

TULSA COMMUNITY COLLEGE
ANNUAL STUDENT ASSESSMENT REPORT
2000 – 2001

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EXECUTIVE SUMMARY

Entry-Level Assessment

Entry-Level assessment at Tulsa Community College (TCC) has been an ongoing process since the College opened 31 years ago (1970). The American College Test (ACT) has been the primary test used to measure levels of student achievement and subsequent entry-level placement at TCC. The College Board Computerized Placement Tests (CPT) is the secondary test for entry-level assessment. The CPT is used by TCC to supplement the ACT for purposes of assisting students in selecting levels of college courses for which they have the greatest chance for success.

During the 2000 Summer and Fall Semesters and the 2001 Spring Semester, TCC evaluated incoming student proficiency levels in English and Mathematics. Screening in the Reading and Sciences occurred primarily to identify course deficiencies as required by the OSRHE policy and as approved in the TCC Assessment Plan. Test score information is used as a guideline by academic advisors, who use test data as a primary success factor, to place students in various courses at TCC.

As mentioned, the CPT was used as a secondary testing strategy for assessing student achievement reflected in entry-level course placement. The intention of this testing strategy was to compensate for the following situations: (1) designated cut-score levels on the ACT were not attained; (2) ACT scores were not available; (3) ACT scores were in question based upon length of time since tested; (4) student was identified as an “adult learner;” or (5) the validity and/or reliability of the individual’s ACT scores was questioned. The CPT, when administered, was given usually only once. However, students were allowed to take the test twice in a given semester.

Almost two-thirds (65.4%) of entering TCC students scored high enough on the ACT Reading to be placed in college level reading courses. Almost one-third (29.8%) scored within a range of scores that placed them into a remedial Reading II course. Finally, 4.8% of these students scored within a range of scores that placed them into a remedial Reading I course.

Almost one-half (46.4%) of the students who took the CPT Reading test scored high enough to be placed into college level reading. One-fourth (25.6%) scored at the level for placement in a Reading II course. Slightly over one-fourth (27.9%) scored within the range for placement in a Reading I course.

Almost two-thirds (64.3%) of the new TCC freshmen scored high enough on the ACT English sub-test to be placed in a Freshman Composition I course. Just under one-third (29.8%) scored within a range of scores to be placed into a remedial Writing II course. Finally, 5.9% scored within a cut-score range for placement in a remedial Writing I course.

For the CPT Sentence Skills sub-test, 58.5% of those tested scored high enough to be placed into a Freshman Composition I course. Almost one-seventh (14%) scored within the range for placement in the Writing II course, and over one-fourth (27.5%) scored within the cut-score range for placement in the Writing I course.

Almost one-half (48.5%) of the new TCC freshmen scored high enough on the ACT Mathematics sub-test to be placed into College Algebra. One-third (33.5%) scored within a cut-score range for placement into Intermediate Algebra. One-fifth (18.1%) scored within the range for placement in Beginning Algebra. Finally, no student scored within the cut-score range for placement into Basic Mathematics.

Conversely, 3.3% scored within a cut-score range on the CPT Mathematics sub-test to be placed into College Algebra, and 7.5% had scores that placed them into Intermediate Algebra. Less than one percent (0.4%) had scores that placed them into Beginning Algebra. Finally, of those tested, 88.9% tested within a cut-score range that placed them into Basic Mathematics.

In 1999, the Office of Institutional Research began working with a committee of faculty and advisement personnel to examine the efficacy of placement strategies in mathematics based upon the CPT cut-scores. A study was conducted to track student academic performance from remedial/developmental coursework based on ACT and CPT cut-scores and subsequent student achievement. Specifically, the research question was designed to identify the current success rates in College Algebra given the placement methods in use. This study continued into the Fall 2001 semester.

Results from the Fall 2001 semester indicated that an ACT Mathematics score of 19 is a significant predictor for success in College Algebra. Results also indicated that a CPT-CLM score of 41 (TCC's cut-score for placement in College Algebra) is a significant predictor for success in College Algebra for TCC students. Specifically, students who meet either of these criteria have a 70% success rate or better in College Algebra.

There are students who attempt College Algebra based on success in remedial courses. One-fourth (25%) of the students who attempted College Algebra in the Fall 2001 semester had first attempted Intermediate Algebra. Of those students who successfully completed Intermediate Algebra, 85% were successful in College Algebra.

Overall, 1,391 students (55%) in College Algebra during the Fall 2001 semester had met the criteria for entry into the course. Of these students who met criteria, 58% successfully completed College Algebra; students who scored at or above the criterion on a given placement measure for success in College Algebra outperformed students who scored below the criterion for placement. Likewise, students who met *at least* one of the criterion for placement in to College Algebra outperformed students who did not meet any criterion for placement. However, 53% of the students who did not meet any criterion for placement were successful in College Algebra. Therefore, current placement standards for College Algebra may be high. Yet, the fact remains that a significant proportion of students who do not meet the standard fail and most who do meet the standard succeed.

In addition to these studies for mathematics placement, the Office of Institutional Research and Assessment has worked with a faculty committee to examine the efficacy of student placement through student tracking systems in reading proficiency. Comprehensive validity studies, set to begin during the Fall 2001 semester, have been designed to examine the impact of placement in developmental reading courses on persistence and attainment among under-prepared students.

The committee has also recognized the need to address entry-level assessment for distance learning courses. Because traditional entry-level assessment practices at TCC assumes that the college encounters entering students face-to-face, there are unique challenges associated with entry-level assessment with regards to distance learning. After examining various test administrators and their options for delivery, TCC has chosen and implemented delivery of the Accuplacer CPT by ETS through the Internet. Testing through

the Internet began in the Spring 2000 semester, an action that moves TCC one step closer to offering a complete student service package for distance education.

Mid-Level Assessment

The mid-level assessment strategy at Tulsa Community College (TCC) is based upon an attempt to measure student competencies developed in general education courses. The primary goal of this process continues to center upon the improvement of institutional effectiveness toward facilitating student chances for academic success in meeting their educational objectives.

The General Education Goals Assessment Committee at *Tulsa Community College* has developed a unique model for assessing general education goals across all academic programs and discipline areas. The model is *context-specific* in that each goal is assessed according to the methods most appropriate for the context in which the goal is observed. For example, one of the general education goals for all learners is critical thinking. The general education committee established a definition for critical thinking that was accepted across all academic programs and disciplines. The faculty agreed upon a set of expectations that, if successfully demonstrated, would characterize students who have developed critical thinking skills. Other general education goals include development of communication skills, citizenship, global awareness, and computer literacy.

In order to assess the developed competencies for students who have completed the core general education courses, each full-time faculty member was asked to assess students in one of his/her courses. These faculty members were asked to submit a completed reporting form for the general education goal being assessed. The reporting form is designed to collect information regarding the means of assessment and the criteria for success as well as the intended use of assessment results for improving teaching and learning.

All full-time faculty members were asked to participate in the assessment of critical thinking during the Fall 2000 semester. Results were compiled and aggregated by the Office of Institutional Research and Assessment. These results indicate 2,455 students were assessed for critical thinking and that 77% of those students successfully demonstrated critical thinking based on the context-specific criteria for measuring skills associated with that goal. A comprehensive feedback report, including quantitative results and proposed uses of the results, was presented to division chairs, deans, and instructional staff in early Spring 2001.

All faculty members, including adjunct (part-time) faculty, will participate in the assessment process during the 2001-2002 academic year. Adjunct faculty members will assess critical thinking, while full-time faculty members who have already performed the critical thinking assessment will now assess effective communication. Faculty mentors have been designated to help their colleagues understand and contribute to the assessment process.

Program Outcomes Assessment

The purpose of the outcomes assessment at Tulsa Community College (TCC) is to assess what is being taught and learned at TCC. The outcome assessment plan focuses on processes as well as products. In order to facilitate this plan, TCC actively involves both instructors and students through the use of multiple and varied assessment methods. Specifically, outcomes assessment at TCC is derived from three referent group questionnaires (e.g., course/instructor evaluation, graduate student survey results, and employer survey results), student transfer data, and program accreditation/certification records. Results from these

assessments are presented to program and service areas to assist program improvement and enhance student learning.

During the Spring 2001 semester, 17,354 students completed and returned the TCC course/instructor evaluation. This instrument attempts to assess course/instructor effectiveness relative to the student's perspective. Overall, the results from this measure were positive. The majority of responding students (91%) would recommend the course they assessed to other students. Also, a large number of the students agree or strongly agree that faculty are patient with students' learning (91%), are well prepared for the courses taught (93%), and maintain high course standards (94%).

Results from the graduate survey indicate 63% of the respondents are continuing their education. Furthermore, 75% of the respondents indicated that they are employed. Among respondents who were employed, 50% reported that they are either working in their major field or in a discipline that is closely related to their area of study while at Tulsa Community College. Among the respondents who are working, 57% reported that they are working full-time.

In addition to rating the number of former students who are working or who are continuing their education, the survey measures the general satisfaction that former students have with their educational experiences while at Tulsa Community College. An overwhelming majority of the respondents indicated that they would be at least somewhat likely to make the same decision if they had the opportunity to attend TCC again (82%).

Results from the employer survey indicate that 95% of the participating employers report that they are "*satisfied*" or "*very satisfied*" with the performance of the employed TCC graduates and students. Likewise, 96% of the respondents rated the employed TCC graduates' or students' ability to work productively as "*good*" or "*excellent*," while 91% confirmed that graduates are able to work independently without direct supervision." Nine out of ten respondents (92%) rated the employees' ability to perform the technical aspects of the job as "*good*" or "*excellent*." Communication skills were rated as "*good*" or "*excellent*" by 83% of the employers. The general attitude toward the work performed was rated as "*good*" or "*excellent*" by 96% of the participating employers. Employers reported that TCC graduates are "*good*" or "*excellent*" in their ability to identify, analyze problems (88%) and perform equally well when required to solve problems or suggest possible solutions (88%) Finally, 87% rated their employed TCC graduates' or students' ability to accept supervision and criticism as "*good*" or "*excellent*."

Available student transfer data indicate that Tulsa Community College is sufficiently preparing students for upper division course work. Because data were limited, results could not be generalized to all instructional units at TCC. Therefore, there were no instructional changes based on transfer data. The Office of Institutional Research and Assessment at TCC has established a data sharing network with several colleges and universities that have been identified as transfer sites for TCC students. This data sharing project allows TCC to identify students who have transferred from TCC and performance levels within program areas at the new host colleges and universities.

Graduates of Tulsa Community College's nursing and allied health programs continue to perform at a very high level when they complete their licensure and certification exams. Test results from these exams are excellent indicators on the quality and effectiveness of the college's health related programs. Feedback allows for the improvement of courses and program curricula. The job placement rate is 100% for students seeking work in all programs.

Student Satisfaction Assessment

The Office of Institutional Research and Assessment has implemented a wide and varied strategy for assessing student satisfaction. Overall satisfaction domains are investigated through various climate surveys, such as graduate surveys and course/instructor evaluations (discussed above). Almost all students are afforded the opportunity to participate in one or more of the student satisfaction activities.

Tulsa Community College also administers the ACT Student Opinion Survey (2-year form) approximately every third year. For the 2000-2001 academic year, The ACT Student Opinion Survey was administered to students enrolled in selected university parallel and workforce development courses at each campus. From this survey, the college is able to obtain student demographics as well as the extent to which students are satisfied with the institution, its services, and its environment.

