grown, value added, graduate and undergraduate

Delivery of graduate courses	Dr. Andrews	None, part of teaching load	Basic knowledge is grown, value added, reflected in portfolios
Delivery of MFG 3XX, 4XX, QS 426, 427, multiple sections	New faculty hire #1, 2, 3	$60	Basic knowledge is grown, value added, reflected in portfolios

Table 12. Year 4 Projected OQLC Income				
Years	*# Of Students*	*Student Fees*	*Tuition*	*Subsidy*	*Annual Income*
2006-07	120	$121,200	$393,120	$374,112	$888,432

Table 13. Year 4 OQLC Anticipated Costs		
Item	*Explanation*	*Cost*
Project Director	One course off each term dedicated to project	22,500 annually
Five doctoral students	$16,000 each, project funds all	80,000
New tenured faculty person, #1	Full year, full time, tenured track salary	70,000
New tenured faculty person, #2	Full year, full time, tenured track salary	70,000
New tenured faculty person, #3	Half year, full time, tenured track salary	35,000
Full time project liaison	Full year, full time, salary	40,000
Project advertising	ASQ and other journals	20,000
Technology upgrades	Computers, cameras, general R & D equipment	60,000
Development	Travel, meals, communication to develop project, network	35,000
Year 4 OQLC Sub Total Costs		**$432,500**

Project Plan, Summary

Selected information is summarized to help capture cost, income, and general performance indicators inherent in the plan. Table 14 shows performance indicators and illustrates growth from 10 to 120 students, 2003-2007. More students will complete in a timely manner, increasingly certified through ASQ, and there will be additional projects as students increase, in OQLC.

Table 14. Selected Performance Indicators For OQLC.				
Years	*Students Engaged*	*Students Continued*	*Students Certified*	*Students Graduating*
2003-04	10	50%	50%	**30%**
2004-05	30	60%	60%	**50%**
2005-06	90	70%	70%	**70%**
2006-07	**120**	**80%**	**80%**	**90%**

Table 15 summarizes project costs, totaling $1,033,000. General costs are for advertising, nationally and internationally in professional journal venues, facilitating a conference, project travel for staff, and other general needs. Technology costs provide laptop digital technology for experimental documentation and research, maintaining future infrastructural work and vision. Project direction by Dr. Sinn has a course off each term, including summer, continuously, starting 2003. Ph.D. students are assigned beginning spring, 2003, growing to four and leveled out at 2005-06. New faculty are required starting in 2003-04, and one each full time added in the next two years of the project, tenured associate or full professors. Liaison staff costs cover transfer advising, project/co-op deliverables, departmental/industrial development and other mentoring and assessment functions. The program levels out at 2006-07 as an optimal model, and costs remain similar to 2006-07 thereafter.

Table 15. Projected Annual Costs For OQLC, Summary.				
Year	*General $*	*Technology $*	*Faculty/Staff $*	*Total Costs, Year*
2003-04	$20,000	$10,000	$38,500	**68,500**
2004-05	$35,000	$40,000	$125,500	**200,500**
2005-06	$50,000	$50,000	$231,500	**331,500**

| 2006-07 | $55,000 | $60,000 | $317,500 | **432,500** |
| Total Projected Annualized OQLC Costs 2003-2007, Summarized | | | | $1,033,000 |

Table 16 summarizes project income by year, totaling $1,656,388 for four years. It should be clear that student numbers projected to generate income from fees, tuition and subsidy are conservative. Fees collected in each term of enrollment are placed in accounts to be drawn on by students. Students can draw down the accounts, collected at $600 per year per student. Total capacity for accrued funds over three years is $1800 per student, to be used at student request to purchase a laptop, travel to participate in annual conferences sponsored by OQLC, or perhaps in other ways yet to be determined. Aggressive, innovative marketing and recruiting over time can build strong industrial partnerships with double the students enrolled from a national and international market. Project funds generated are also conservative and attainable projections in concert with the Applied Technology Center in the College of Technology and electronic delivery systems evolving for co-op supervision.

Table 3. Annualized Projected OQLC Income, Summary.				
Years	*# Of Students*	*Student Fees*	*Tuition Paid*	*Subsidy*	*Annual Income*
2003-04	10	$6,060	$32,760	$31,176	69,996
2004-05	30	$18,180	$98,280	$93,528	209,988
2005-06	70	$42,420	$227,320	$218,232	487,972
2006-07	120	$121,200	$393,120	$374,112	888,432
Total Projected Annualized OQLC Income 2003-2007, Summarized					$1,656,388

Notes Referenced To www.bgsu.edu/colleges/technology/qs

1. See project portfolio examples, and related course materials at (1) teaching page; (2) student projects; (3) syllabi; (4) startup; (5) course SOP's.
2. See the Industrial Technologists' Toolkit for Technical Management courseware at any startup page. View specific examples at (1) teaching page; (2) courseware examples.
3. See ASQ student branch elements and relationships used to support the broader quality learning community. Prompt (1) service page; (2) ASQ student branch.
4. See selected advising elements and relationships which can be used to support the broader quality learning community by prompting (1) teaching page; (2) advising.
5. See assessment elements and learning community relationships currently being researched and developed at (1) research page; (2) portfolio assessment; (3) learning community.