Overall, results of the student satisfaction assessment procedures are positive for TCC, with 73% of the respondents stating that they would likely choose to attend TCC a second time. Further, 86% of those responding have an “above average” impression of the college. The top five reasons students chose to attend TCC are as follows:

1. desired courses were offered (88%)
2. the ability to work while attending (86%)
3. convenient location (82%)
4. the low cost of attendance (79%)
5. the good chance of personal success (70%)

The internal audit committee, comprised of faculty and staff, recommend continuing efforts toward communicating survey results to the faculty and staff. Specifically, the audit committee recognizes the impact of student satisfaction on student retention, thus involving more faculty and staff is expected to enhance TCC’s enrollment management efforts.

1. What methods were used for entry-level course placement? What were the instruments and cut-scores used for each subject area and course?

Entry-level assessment has been an ongoing process at Tulsa Community College (TCC) since its inception 30 years ago (1970). The American College Test (ACT) is the “primary test” used to measure levels of student achievement and subsequent entry-level placement at TCC. The ACT, as an admission requirement for degree-seeking students in Oklahoma colleges and universities, provides extensive normative data useful as one indicator of students’ readiness for college level courses. More specifically, the ACT provides class profile reports that are used to facilitate assessment.

In the 1991 Fall Semester, TCC began administering the College Board Computerized Placement Tests (CPT), a computer-adapted achievement test. The Oklahoma State Regents for Higher Education (OSRHE) approved the use of the CPT as a “secondary test” for use by TCC in entry-level assessment. The CPT is used by TCC to supplement the ACT to assist students in selecting levels of college courses for which they have the greatest chance for success. More specific uses of the CPT will be provided in the methodology section of this report. Cut scores are presented in Appendix EL.

The entry-level committee devotes much of its time to improving the use of CPT test score results. While an annual faculty review process for CPT cut scores in mathematics continues, new studies have been designed to evaluate cut-scores effectiveness in reading and sentence skills in particular, as well as the course placement and tracking system at TCC in general.

2. How were instruments administered? Which students were assessed? Describe how and when they were assessed, including options for the students to seek retesting, tutoring, or other academic support.

During the 2000 Summer and Fall Semesters and the 2001 Spring Semester, TCC evaluated incoming student proficiency levels in English and mathematics. Screening in the Reading and Sciences occurred primarily to identify course deficiencies as required by the OSRHE policy and as approved in the TCC Assessment Plan. The ACT and CPT cut-score intervals and the suggested placement courses are shown in Appendix EL. Test score information is used as a guideline by academic advisors, who use test data as a primary success factor, to place students in various courses at TCC.

As mentioned, the CPT was used as a secondary testing strategy for assessing student achievement reflected in entry-level course placement. The intention of this testing strategy was to compensate for the following situations: (1) designated cut-score levels on the ACT were not attained; (2) ACT scores were not available; (3) ACT scores were in question based upon length of time since tested; (4) student was identified as an “adult learner;” or (5) the validity and/or reliability of the individual’s ACT scores was questioned. The CPT, when administered, was given usually only once. However, students were allowed to take the test twice in a given semester.

3. What were the analyses and findings from the 1999-2000 entry-level assessment?

The data presented in Appendix EL show that 2,957 “freshmen” enrolled at TCC took the ACT. The average composite score for this cohort was 20.3. The average ACT sub-test

scores for these TCC freshman included: English (20.2), Mathematics (19.1), Reading (21.0), and Science Reasoning (20.3).

Placement in Reading:

From the data presented in Appendix EL, placement based upon the ACT Reading scores show that almost two-thirds (65.4%) of these new TCC students scored high enough to be placed in college level reading courses. Almost one-third (29.8%) scored within a range of scores that placed them into a remedial Reading II course. Finally, 4.8% of these students scored within a range of scores that placed them into a remedial Reading I course.

Almost one-half (46.4%) of the students who took the CPT Reading test (see Appendix EL) scored high enough to be placed into college level reading. One-fourth (25.6%) scored at the level for placement in a Reading II course. Slightly over one-fourth (27.9%) scored within the range for placement in a Reading I course.

Placement in Writing:

Almost two-thirds (64.3%) of the new TCC freshmen scored high enough on the ACT English sub-test to be placed in a Freshman Composition I course. Just under one-third (29.8%) scored within a range of scores to be placed into a remedial Writing II course. Finally, 5.9% scored within a cut-score range for placement in a remedial Writing I course.

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4. How was student progress tracked? Describe analyses of student success in both remedial and college-level courses, effectiveness of the placement decisions, evaluation of cut-scores, and changes in the entry-level assessment process as a result of findings.

In 1999, the Office of Institutional Research began working with a committee of faculty and advisement personnel to examine the efficacy of placement strategies in mathematics based upon the CPT cut-scores. A study was conducted to track student academic performance from remedial/developmental coursework based on ACT and CPT cut-scores and subsequent student achievement. Specifically, the research question was designed to

identify the current success rates in College Algebra given the placement methods in use. This study continued into the Fall 2001 semester.

Results from the Fall 2001 semester indicated that an ACT Mathematics score of 19 is a significant predictor for success in College Algebra. Results also indicated that a CPT-CLM score of 41 (TCC's cut-score for placement in College Algebra) is a significant predictor for success in College Algebra for TCC students. Specifically, students who meet either of these criteria have a 70% success rate or better in College Algebra.

There are students who attempt College Algebra based on success in remedial courses. One-fourth (25%) of the students who attempted College Algebra in the Fall 2001 semester had first attempted Intermediate Algebra. Of those students who successfully completed Intermediate Algebra, 85% were successful in College Algebra.

Overall, 1,391 students (55%) in College Algebra during the Fall 2001 semester had met the criteria for entry into the course. Of these students who met criteria, 58% successfully completed College Algebra; students who scored at or above the criterion on a given placement measure for success in College Algebra outperformed students who scored below the criterion for placement. Likewise, students who met *at least* one of the criterion for placement in to College Algebra outperformed students who did not meet any criterion for placement. However, 53% of the students who did not meet any criterion for placement were successful in College Algebra. Therefore, current placement standards for College Algebra may be high. Yet, the fact remains that a significant proportion of students who do not meet the standard fail and most who do meet the standard succeed.

5. What other studies of entry-level assessment have been conducted at the institution?

The Office of Institutional Research and Assessment has worked with a faculty committee to examine the impact of student placement in developmental reading courses on persistence and attainment. Specifications for this study are presented in Appendix EL. Results will be collected beginning in the Fall 2001 semester. Tulsa Community College continues its evaluation of student placement and tracking systems in a systematic nature.

6. What instructional changes occurred or are planned due to entry-level assessment?

The entry-level assessment committee recommended that assessment of the CPT sub-scores continue as an on-going attempt to optimize placement into College Algebra. Furthermore, the committee is working with the Office of Institutional Research and Assessment to design similar studies that evaluate reading proficiency and student placement in remedial and college level courses. A comprehensive proposal to strengthen the current enrollment policy and overall effectiveness of course placement systems with regard to reading was presented to college administrators by this committee during the Spring 2001 semester.

The committee has also recognized the need to address entry-level assessment for distance learning courses. Because traditional entry-level assessment practices at TCC assumes that the college encounters entering students face-to-face, there are unique challenges associated with entry-level assessment with regards to distance learning. After examining various test administrators and their options for delivery, TCC has chosen and implemented delivery of the Accuplacer CPT by ETS through the Internet. Testing through the Internet began in the Spring 2001 semester, an action that moves TCC one step closer to offering a complete student service package for distance education.

7. What measures were used to assess reading, writing, mathematics, critical thinking, and other institutionally recognized general education competencies? Describe how assessment activities were linked to the institutional general education program competencies.

The General Education Goals Assessment Committee at *Tulsa Community College* has developed a unique model for assessing general education goals across all academic programs and discipline areas. The model is *context-specific* in that each goal is assessed according to the methods most appropriate for the context in which the goal is observed. For example, one of the general education goals for all learners is critical thinking. The general education committee established a definition for critical thinking that was accepted across all academic programs and disciplines. The faculty agreed upon a set of expectations that, if successfully demonstrated, would characterize students who have developed critical thinking skills.

The assessment committee acknowledged that critical thinking is different in mathematics than in history, and it may be somewhat different in one history class than it is in the same history class taught by a different instructor. Therefore, a successful demonstration of critical thinking may not occur in the same manner if the context or subject matter is different. Although there are alternative means for assessing critical thinking, faculty use a common reporting form for documenting students' demonstration of critical thinking within the context of the classroom environment in which the critical thinking skills are observed. The general education reporting form for assessment of critical thinking is presented in Appendix ML. The same format is used for reporting assessments of the other general education goals. A list of all five general education goals are also presented in Appendix ML. The individual assessments of each goal are aggregated to produce a picture of how well the college as a whole is progressing toward the attainment of each general education goal.

The model implies an understanding that the nature of the assessment task is not new, but is changing in important ways. The assessment committee at *Tulsa Community College* does not function as an external force to impose something brand new, but serves to investigate and facilitate the assessment process. The committee's approach is not to impose external demands, but to examine how faculty already teach and assess critical thinking within their respective disciplines and programs and to help them improve. Therefore, this model draws upon faculty wisdom and practice to capitalize on resources already in place.

The mid-level assessment strategy at Tulsa Community College (TCC) is based upon an attempt to measure student competencies developed in general education courses. The primary goal of this process continues to center upon the improvement of institutional effectiveness toward facilitating student chances for academic success in meeting their educational objectives.

8. Which and how many students participated in mid-level assessment? Describe how the instruments were administered and how students were selected. Describe strategies to motivate students to participate meaningfully.

In order to assess the developed competencies for students who have completed the core general education courses, each full-time faculty member was asked to assess students in one of his/her courses. A total of 2,455 students were assessed for critical thinking and that 77% of those students successfully demonstrated critical thinking based on the context-specific

criteria for measuring skills associated with the critical thinking goal. Faculty members were asked to submit a completed reporting form for the general education goal being assessed. The reporting form is designed to collect information regarding the means of assessment and the criteria for success as well as the intended use of assessment results for improving teaching and learning.

Means of Assessment and Criteria for Success

Faculty members select or construct a test/assignment to measure students' critical thinking skills in their course/discipline based on the common institutionally accepted definition of critical thinking as defined on the reporting form. Faculty members evaluate students' skills using specific criteria that state the standards for intended performance explicitly.

Because this method of assessing students is ongoing in a large sample of classes and because the students in a given course are a subset of the student population, it is reasonable to use this data to support an outcome statement such as the following:

"Students who have developed critical thinking skills will be able to demonstrate *at least one* of the following:

- **comprehend complex ideas, data, and concepts;**
- **make inferences** based on careful observation;
- **make judgements** based on specific and appropriate criteria;
- **problem solve** using specific processes and techniques;
- **recognize relationships** between the arts, culture, and society;
- **develop new ideas** by synthesizing related and/or fragmented information;
- **apply knowledge and understanding** to different contexts, situations, and/or specific endeavors; and,
- **recognize the need to acquire new information."**

Use of Results

The following list is provided to help guide responses to the items in the "Use of Results" section of the Assessment Record.

The first question asks, "How will you use your assessment results to enhance student development of critical thinking skills?"

In other words, what strategies are faculty members intending to use to improve student critical thinking skills *in the future* based upon assessment results? Some possible responses include:

- Revise the amount of written/oral/visual/clinical or similar work.
- Increase in-class critical thinking discussions and activities.
- Increase student collaboration and/or peer review.
- Provide more frequent or fuller feedback on student progress.
- State criteria for grading more explicitly.
- Increase guidance of students as they work on assignments.
- Increase the use of questioning methods that encourage critical thinking.
- Ask a colleague to critique critical thinking assignments/activities.
- Collect more data on critical thinking activities.
- Revise the content of critical thinking assignments/activities.
- Nothing, assessments indicate that no improvements are necessary.

A second question in the "Use of Results" section asks, "Based upon the results of your assessment, what additional resources or professional development activities would enhance teaching and learning in your area?" In other words, how can the department or the institution help faculty members in their work to improve student development of critical thinking based upon assessment results? Some possible responses include:

- Offer and/or encourage attendance at seminars, workshops or discussion groups about assessment of critical thinking.
- Consult teaching and learning experts about teaching methods for critical thinking.
- Encourage faculty to share their exercises/activities that foster critical thinking.
- Write collaborative grants to fund departmental projects to improve teaching and learning.
- Provide articles/books on college teaching and learning.
- Visit classrooms to provide feedback (Mentoring).
- Create a bibliography of resource materials.
- Examine course curriculum to determine what critical thinking skills are taught so the department can build a progression of critical thinking skills as students advance through courses.
- Nothing, assessments indicate that no improvements are necessary.

Collecting and evaluating assessment data allow faculty to identify strengths and weaknesses in student learning. Based on assessment results, faculty can develop action plans to maintain or build on strengths and improve in weaker areas. In order to implement any plan of action, there is a need for adequate resources. Therefore, assessment results and subsequent action plans ultimately become key elements in planning and program budgeting. TCC has a project management design in place to strengthen the linkage between assessment, planning, and budgeting in an attempt to improve the institution's overall effectiveness. Each step in the process is necessary for effective communication and feedback to take place.

9. How was student progress tracked into future semesters and what were the findings?

The new methodology measuring general education goals was first implemented during the Fall 2000 semester. The plan is to formulate a comprehensive, definitive picture of students' general education goal attainment. Follow up comparison studies will be made from year to year using not only faculty generated student performance measures, but also transfer data, focus groups, and other measures as well. The purpose of this methodology is to use a faculty member's direct assessment and evaluation scheme as the fundamental tool in classroom research. Through the feedback given to the faculty, the teacher will be able to investigate the relationship between teaching and learning in the classroom. This will necessitate repeated measures of student performance in subsequent semesters, although the same student will not necessarily be assessed.

10. What were the analyses and findings from the 1999-2000 mid-level assessment?

All full-time faculty were asked to participate in the assessment of Critical Thinking, the first of TCC's five general education goals, during the Fall 2000 semester. Results were

compiled and aggregated by the Office of Institutional Research and Assessment. These results indicate 2,455 students were assessed for critical thinking and that 77% of those students successfully demonstrated critical thinking based on the context-specific criteria for measuring skills associated with the critical thinking goal. A comprehensive feedback report, including quantitative results and proposed uses of the results, was presented to division chairs, deans, and instructional staff in early Spring 2001. The full report is presented in Appendix ML.

All faculty, including adjunct (part-time) faculty, will participate in the assessment process during the 2001-2002 academic year. Adjunct faculty will assess Critical Thinking, while full-time faculty who have already performed the Critical Thinking assessment will now assess Effective Communication. Faculty mentors have been designated to help their colleagues understand and contribute to the assessment process.

11. What instructional changes occurred or are planned in the general education program due to mid-level assessment?

Because the new methodology related to the general education assessment component has just been implemented for this academic year, demonstrated changes and improvements are not yet available. However, projected changes based on the results of the assessment are provided in the "Use of Results" section of the comprehensive feedback report found in appendix ML.

TCC has made a major commitment to require all faculty, both in university transfer disciplines and also workforce development programs, to measure the success of students in the five major areas of critical thinking, communication, citizenship, global awareness, and computer literacy. The results will allow the college to assess the curriculum for revision according to student success or lack thereof. The overarching goal is to graduate students who are flexible, life-long learners who have the capability to do independent research and evaluate the information they gather so that they can proceed with personal and/or professional plans and goals with competence and confidence.

12. Attach a table listing the assessment measures and number of individuals assessed for the degree program or department.

Assessment Measures & Number of Individuals Assessed for the Degree Program/Department		
Department or Degree Program	Assessment Measures	# of Students Enrolled Fall 2000
005 - ACCOUNTING	Transfer Data	418
010 - AGRICULTURAL SCIENCE	None Submitted	12
015 - ARCHITECTURE	None Submitted	31
020 - ART	Transfer Data	91
025 - ASTRONOMY	None Submitted	3
028 - AVIATION SCI. TECH/OSU	Transfer Data	18
030 - BIOLOGY	Transfer Data	118
035 - BUSINESS ADMINISTRATN	Transfer Data	999
040 - BUSINESS EDUCATION	Transfer Data	12
044 - CHILD DEVELOPMENT	Transfer Data	60
045 - CHEMISTRY	Transfer Data	51

046 - COMPUTR SCI/MIS-OSU/LANG	Alumni Survey, Employer Survey, Instructor / Course Evaluations	603
047 - THEATRE	Transfer Data, Alumni Survey	21
050 - DENTISTRY	Transfer Data	31
051 - ECOLOGY	None Submitted	5
052 - ECONOMICS	Transfer Data	7
053 - EARLY CHILDHOOD DEVELOP	None Submitted	16
054 - EDUCATION	Transfer Data	223
055 - EDUCATION(ELEM)	Transfer Data	364
060 - EDUCATION(SEC)	Transfer Data	111
063 - ELECTRONIC ENG TECH - OSU	Transfer Data	61
065 - ENGINEERING	Transfer Data, Alumni Survey	379
070 - ENGLISH	Transfer Data	86
075 - FOREIGN LANGUAGE	None Submitted	5
080 - FORESTRY	None Submitted	4
081 - FRENCH	None Submitted	11
082 - GEOLOGY	None Listed	8
084 - GERMAN	None Submitted	8
085 - BUSINESS/GENERAL	Transfer Data	33
086 - INTERNATIONAL BUSINESS	Transfer Data	19
087 - GEOGRAPHY	Transfer Data	7
090 - HEALTH/EDUCATION	None Listed	12
091 - HUMAN SERVICES	None Submitted	48
092 - HOME ECONOMICS	None Submitted	1
093 - HORTICULTURE TECH. OSU	Student Satisfaction Survey	12
094 - HOTEL & RESTAURANT ADMIN.	None Submitted	3
095 - HISTORY	Transfer Data	58
096 - INTERNATIONAL STUDIES	None Listed	5
097 - HUMANITIES	Transfer Data	10
098 - ITALIAN	None Submitted	3
099 - JAPANESE	None Submitted	6
100 - JOURNALISM	Transfer Data, Writing Standards Test, Alumni Survey,	105
102 - INDIV. FAMILY & COMM. SER.	None Listed	2
103 - INTERIOR DESIGN OSU	None Submitted	12
105 - LAW	Transfer Data	48
109 - LAW OFFICE	Transfer Data	6
110 - CRIMINAL JUSTICE	Transfer Data, Alumni Survey	165
115 - LIBERAL ARTS	Transfer Data	1638
120 - LIBRARY SCIENCE	None Submitted	2
123 - MANAGEMENT	None Submitted	62
124 - MARKETING OSU	None Submitted	18
125 - MATHEMATICS	Transfer Data	48
130 - MEDICINE	Transfer Data	177
145 - MUSIC	Transfer Data	63
147 - NURSING (PRE-PROFESSIONAL)	None Submitted	4
150 - OCEANOGRAPHY	None Submitted	2
160 - OPTOMETRY	Transfer Data	14
165 - PHARMACY	None Submitted	39
166 - PHILOSOPHY	None Listed	10

170 - PHYSICAL EDUCATION	None Submitted	21
180 - PHYSICAL THERAPY	Transfer Data	52
185 - PHYSICS	Transfer Data	8
186 - PHYSICAL SCIENCE	Transfer Data	16
190 - POLITICAL SCIENCE	Transfer Data	44
195 - PSYCHOLOGY	Transfer Data	374
200 - RADIO & TELEVISION	Transfer Data	16
205 - RECREATION	Transfer Data	1
215 - RELIGIOUS STUDIES	None Listed	9
220 - RUSSIAN	None Submitted	8
221 - SAFETY/ENV. TECHNOLOGY	Transfer Data	8
223 - SOCIOLOGY	Alumni Survey, Transfer Data,	53
225 - SOCIAL SCIENCE	None Submitted	0
230 - SOCIAL WELFARE	None Submitted	15
232 - SPANISH	Transfer Data	36
235 - SPEECH	End-of-Course Student Survey, Transfer Data	11
240 - VETERINARY MEDICINE	Transfer Data	53
502 - APPRENTICESHIP	Transfer Data	1
506 - AUTOMOTIVE TECHNOLOGY	Transfer Data	1
520 - BANKING	None Submitted	5
525 - BUSINESS	End-of-Course Student Survey, Employer Survey, Alumni Survey	244
528 - AVIATION SCIENCES TECH	End-of-Course Student Survey, Employer Survey, Alumni Survey	130
530 - ACCOUNTING ASSISTANT	End-of-Course Student Survey, Employer Survey, Alumni Survey	18
540 - AIR CONDITION & HEAT TECHN	None Submitted	1
542 - CHEMICAL LABORATORY TECH	None Submitted	0
550 - CHILD DEVELOPMENT	End-of-Course Student Survey, Employer Survey, Alumni Survey	219
560 - FINANCIAL MANAGEMENT	None Submitted	4
565 - VOL. SERVICE LEADERSHIP	None Submitted	1
567 - COMP INTGRAT MFCTG ENTRP	None Submitted	5
568 - COMPUTER MAINT TECH	None Submitted	3
570 - COMPUTER OPERATOR	None Submitted	4
575 - COMPUTER OPRTNS MGMT	None Submitted	9
580 - COMPUTER PROGRAMMING	Transfer Data	190
581 - COMPUTER INFORMATION SYS	End-of-Course Student Survey, Employer Survey, Alumni Survey	389
582 - COMP SPEC BUS. MICROS	None Submitted	61
583 - CREDIT MANGEMENT	None Submitted	0
584 - CREDIT UNION	None Submitted	1
586 - CULINARY ARTS	Transfer Data	2
588 - DENTAL ASSISTING	Transfer Data	11
590 - DRAFTING / CAD	End-of-Course Student Survey, Employer Survey, Alumni Survey	46
592 - DENTAL HYGIENE	Certification Exam, Transfer Data	105
593 - DESKTOP PUBLISHING	None Submitted	21
600 - ELECTRICAL ENGINEER TECH	End-of-Course Student Survey,	38

	Employer Survey, Alumni Survey	
630 - EMERGENCY MEDICAL TECH	Transfer Data	10
640 - ROBOTICS & AUTOMAT TECH	None Submitted	4
641 - HEALTH CARE ADMIN	None Submitted	4
643 - HEALTH INFORMATION TECH	End-of-Course Student Survey, Employer Survey, Alumni Survey	14
645 - HUMAN SERVICES	End-of-Course Student Survey, Employer Survey, Alumni Survey	58
648 - INDUSTRIAL SUPERVISION	None Submitted	2
650 - ELECTRONICS TECHNOLOGY	End-of-Course Student Survey, Employer Survey, Alumni Survey	39
651 - CIVIL ENGINEERING TECH	End-of-Course Student Survey, Employer Survey, Alumni Survey	27
653 - INDUSTRIAL MANAGEMENT	None Submitted	2
654 - INTERIOR DESIGN	End-of-Course Student Survey, Employer Survey, Alumni Survey	64
655 - INTERPRETER PREPARATION	End-of-Course Student Survey, Employer Survey, Alumni Survey	85
659 - FINANCE	None Submitted	1
660 - INDUSTRIAL ENGINEER TECH	End-of-Course Student Survey, Employer Survey, Alumni Survey	10
670 - INFO AND RECORDS MANGMNT	None Submitted	1
672 - INTERNATIONAL BUSINESS	End-of-Course Student Survey, Employer Survey, Alumni Survey	26
673 - INTERNATIONAL LANG STUDY	End-of-Course Student Survey, Employer Survey	62
680 - FIRE PROTECTION TECH	Transfer Data	110
685 - OCCUPATION THERAPY ASST	Transfer Data	39
687 - OFFICE ASSISTANT	Transfer Data	3
696 - LODGING/FOOD SERV MGMT	None Submitted	1
698 - MECHANICAL ENGINEER TECH	None Submitted	4
701 - RESPIRATORY THERAPY	End-of-Course Student Survey, Employer Survey, Alumni Survey	39
703 - INSURANCE	End-of-Course Student Survey, Employer Survey, Alumni Survey	12
706 - ACCOUNTING ASSOCIATE	End-of-Course Student Survey, Employer Survey, Alumni Survey	57
708 - LEGAL SECRETARY	Transfer Data	13
710 - LEGAL ASSISTANT	Transfer Data	137
711 - LABOR STUDIES	None Submitted	0
722 - NUMERICAL CONTRL/MACH TECH	End-of-Course Student Survey, Employer Survey, Alumni Survey	36
728 - TECHNICAL COMMUNICATIONS	Transfer Data	1
729 - MANUFACTURING ENG TECH	End-of-Course Student Survey, Employer Survey, Alumni Survey	12
731 - MARKETING	End-of-Course Student Survey, Employer Survey, Alumni Survey	99
739 - BIO MED EQUIP TECH	None Submitted	10
741 - MEDICAL LABORATORY TECH	Transfer Data	37
750 - MEDICAL ASSISTANT	End-of-Course Student Survey, Employer Survey, Alumni Survey	31

760 - MEDICAL OFFICE ADMIN	End-of-Course Student Survey, Employer Survey, Alumni Survey	41
764 - MEDICAL TRANSCRIPTIONIST	Transfer Data	0
774 - MANAGEMENT	End-of-Course Student Survey, Employer Survey, Alumni Survey	154
780 - HORTICULTURE TECHNOLOGY	End-of-Course Student Survey, Employer Survey, Alumni Survey	66
791 - NURSING	Certification Exam, Transfer Data	825
795 - HUMAN RESOURCES	End-of-Course Student Survey, Employer Survey, Alumni Survey	55
800 - PETROLEUM LAND TECH	End-of-Course Student Survey, Employer Survey, Alumni Survey	3
809 - PHARMACY TECHNOLOGY	None Submitted	8
828 - PATIENT CARE TECHNICIAN	None Submitted	33
831 - PHYSICAL THERPY ASSNT	Transfer Data	122
840 - LAW ENFORCEMENT	End-of-Course Student Survey, , Alumni Survey	23
842 - POSTAL SERVICE LEADER	None Submitted	1
843 - PROPERTY MANAGEMENT	None Submitted	0
844 - REAL ESTATE	None Submitted	4
849 - QUALITY CONTROL TECH	End-of-Course Student Survey, Employer Survey, Alumni Survey	48
860 - CONSTRUCTION TECH	None Submitted	2
870 - RADIOGRAPHY	None Submitted	79
910 - ADMINISTRATIVE OFFICE TECH	End-of-Course Student Survey, Employer Survey, Alumni Survey	47
912 - PURCHSING & MATERIALS MGMT	End-of-Course Student Survey, Employer Survey, Alumni Survey	27
913 - SAFETY/ENV. TECH	End-of-Course Student Survey,	11
917 - SMALL BUS. MGMT ENTREPRE	End-of-Course Student Survey, Employer Survey, Alumni Survey	12
919 - SURGICAL TECHNOLOGY	Transfer Data	31
921 - SURVEYING TECHNOLOGY	None Submitted	17
927 - STAGE PRODUCTION TECH	None Submitted	1
930 - TRANS/TRAFFIC MANAGEMENT	None Submitted	2
940 - TELECOMMUNICATIONS TECH	None Submitted	50
945 - TRAVEL & TOURISM	Transfer Data	6
950 - WELDING TECHNOLOGY	None Submitted	1
955 - VETERINARY TECHNOLOGY	None Submitted	39

Beginning in the 2001-2002 academic year, a new discipline and program outcomes assessment process will be implemented. This new process parallels that of mid-level (general education) assessment. Faculty members have defined learning outcome goals and competencies for their specific discipline or program in general and for each course within the discipline or program specifically. Each instructor will then be asked to assess his/her students against the criteria for success as defined by that instructor. With this process, instructors have immediate feedback results from their own students and may use those results to reshape and improve instruction in their classrooms. While each instructor may define their own means of assessment, all instructors submit their results via a common reporting to the Office of Institutional Research and Assessment. These results will be

aggregated and disseminated to the appropriate division offices. These offices, then, will use the data to identify resources and development opportunities for learning improvement at the institutional level. Future information provided in the above chart will reflect the results from this new assessment process.

13. What were the analyses and findings from the 2000-2001 program outcomes assessment?

The purpose of the outcomes assessment at Tulsa Community College (TCC) is to assess what is being taught and learned at TCC. Results were presented to program and service areas to assist program improvement and enhance student learning. The outcome assessment plan focuses on processes as well as products. In order to facilitate this plan, TCC actively involves both instructors and students through the use of multiple and varied assessment methods. Specifically, outcomes assessment at TCC is derived from three referent group questionnaires (e.g., course/instructor evaluation, graduate student survey results, and employer survey results), student transfer data, and program accreditation/certification records.

Analyses

Course/Instructor Evaluations

New course/instructor evaluation surveys were designed and administered during the Spring 2001 semester. A copy of this new survey is provided in Appendix OA. The course/instructor evaluations were collected anonymously from students during class time at the end of each course. On the survey, students evaluated critical issues regarding their own performance in the class (e.g., applied study time, prior preparation, etc.), the instructor (e.g., preparedness, organization, presentation of information, etc.) and the course (e.g., relevancy, etc.). Instructors were provided, at the completion of each course, a summary of the results. Instructors may then use the results to gauge and/or modify their presentation of course material. Course/instructor evaluations continue to be important tools for giving faculty feedback on their teaching effectiveness and the value of their courses as perceived by the students. Faculty utilizes the assessment results in the on-going evaluation of their courses and teaching methods. Course/instructor evaluations are also utilized by the division chairs in the on-going evaluation of instruction in each division. This tool has been particularly useful in assessing and improving instruction performed by TCC's adjunct faculty.

Graduate Student Survey

The survey of Tulsa Community College graduates is administered annually (e.g., approximately six-months after TCC graduation ceremonies) to allow students the opportunity to apply and assess the relevance of their learning experiences with TCC. Information received from the survey of Tulsa Community College graduates is widely distributed and utilized. Results are shared with faculty, division chairs, department heads, advisory committee members, and college administrators. Feedback to departments and instructional discussion allows for the improvement of services and the refinement of courses and program curricula. Data from this instrument have provided information for program adjustment, staff development, and the development of other aids to improve instructional effectiveness.

Employer Survey

The employer survey is administered after data from the survey of graduates have been compiled. TCC graduates responding to the graduate survey provide specific information (e.g., supervisor name, address, etc.) about their employment. Subsequently, these identified supervisors are solicited for perceptions and attitudes about TCC graduates. Results are shared with faculty, division chairs, advisory committee members, and college administrators. Feedback to the faculty and instructional divisions allows for the improvement of services and the refinement of courses and program curricula. Data from this instrument have provided information for program adjustment, staff development, and the development of other aids to improve instructional effectiveness. This information provides important feedback for the college's Workforce Development Program evaluation and advisory meetings. The college utilizes this information to assist in curriculum and course revision in over 50 Workforce Development programs.

Findings

Course/Instructor Evaluation Results:

During the Spring 2001 semester, 17,354 students completed and returned the course/instructor evaluation. This instrument attempts to assess course/instructor effectiveness relative to the student's perspective. Overall, the results from this measure were positive. The majority of responding students (91%) would recommend the course they assessed to other students. Also, a large number of the students agree or strongly agree that faculty are patient with students' learning (91%), are well prepared for the courses taught (93%), and maintain high course standards (94%). Other item level results are provided in Appendix OA .

Graduate Survey Results:

Results from the graduate survey indicate 63% of the respondents are continuing their education. Furthermore, 75% of the respondents indicated that they are employed. Among respondents who were employed, 50% reported that they are either working in their major field or in a discipline that is closely related to their area of study while at Tulsa Community College. Among the respondents who are working, 57% reported that they are working full-time.

In addition to rating the number of former students who are working or who are continuing their education, the survey measures the general satisfaction that former students have with their educational experiences while at Tulsa Community College. An overwhelming majority of the respondents indicated that they would be at least somewhat likely to make the same decision if they had the opportunity to attend TCC again (82%). In fact, 66% indicated that they would very likely make the same choice, and 12% were moderately likely to return to TCC given what they now know.

When asked to compare the quality of education received at TCC with the perception of educational quality at other colleges, 17% indicated that it is about the same. However, 25% indicated that they thought the quality of education at TCC is better than that received at other colleges. In addition, 26% reported that they were more than adequately prepared by

TCC to continue their education and 25% indicated that they were prepared exceptionally well.

Employer Survey Results:

Results from the employer survey indicate that 95% of the participating employers report that they are “*satisfied*” or “*very satisfied*” with the performance of the employed TCC graduates and students. Likewise, 96% of the respondents rated the employed TCC graduates’ or students’ ability to work productively as “*good*” or “*excellent*,” while 91% confirmed that graduates are able to work independently without direct supervision.” Nine out of ten respondents (92%) rated the employees’ ability to perform the technical aspects of the job as “*good*” or “*excellent*.” Communication skills were rated as “*good*” or “*excellent*” by 83% of the employers. The general attitude toward the work performed was rated as “*good*” or “*excellent*” by 96% of the participating employers. Employers reported that TCC graduates are “*good*” or “*excellent*” in their ability to identify, analyze problems (88%) and perform equally well when required to solve problems or suggest possible solutions (88%). Finally, 87% rated their employed TCC graduates’ or students’ ability to accept supervision and criticism as “*good*” or “*excellent*.”

TCC Student Transfer Results:

The Oklahoma State Regents for Higher Education have indicated that they will begin providing state institutions with transfer information via the Student Flow Report. This information is expected to include discipline specific transfer data by institution. This information is also expected to include academic achievement data relative to performance at TCC as well as performance indicators at the receiving institution. Once received, this information will be made available to faculty and instructional staff at TCC. The data will be used as a key component to both workforce development (T/O) and university parallel program evaluations.

14. What instructional changes occurred or are planned in the programs due to program outcomes assessment?

Graduates of Tulsa Community College's Nursing and Allied Health programs continue to perform at a very high level when they complete their licensure and certification exams. The job placement rate is 100% for students seeking work in all programs.

Specific Program Outcomes:

Dental Hygiene: Accredited by Commission on Dental Accreditation. The program received full accreditation November 2000 and the next site visit will be in 2007.

Health Care Administration: Students continue to enroll in Health Care Administration classes to enrich their knowledge about medical facilities. The number of majors has increased to 7 and 20 students are currently enrolled in Health Care Administration classes for Fall 2001. For the 2000-2001 academic year, one student graduated from the Certification Program and 3 students graduated with Associate Degrees in Health Care Administration. Tulsa Technology students continue to co-enroll for college credit while completing their coursework in Surgical Technology. Students appear to have greater

interest in the accelerated version of the program, since the classes are held at a local health systems facility.

Health Information Technology: Accredited by the Commission on Accreditation of Allied Health Educational Program (CAAHEP) in conjunction with the American Health Information Management Association's (AHIMA) Council on Accreditation (COA). The program received full accreditation April 1996, and the next accreditation survey occurred in the Fall 2000 semester with results pending.

Medical Assistant: Accredited by the Council on Accreditation of Allied Health Education Programs (CAAHEP) in cooperation with the Curriculum Review Board (CRB) of the American Association of Medical Assistants (AAMA). A scheduled sit visit for re-accreditation was completed in November of 2000. In February of 2001, the CAAHEP and AAMA-CRB boards approved and continued full accreditation for seven years. Graduates from CAAHEP accredited programs are eligible to sit for the AAMA Certification Examination for the credential of Certified Medical Assistant (CMA).

Medical Laboratory Technology: Accredited by National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). The Medical Laboratory Technology Program was re-accredited for seven years in September 1994. A site visit is expected in Fall 2001.

Phlebotomy Certificate: Phlebotomy Certificate Program approval is given by National Accrediting Agency for Clinical Laboratory Sciences. The program was approved for four years in April of 2001.

Nursing: 2000-2001 Board exams (N-CLEX SCORES) indicate an 80.2% pass rate for TCC nursing graduates taking the exam for the first time. The program is accredited by the National League for Nursing Accrediting Commission. The last site visit for accreditation was Fall 1999, with full continuing accreditation granted until Fall 2007.

Patient Care Technician: Oklahoma Board of Nursing certifies this level health care worker as an Advanced Unlicensed Assistant. The PCT works under the supervision of the licensed nurse.

Occupational Therapy Assistant: Accredited by the Accreditation Council for Occupational Therapy Education (ACOTE). The re-accreditation site visit was completed March 10-12, 1997. The final report was received and re-accreditation status was granted until 2003/4.

Physical Therapist Assistant: Accredited by American Physical Therapy Association (APTA). Site visit for accreditation was October 1997 and received full accreditation for eight (8) years.

Radiography: Accredited by Joint Review Committee on Education on Radiologic Technology (JRCERT). Received full accreditation for five (5) years through October 2001. The JRC has delayed the next site visit until late January, early February 2002. Pass rate for year 2000 graduates was 86%.

Respiratory Therapist: Accredited by Commission on Accreditation of Allied Health Education Programs (CAAHEP) upon the recommendation of the Committee on Accreditation for Respiratory Care Education (CAARC).

Recommendations Based on Program Outcomes Assessment

Graduate Survey

This survey and other assessment tools have provided the college with important data that are utilized to enhance instruction and lab/LRC support roles. Those individuals who utilize this information do so in relation to other informal information sources to discuss the need for change. Given the consistently positive responses, few programmatic changes were made beyond adjustments for technology, new material, etc.

Employer Survey

The information obtained from this survey provides important feedback for TCC's Workforce Development program evaluation and advisory meetings. Specifically, TCC utilizes this information to assist in curriculum and course revision in over 50 Workforce Development programs. It is recommended that faculty begin to consider the utility of collecting this information from their professional and community contacts.

Transfer Student Data

Available student transfer data indicate that Tulsa Community College is sufficiently preparing students for upper division course work. Because data were limited, results could not be generalized to all instructional units at TCC. Therefore, there were no instructional changes based on transfer data. The expectation is that information provided by the state regents will greatly enhance this important component of TCC's assessment plan. In the meantime, the Office of Institutional Research and Assessment at TCC has established a data sharing network with several colleges and universities that have been identified as transfer sites for TCC students. This data sharing project allows TCC to identify students who have transferred from TCC and performance levels within program areas at the new host colleges and universities.

Program Outcomes

Test results from the licensure and certification exams taken by the Nursing and Allied Health Program Graduates are widely distributed and utilized. Results are shared with faculty, division chairs, advisory committee members, and college administrators. Feedback to the faculty and instructional divisions allows for the improvement of courses and program curricula. Test results from these exams are excellent indicators on the quality and effectiveness of the college's health related programs. These outcome indicators provide information that could lead to equipment purchases, program adjustment, staff development and the development of other aids to improve institutional effectiveness.

15. What assessment activities were used to measure student satisfaction? Describe the measures used, which students were assessed, how many students, and how they were selected.

The assessment of student satisfaction at Tulsa Community College is intended to generate student feedback and appraisal regarding the extent to which TCC is meeting students' educational needs. Furthermore, this information is directly utilized by many referent groups within TCC to improve instruction, create new programs or services, identify dysfunctional elements, and improve or adjust existing program delivery systems. The Office of Institutional Research and Assessment has implemented a wide and varied strategy for assessing student satisfaction. Overall satisfaction domains are investigated through various climate surveys, such as course/instructor evaluations and graduate surveys.

New course/instructor evaluation surveys were designed and administered during the Spring 2001 semester. A copy of this survey is provided in Appendix OA. The course/instructor evaluations were collected anonymously from students during the class time at the end of each course. On the survey, students evaluated critical issues regarding their own performance in the class (e.g., applied study time, prior preparation, etc.), the instructor (e.g., preparedness, organization, presentation of information, etc.) and the course (e.g., relevancy, etc.). A total of 17,354 students completed and returned the course/instructor evaluation.

The TCC graduate survey was administered approximately six-months following graduation ceremonies to allow students the opportunity to apply and assess the relevance of their learning experiences with TCC. The survey included four dimensions designed to assess the perceptions of former students regarding their educational experiences while attending Tulsa Community College. The four dimensions were general instruction, faculty, classes, and support facilities. Surveys were mailed to all 1,628 graduates for the 1999-2000 academic year with 13 surveys returned undeliverable and 290 (18%) returned completed.

Tulsa Community College also administers the ACT Student Opinion Survey (2-year form) approximately every third year. For the 2000-2001 academic year, the ACT Student Opinion Survey was administered to students enrolled in selected university parallel and workforce development courses at each campus. A total of 569 responses were selected using a quota sampling technique to obtain a representative sample of the entire student population within a $\pm 5\%$ margin of error. From this survey, the college is able to obtain student demographics as well as the extent to which students are satisfied with the institution, its services, and its environment. Specifically, results from the survey indicate the level of general student satisfaction with institutional components related to academic services (e.g., faculty, class size, course schedule, etc.) and non-academic services (e.g., college publications/media, grounds and facilities, cost, etc.). Faculty, staff and administration may use these results to enhance strengths and focus efforts for improvement.

16. What were the analyses and findings from the 2000-2001 student satisfaction assessment?

The overall results from the course/instructor evaluation were positive. The majority of responding students (91%) would recommend the course they assessed to other students. Also, nearly all (98%) of the respondents indicated that their expectations for the course they assessed were met. Other item level results are provided in Appendix OA.

Results from the graduate survey also indicate strong student satisfaction. Of those who responded, 83% indicated positive satisfaction with general instruction, while 78% were satisfied with the TCC faculty. Likewise, most of the respondents (82%) were satisfied with their classroom experience and three-fourths (75%) indicated a positive response to questions regarding TCC's support facilities.

Responses from the ACT Student Opinion Survey are consistent with previous years' assessments with little variance. Overall, results were positive for TCC, with 73% of the respondents stating that they would likely choose to attend TCC a second time. Further, 86% of those responding have an "above average" impression of the college. The top five reasons students chose to attend TCC are as follows:

1. desired courses were offered (88%)
2. the ability to work while attending (86%)
3. convenient location (82%)
4. the low cost of attendance (79%)
5. the good chance of personal success (70%)

Likewise, the top ten attributes of the college as indicated by the respondents are as follows:

1. the overall college in general (89%)
2. class sizes were relative to the type of courses taken (89%)
3. the general condition of building grounds (87%)
4. the attitude of the teaching staff toward students (86%)
5. the variety of courses offered at this 2-year college (85%)
6. the academic calendar for TCC (83%)
7. classroom facilities (83%)
8. the college catalog / admissions publications (82%)
9. testing / grading system (80%)
10. general registration procedures (80%).

Results from the various climate surveys were provided to all faculty and staff of TCC via electronic mail. These data are used to facilitate decision-making on program improvements, implementation of services and evaluation of services currently available.

17. What changes occurred or are planned due to student satisfaction assessment?

TCC has recently opened "Wellness Centers" on the Metro and Northeast Campuses, and plans are in progress to construct similar facilities at the Southeast and West Campuses. Various student/faculty/staff utilization surveys will be conducted to assess satisfaction outside the classroom. The Office of Institutional Research and Assessment is working with specific service areas to design these survey questionnaires.

The internal audit committee, comprised of faculty and staff, recommend continuing efforts toward communicating survey results to the faculty and staff. Specifically, the audit committee recognizes the impact of student satisfaction on student retention, thus involving more faculty and staff is expected to enhance in TCC's enrollment management efforts.

Appendix For Entry Level Assessment (EL)

CPT Results
(July 1, 2000 - June 30, 2001)

Frequency Distribution of Results:

Reading

Score Range	Course Placement	Number of Tests (%)
80 to 120	College Level Reading	<u>2,171 (46.4%)</u>
66 to 79	ENG 0913 (Reading II)	<u>1199 (25.6%)</u>
0 to 65	ENG 0903 (Reading I)	<u>1,307 (27.9%)</u>
Total		<u>4,677</u>

Sentence Skills

Score Range	Course Placement	Number of Tests (%)
80 to 120	ENG 1113 (Fresh. Comp I)	<u>2,738 (58.5%)</u>
66 to 79	ENG 0933 (Writing II)	<u>653 (14.0%)</u>
0 to 65	ENG 0923 (Writing I)	<u>1,284 (27.5%)</u>
Total		<u>4,675</u>

Mathematics

Score Range	Course Placement	Number of Tests (%)
AS 0 to 112	MTH 0003 (Basic Mathematics)	<u>4,450 (88.9%)</u>
AS 113 to 120	MTH 0013 (Begin. Algebra)	<u>19 (0.4%)</u>
EA 77 to 120 CLM 0 to 40	MTH 0123 (Intermed. Algebra)	<u>374 (7.5%)</u>
EA 77 to 120 CLM 41 to 120	MTH 1513 (College Alg)	<u>163 (3.3%)</u>
Total		<u>5,006</u>

* Percentages may not sum to 100% due to rounding.

Frequency Distribution of ACT Results: 2000 – 2001

Reading

Score Range	Course Placement	Number of Tests (%)
19+	College Level Reading	<u>1935 (65.4%)</u>
13-18	ENG 0913 (Reading II)	<u>881 (29.8%)</u>
0-12	ENG 0903 (Reading I)	<u>141 (4.8%)</u>
	Total	<u>2,957</u>

English

Score Range	Course Placement	Number of Tests (%)
19+	ENG 1113 (Fresh. Comp I)	<u>1902 (64.3%)</u>
13-18	ENG 0933 (Writing II)	<u>882 (29.8%)</u>
0-12	ENG 0923 (Writing I)	<u>173 (5.9%)</u>
	Total	<u>2,957</u>

Mathematics

Score Range	Course Placement	Number of Tests (%)
19+	MTH 1513 (College Algebra)	<u>1433 (48.5%)</u>
16-18	MTH 0123 (Intermed. Algebra)	<u>990 (33.5%)</u>
9-15	MTH 0013 (Begin. Algebra)	<u>534 (18.1%)</u>
0-8	MTH 0003 (Basic Mathematics)	<u>0 (0%)</u>
	Total	<u>2,957</u>

Science

Score Range	Course Placement	Number of Tests (%)
19+	College Level	<u>1945 (65.8%)</u>
0-18	Basic Biology <i>or</i> Basic Physical Science	<u>1012 (34.2%)</u>
	Total	<u>2,957</u>

* Percentages may not sum to 100% due to rounding.

Reading Proficiency
Assessment and Development
Initiative

Specifications for a Study
Office of Institutional Research
Summer (2001)

Examine the cohort of first-time entering students who enrolled for any semester during the 1995-1996 academic year. Analyze the impact of developmental reading instruction on academic attainment and performance. For the purpose of this study, a first-time entering student is one who has 0 – 7 college-level credit hours earned at the time of enrollment.

For the cohort so defined, analyze academic attainment (measured by college-level credit hours earned) and performance (measured by TCC GPA) at the end of the 1997-1998 academic year for the following groups of students:

1. Students who test below college-level in reading on ACT or CPT upon entry to TCC and remediate while taking only developmental courses.
2. Students who test below college-level in reading on ACT or CPT upon entry to TCC and remediate while taking developmental reading courses and college-level courses concurrently.
3. Students who test below college-level in reading on ACT or CPT upon entry to TCC and do not remediate with a developmental reading course.
4. Students who test at or above college-level in reading on ACT or CPT upon entry to TCC.

Students who do not enroll will not be included. Students who enroll but earn no college-level credit hours will be included.

For each of the groups defined above, attainment (total number of college-level credit hours earned) will be expressed as an average. Performance will be expressed as the quotient of the total quality points earned, divided by the total hours earned for each group as a whole.

Appendix For Mid-Level Assessment (ML)

General Education Assessment Record For Goal #1: Critical Thinking

<hr/> Course Number, Section, and Course Title	<hr/> <i>Assessment Period (Semester / Year)</i>
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<hr/> Name of the person submitting this report	<hr/> Date Submitted
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General Education Goal # 1: Critical Thinking

Students who have developed critical thinking skills will be able to demonstrate *at least one* of the following:

- **comprehend complex ideas, data, and concepts;**
- **make inferences** based on careful observation;
- **make judgements** based on specific and appropriate criteria;
- **problem solve** using specific processes and techniques;
- **recognize relationships** between the arts, culture, and society;
- **develop new ideas** by synthesizing related and/or fragmented information
- **apply knowledge and understanding** to different contexts, situations, and/or specific endeavors; and,
- **recognize the need to acquire new information.**

Means of Assessment & Criteria for Success:

1. How do you assess critical thinking, as defined above, in your class?

Describe one specific activity that you use to determine if your students have these skills, and indicate which of the above objectives can be demonstrated by this activity. The activity can be a specific question on an exam, a report, or any assignment that you believe is appropriate for measuring a student's critical thinking skills.

2. How do you know if a student has successfully demonstrated critical thinking skills? What are the specific criteria associated with the activity that you chose that enable you to differentiate between students who have these critical thinking skills and those who do not?

Note: A grade is the *result* of some assessment. The grade is not the assessment; therefore, if a grade or score is the outcome, what criteria were used to assign the particular grade/score?

3. (a.) How many students did you assess? _____

(b.) How many of the students assessed successfully demonstrated critical thinking based upon your criteria? _____

4. Provide / attach an example of your assessment activity (e.g., exam question, class assignment, etc.).

Use of Assessment Results:

How will you use your assessment results to enhance student potential to develop critical thinking skills? Provide evidence of how you are linking results back to teaching and learning (items 1, 2, and 4 above).

Based upon the results of your assessment, what additional resources or professional development activities would enhance teaching and learning in your area? These resources and activities should be included in project management for your discipline or program.

Tulsa Community College

General Education Goals For All Disciplines and Programs

Preamble

General Education is at the core of the academic curriculum for all degree-seeking students. The General Education goals of the College are met by combining the General Education course requirements with the coursework for each major or program as listed in the curriculum patterns found in the College catalog. Together, courses taken for the General Education requirements and those taken for specific degrees will ensure that graduates of Tulsa Community College have the skills, knowledge, and attitudes to carry them successfully through their work and their personal lives. Tulsa Community College graduates will be able to demonstrate:

Goal #1: Critical Thinking

Critical thinking skills include the ability to comprehend complex ideas, data, and concepts; to make inferences based on careful observation; to make judgements based on specific and appropriate criteria; to solve problems using specific processes and techniques; to recognize relationships among the arts, culture, and society; to develop new ideas by synthesizing related and/or fragmented information; to apply knowledge and understanding to different contexts, situations, and/or specific endeavors; and to recognize the need to acquire new information.

Goal #2: Effective Communications

Effective communication is the ability to develop organized, coherent, unified written and oral presentations for various audiences and situations.

Goal #3: Civic Responsibility

Preparation for civic responsibility in the democratic society of the United States includes acquiring knowledge of the social, political, economic, and historical structures of the nation in order to function effectively as citizens in a country that is increasingly diverse and multicultural in its population and more global in its view and functions.

Goal #4: Global Awareness

Global awareness includes knowledge of the geography, history, cultures, values, ecologies, languages, and present day issues of different peoples and countries, as well as an understanding of the global economic, political and technological forces which define the interconnectedness and shape the lives of the world's citizens.

Goal #5: Computer Proficiency

Computer proficiency includes a basic knowledge of operating systems, word processing, and Internet research capabilities.

General Education Assessment

Goal #1: Critical Thinking

**Feedback Report
2000-2001**

*Prepared
by*

Tulsa Community College
Office of Institutional Research and Assessment

Assessment of the general education goal for critical thinking began with a small pilot group of faculty during the Spring 2000 semester. Critical thinking skills were assessed for 227 students across five program/discipline areas. Results of that group indicate that 84% of the students assessed at TCC successfully demonstrated critical thinking based upon the context-specific criteria for measuring skills associated with the critical thinking goal. The individual faculty members who participated in the pilot study were trained as mentors for other faculty within their respective disciplines. Workshops and training sessions were offered to demonstrate the reporting form and possible assessment techniques and responses.

All full-time faculty within the representative disciplines were asked to assess critical thinking during the Fall 2000 semester. A total of 105 (41%) full-time faculty assessed 2,455 students, representing 15% of TCC's unduplicated student population. Results from that assessment indicate that 77% of the students assessed successfully demonstrated critical thinking as defined in the college's general education goals.

All adjunct and any full-time faculty who have not assessed critical thinking will administer the critical thinking assessment during the 2001-2002 academic year. Full-time faculty who have already completed critical thinking assessment will begin to assess the second general education goal, effective communication. The long-range plan is to have all five general education goals assessed by the 2004-2005 academic year. By that time, the institution should have a clear overall picture of the extent to which students are demonstrating the attainment of general education knowledge and/or skills.

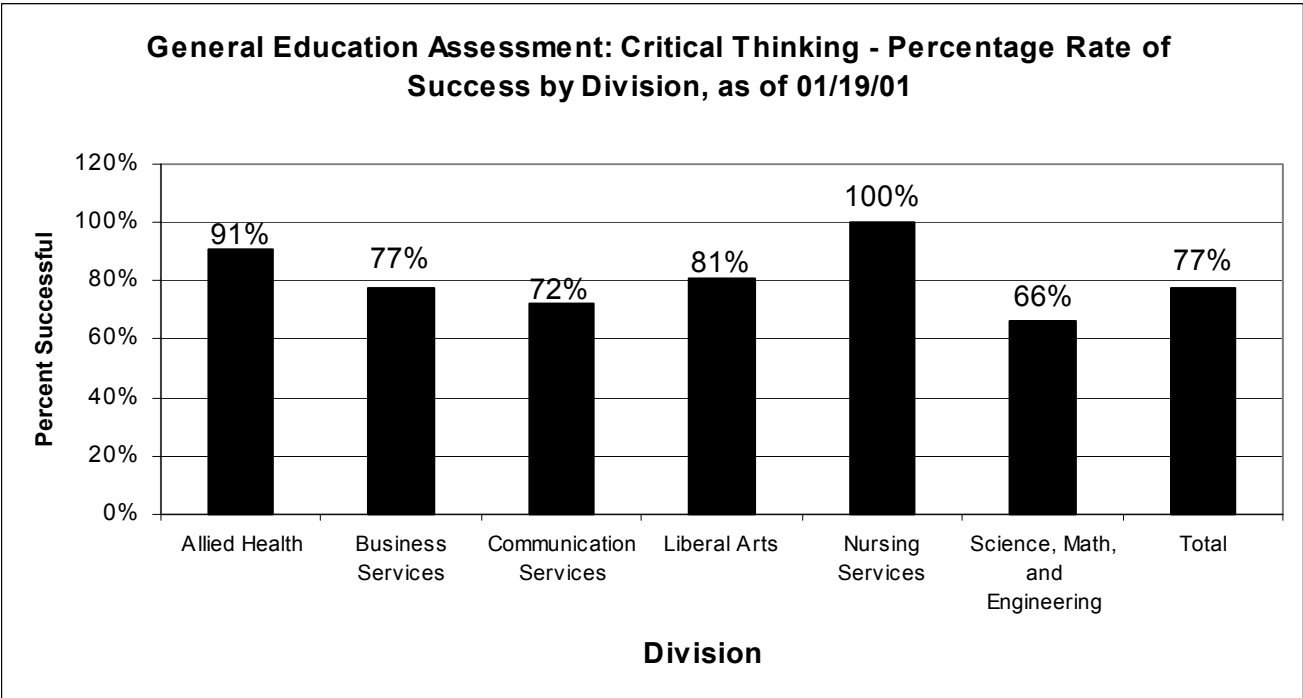
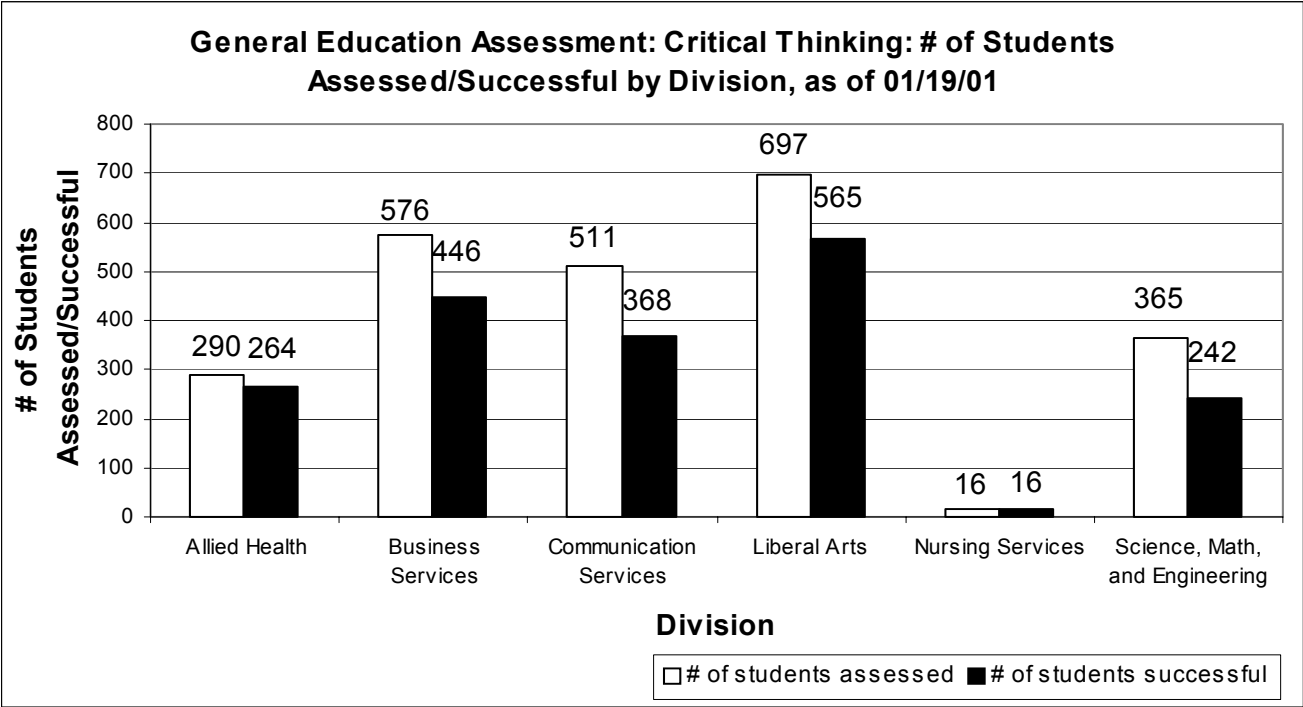
General Education Goals Evaluation Worksheet

Goal #1: Critical Thinking –Faculty Participation & Students Assessed by Division

Time Period: **Fall 2000 (011)**

Division	Full-Time Faculty Participation*	Percent of Faculty Participation*	Number of Students Assessed	Number of Students Successful	Percent Successful
Allied Health	18	67%	290	264	91%
Business Services	23	43%	576	446	77%
Communication Services	17	59%	511	368	72%
Liberal Arts	25	38%	697	565	81%
Nursing Services	1	4%	16	16	100%
Science, Mathematics, & Engineering	21	40%	365	242	66%
TCC TOTAL:	105	41%	2455	1901	77%

*Based on faculty list for Fall 2000 as provided by the TCC HR Dept. to the Office of Institutional Research and Assessment



General Education Goals Evaluation Worksheet
Goal #1: Critical Thinking –Students Assessed/ Successful by Discipline

Time Period: Fall 2000 (011)

Discipline (# of submissions)	Division	Number of students Assessed	Percent Successful
1. Accounting (4)	Bus.	125	82%
2. Astronomy (1)	Sci. Mth. Eng.	22	82%
3. Biology (3)	Sci. Mth. Eng.	78	74%
4. Business (3)	Bus.	78	79%
5. Chemistry (4)	Sci. Mth. Eng.	47	57%
6. Computer Information Systems (12)	Bus.	254	80%
7. Dental Hygiene (3)	AH	42	100%
8. Economics (4)	Bus.	99	59%
9. Engineering (1)	Sci. Mth. Eng.	15	87%
10. English (18)	CS/ LA	452	73%
11. Geography (2)	Sci. Mth. Eng.	30	40%
12. Geology (1)	Sci. Mth. Eng.	19	89%
13. Health Information Technology (1)	AH	9	100%
14. History (7)	LA	135	79%
15. Humanities (8)	LA	243	81%
16. Journalism (1)	CS	14	71%
17. Marketing (1)	Bus.	20	100%
18. Mathematics (8)	Sci. Mth. Eng.	136	58%
19. Medical Laboratory Technology (3)	AH	22	82%
20. Music (1)	LA	20	50%
21. Occupational Therapy (2)	AH	19	84%
22. Patient Care Technician (1)	NS	16	100%
23. Pharmacy Technology (1)	AH	6	100%
24. Philosophy (3)	LA	34	82%
25. Physical Therapy (4)	AH	101	88%
26. Physics (1)	Sci. Mth. Eng.	18	100%
27. Radiography (2)	AH	42	98%
28. Respiratory Therapy (3)	AH	49	88%
29. Speech (5)	CS/ LA	310	80%
TULSA COMMUNITY COLLEGE TOTAL:		2455	77%

Use of Assessment: Critical Thinking (Fall 2000)

Allied Health Services

Dental Health

Changes in the Classroom

"Students will be required to correctly identify individual teeth as part of the final exam. They must make a 70% or above to pass the exam."

"I continue to develop case based exam questions and learning activities."

"Students utilize this self-assessment process to enhance their performance in actual graded assignments. There assessments are linked back to teaching and learning when the students must complete a Bitewing Process Competency (attached).

Additional Resources/Development

"I need to take advantage of the 8th floor resources."

"Multimedia and technology usage in the classroom professional development classes and support will benefit my area."

"not sure"

Health Information Technology

Changes in the Classroom

"After asking questions where the student would pick from a list of answers or prioritizing a list of answers as they have in the example, I would move toward asking questions where the student would have to come up with alternatives on his/her own, without prompting from me. If the results of this question showed that a majority of the students did not understand the concepts, I would review this material and have more class discussion regarding how decisions are made and things that should be considered when making the decisions. if only a few of the students did not understand the concept, I would assign a project to those students with additional reading assignments that would cover this material and help them grasp the concept (if not intuitively, then by systematically working through the process)."

Additional Resources/Development

"My answer is not based on my results, but I think that critical thinking skills take more time to cover and since there is so much information we are responsible for presenting to our students, it becomes a challenge. Perhaps a required college course on critical thinking would be helpful to incoming students. In this day and age of information overload, we must teach critical thinking skills in order for these students to be able to function in their professions once they graduate from the program. i feel that I could use some guidance on how to develop appropriate critical thinking skills questions. The ones I use are from good textbooks, but not all textbooks have these types of questions."

Medical Laboratory Technology

Changes in the Classroom

"I will continue to provide assignments that require critical thinking skills. Students receive individual written Responses to homework assignments and I will explain the appropriate through process when

"Students are tested over the material each student presented. (Final Exam)."

"The results of this assessment will be used as a basis for further class discussions along with additional exercises to continue developing critical thinking skills for these students which is an essential part of their education in an Allied Health course. Overall, I was satisfied with the results of this assessment, particularly since this is an entry level course, and I will continue to implement similar exercises in the future."

Additional Resources/Development

"Student access to MLT computers and software would enhance development of critical thinking skills."

"Nothing."

"Additional case studies and scenarios that simulate actual circumstances a phlebotomist or healthcare worker might encounter would be very helpful, perhaps in a video format, to future encourage group discussion."

Occupational Therapy Assistant

Changes in the Classroom

"Based on the above results, I know that the majority of the students in this second year class are developing the ability to problem solve in a professional manner. The rubric will help the students who did not master this skills identify where they need to work. The oral presentations allowed the stronger students to model how they approached this particular problem."

"Students receive feedback with each assignment. We have tweaked our curriculum this year based on our professional organization's (AOTA) new standards. Skills from one semester are built on the next

Additional Resources/Development

"I could use professional development on developing rubrics that assess what you want them to assess."

"Continuing to logically build in preclinical experiences seem to help most students a great deal. I will continue to weave these into most courses."

Pharmacy Technician

Changes in the Classroom

"For each student that does not pass an assigned task list, they are remediated until they can pass the module. Instructors explain and demonstrate the steps again and assist the student in problem-solving to provide them the necessary skills to be successful."

Additional Resources/Development

"Pharmacy Technician software which contain tutorials with demonstrations of procedures followed by grading questions which will assist the student in learning difficulty pharmaceutical procedures and concepts, as well as provide a review for the student's national

Physical Therapy Assistant

Changes in the Classroom

"The most powerful effect of my assessment occurs with the verbal feedback provided at the time of the performance. In some individual situations students may be stopped, corrected and instructed on how to proceed if minor adjustments or considerations need to be re-assessed by the student. The lecture exam for this course occurs in close proximity to the skill checkout covering the same material. It is expected that the feedback provided in one assessment situation will enhance performance on the other. In the opinion of this instructor this has proved to be the case in that students application of critical thinking has proved to be of a greater depth and understanding when attempting to deal with the groups of variables, priorities, judgements, and tactics. If the performance is critically flawed, the student is required to repeat the performance at another time. Only the initial grade is recorded, but the student must ultimately perform to the 70% minimum standard. Each segment of this course is constructed via the course objective available to the students in the course syllabus. The objectives relating to this skill are - [Upon completion of this course, with 70% accuracy as measured by the instructor prepared tests and skill demonstration, the student will be able to: Identify components of the normal gait cycle to include functional tasks, specific muscles involved to include actions, sequencing, and innervations; Identify the abnormal gait cycle; assign appropriate therapeutic techniques and assistive devices; and instruct in proper gait patterns during gait training; Explain and demonstrate a variety of transfer techniques and bed mobility skills; and Explain and demonstrate a variety of pre-gait and gait training techniques as they relate to specific diagnoses within appropriate rehab progression."

"Use results to plan lab activities and feed-forward classroom presentations."

Additional Resources/Development

"My students would greatly benefit in their performance and comprehension of the elements of this skill by being able to incorporate multimedia into the classroom for immediate student interaction. Prior to this semester I have used a very outdated piece of software that originates on a 5" floppy disk. I did not choose to use this software during this semester, but instead linked several dynamic websites through the Blackboard version of this course. Feel free to enter this link/course as a Guest. However, using the web site only gives the student the ability to view the website on their own, without the benefit of instructor intervention / interaction / discussion. Therefore, the benefit of the website is extremely limited. If there were live Internet access in the classroom I would be able to give immediate instruction with a variety of excellent resources 'on-the-spot.' More specifically, several student PC's, and Instructor PC and Internet access would be required for this learning opportunity to take place."

"May have to allocate more time for this activity. Students seemed hushed. However, this type of application exercise was very successful in helping students to learn about application level of taxonomy."

"The results were good but students continue to resist critical thinking avenues and would rather develop more clinical decision making based on treatment protocols. Unfortunately, newer machines have built in computers that do the thinking for the students and it is becoming more difficult to use this exercise as a critical thinking task."

"I will try to incorporate more questions that lead the student to formulate an opinion or theory rather than processed answers. Through these questions I have given written assignments on topics of choice (student's, not mine)."

"I would love to have more faculty development in critical thinking for the allied health instructor."

"I believe internet connection in the classroom would be helpful so students and instructor may begin discussions on various topics without textbook."

Radiography

Changes in the Classroom

"Assessment results are used to identify student strengths and weaknesses. Additional instruction is offered to students who require it."

"Areas of incomplete understanding will be reviewed and re-emphasized in the classroom. Misunderstanding will be clarified and followed up with another

Additional Resources/Development

no response

"None at this time."

Respiratory Therapy

Changes in the Classroom

"Continue to provide opportunities in both the lab and the classroom for understanding of the competency."

"Development of classroom and lab exercises which stimulate critical thinking skills. For example, lab exercises using a ventilator and a lung simulator and various clinical scenarios."

"Based on the results, class discussion will continue emphasizing application of concepts beyond the mathematical computation to situational examples. Integration of varying principles will increase as the semester continues in order to relate these concepts to the complex processes involved in both cardiopulmonary physiology and Respiratory Therapy equipment function. As the students progress through the program, they will receive ongoing practice and testing in application of principles to clinical exercises. This occurs in the didactic and laboratory environments as well as in the patient care setting."

Additional Resources/Development

"Continue practice in the hospitals while attending clinical notations."

"Additional time to cover the material and practice the skills. Use of lab animals."

no response

Business Services

Accounting

Changes in the Classroom

"Accounting as a discipline is ALL about critical thinking. At least 1/2 of the course is about teaching critical thinking skills - the whys rather than the hows. This assessment is one of many throughout the semester."

"Nothing, assessments indicate that no improvements are necessary."

"Because of the high degree of Achievement evidenced, there are no major changes planned, except to assign more practice problems, and to perhaps add more complexity to the assessment instrument and exam problem."

Additional Resources/Development

"None at this time"

"A professionally staffed Accounting Lab."

No response

"Enhancement of student development of critical thinking could come about in some of the following ways: Increase in-class critical thinking problem solving of classified Balance Sheets, Increase guidance of students as they work on assignments, Increase the use of questioning methods that encourage critical thinking, Increase interaction with students outside of class, Currently, there is multiple classroom presentations of rules and concepts, then discussions and applications of rules and concepts and then

"I can have students use the essay format on exams to list decision factors. I can also have them do research and report the results and factors for a poor or successful decision at a real corporation. I will soon have a computer and screen in my classroom. I can make use of the internet in my class to 'broadcast' the information from the business community regarding pitfalls and successes in business decision making. I currently broadcast such information by mouth. These illustrations are really helpful for putting students in the position of business managers, mentally."

"Professional development could be enhanced by: Attendance of Accounting related seminars and workshops, Reduction of so much critical thinking in the course across the profession."

"Films on management decision-making with real business leaders interviewed on tape. Historical information from real businesses showing decision errors and tips on the utilization of experience, interpersonal, and information data to prevent such errors. Also, records of successes and what was done right."

Business

Changes in the Classroom

"Explain to students that it is important to learn the applicable law and state it clearly in heir responses. (They are instructed to check their statements for coherence.) The law must then be applied in a logical manner so as to reach a resolvable conclusion."

"Based on the results, I will determine if more time is needed in class to discuss the importance of ethical and legal reasoning and philosophical systems."

"Emphasize importance of terminology in the business field, and comparison for commonalities and differences among business terms and phrases."

Additional Resources/Development

"Workshops or professional development in current business trends in this area would be helpful."

"Perhaps the assignment of more written reports."

Computer Information Systems

Changes in the Classroom

"Continue to stress correct syntax in formulas and cell/sheet references"

"Assignments, Case Studies, and Exams are continually reviewed to determine their effectiveness in meeting the goals and objectives of the course."

"Develop similar questions to determine students' ability to integrate and apply course content. Test questions are evaluated at the end of each term."

"The problem is examined step-by-step as follow-up to the exam. Additional similar problems may be examined or used in programming assignments."

"The results of tests, projects and laboratory assignments are analyzed to determine if they are effective in covering the course objectives."

No response

"Exams and programming assignments are reviewed each semester to determine how well they evaluate the goals and objectives of the course."

"Based on the results, I will determine if more time is needed in class to teach the basic skills of the software package and how to incorporate the different components of the software into one integrated report."

Additional Resources/Development

"Currently adequate."

"None"

"None"

"None. Critical Thinking is a fundamental component of my subject area."

No response

No response

"None"

"Ideas on how to teach critical thinking in a basic, hands-on type skill class."

"Each semester, projects are evaluated for: Effectiveness in testing the material covered, Ability to encourage application of existing knowledge, Ability to promote creativity and self-discovery thereby linking outcomes to objectives."

"No additional resources are required."

"The graded problem is returned timely and completely covered in class. Students thereby receive immediate feedback regarding their critical thinking skills. By focusing on and developing any areas the student tested weak in allows him/her to concentrate on the specific skills that will benefit him/her the most. This method effectively links outcomes to objectives."

"No additional resources are required."

"The assessment can be used to stimulate thinking and to help students come to their own conclusions. Students need to be able to understand and apply their knowledge so they can develop new ideas. Based upon the results more essay questions and discussions are needed. Students need to be able to interact with each other inside and outside of the classroom: hopefully, his discussion will help the students develop communicating and networking skills. Attendance with class participation has been part of the students' current grade in my class room and this will continue."

No response

"Each semester, projects are evaluated for: Effectiveness in testing the material covered, Ability to encourage application of existing knowledge, Ability to promote creativity and self-discovery thereby linking outcomes to objectives."

"No additional resources are required."

Economics

Changes in the Classroom

"I will discuss the students questions in class and possibly use them on future exams."

Additional Resources/Development

"Offer a workshop to our students which will enhance their critical thinking."

"For students to understand the relationship of marginal and average costs, more application assignments are necessary. It is important to note that these results reflect the students' first attempt at critically analyzing this concept."

No response

"I will increase in-class critical thinking discussions and activities and increase the use of questioning methods which encourage critical thinking."

"A program to encourage faculty to share their exercises/activities which develop critical thinking would enhance teaching and learning in my area."

"Assessments indicate that no improvements are necessary."

"Assessments indicate that no improvements are necessary."

Interior Design

Changes in the Classroom

"Learn from errors made by students (most common) then adjust lectures to problems."

Additional Resources/Development

"creative problem solving exercises."

Marketing

Changes in the Classroom

"Enhancement of student development of critical thinking could come about in a variety of ways: Increase discussion of marketing research tools; Specifically define the grading criteria; and Increase critical thinking activities in and outside of the classroom. Currently, there is multiple classroom discussion of presentation styles, techniques, and development. Student engage in role-playing to help prepare for successful presentations."

Additional Resources/Development

"Professional development could be enhanced by: Attendance of Marketing related seminars and Faculty sharing of information or critical thinking exercises."

Communication Services

English

Changes in the Classroom

"The assignments in my courses build on one another, becoming more critically and stylistically complex with each assignment. Thus, based on the assessment results for the first essay, I will design the next assignment to reflect their level of critical thinking skills as well as to challenge them to make more complex associations in order to improve that level. In addition, I often use the assessment results to help me improve upon the content of the course for the next semester; I can refine the material and precisely design the assignment based upon what successfully engaged and challenged the students. In some instances, I might limit the scope of an assignment (in the amount of relevant material assigned or in the level of complexity of concepts) if many students were unsuccessful in completing it; in other instances, I might increase the level of complexity."

"These results assure me that all assignments leading up to this assignment have prepared them for the complex thinking required in this assignment."

"I feel the results of the assignment indicate that it is a sound tool for evaluating the critical thinking skills of the student and I will continue to use the assignment as the first assignment of my second semester Comp II class. I feel the students who can not make a satisfactory grade on this assignment should not be in a second semester Comp class. Their presence reflects a problem with Comp I evaluation standards (my own included) and initial placement standards. I feel that the result of this and every assignment that requires critical thinking suggests that the class size for Comp I and Comp II should be reduced so that the instructor has more time to work individually with students or that students who do not have a certain skills level prior to entering Comp I should be mandated to take a remedial class. Their presence in the University Parallel classroom makes it impossible for the teacher to teach or the prepared students to learn at a university level."

"Essay questions are evaluated each semester for their effectiveness in allowing students to display knowledge of the material assigned, writing ability, and reasoning skills."

"Increase in-class critical thinking discussion/activities. Increase student collaboration/ peer review."

"Problem areas on this test become the focus of class discussion and remedial work by individual students. Final exam contains different sentences, but requires similar critical thinking skills."

"I intend to begin emphasizing critical thinking and its connection to critical writing earlier in the semester for Composition I students rather than waiting until mid-semester. Toward this end, I am going to eliminate my personal essay assignment and begin the semester with an assignment requiring more objective thinking than this assignment traditionally does."

Additional Resources/Development

"A thorough examination of the quality of the anthologies used in Composition II would be satisfactory; I would like a more intellectually rigorous set of readings from which to choose when designing my courses and assignments."

"I use the Internet for this assignment. Internet access in on-campus classrooms would greatly enhance this assignment if I were teaching on campus."

No response

No response

"Encourage faculty to share exercises/assignments that foster critical thinking. Provide articles/books on college teaching/learning."

"More directly related to this assignment."

"In order to enhance my teaching and the students' learning in this area, I believe I need to devise writing assignments that the students feel are related to the world they hope to enter as employees. Some assignments give them the idea that writing is a skill they must master in order to obtain a college degree. I am attending a conference in January that I hope will give me some ideas."

"The results of the exam question (and the exam as a whole) will tell me whether I need to go back over certain aspects of the requirements for critical thinking. Is each student able to state a theme in one short, complete sentence? Is each student able to sift through the details of the story and cite those which support the theme as stated? If not, I will spend time in class examining shortcomings in stating themes and providing detailed support. Also, all class discussions focus on exactly the same kind of thinking process. We go over each work, delving into the text to produce interpretations and detail the support for those interpretations. Essentially, each class period is in oral preparation for the written exam. there may be arguments about theme and interpretations among the students. There may be disagreements about what the details tell us about the characters, plot, setting, and symbols. These discussions serve as a forum for students to test their opinions against the probing assessments of their classmates and me."

"Understanding the connection between critical thinking and critical writing is essential in Composition II; therefore, this first assignment is vital. My immediate plans are to improve the specificity and structure of the assignment. Also, my introductory marks regarding critical thinking may be too general. I plan to discuss the specific aspects of critical thinking more thoroughly and link them to specific components in the assignment. Completing this assignment entirely in the classroom is also a possibility; however a computer classroom

"Assessment results will be one factor as I plan further activities for the class in order to enhance their critical thinking skills."

"Students use these D.S. guidelines in the oral group discussion of these Reader essays. In Comp. II literature, the D.S. becomes essays."

"Each semester, based on the previous semester's assessment, I re-evaluate the assignment, making necessary adjustments to ensure student understanding of the entire process. In my discipline, adjustments also have to be made considering the make-up of each section I teach."

"I required some students to revise their assignments after giving them feedback on the skills they did not successfully demonstrate. I revised the assignment instructions to emphasize correct understanding of the instructions. The revisions are highlighted in blue on the attached assignment. I plan to add a group activity in which students work together to reinforce their definition skills before they are asked to demonstrate the skills individually."

"One aspect of the class discussion is the requirement that a student bring in critical material from a published article about the work. It would be helpful if we had more and easier access to this material. The latest tool available from the LRC is JSTOR, an electronic, full text system that provides access to 117 scholarly journals with full back files via the internet. there are 17 journals concerning literature, which may provide a valuable resource for the class discussion. More of this kind of material would be most helpful, particularly about the less well-known of the

"Updating the software and hardware in the Computer Equipped Classroom (2209) and providing more computers that are more effectively networked would facilitate in-class research and writing in English classes."

"Multi-media resource that could show more visual support for the texts we are reading would add to the students experience. Our division is receiving one classroom like this for the spring semester."

"I am confident that these critical discussion sheets in Honors Comp. I (and in Comp. II as well) create awareness of critical thinking as a process and skill to use in essays on literature, as well as for all academic papers - and the evaluation of life's experiences to

"As a classroom teacher, my students need access to the two media. Both are available at our campus."

"I would like professional development in incorporating effective small group learning communities. I want to know more about the effectiveness shown by research into about small group learning communities."

Journalism and Mass Communications

Changes in the Classroom

"Since the results confirmed 71.4% of the class were able to demonstrate knowledge of Mass Communications theories, as well as such critical thinking skills as being able to display a degree of application of theories' criteria in judging the situations presented, and/or application of knowledge of the theories in given situations, I will continue to use methods incorporated into this unit (class discussion, visual demonstration of theories, application exercises, etc.) in teaching communications theory in this course."

Additional Resources/Development

no response

Speech

Changes in the Classroom

"I urge the students to apply the reflective thinking procedure in personal, out-of-class problem solving matters."

"Nothing, assessment indicates that no improvements are necessary."

"The results are used to apply reflective thinking skills in all of their other classes."

"The results will be used, as they have been used for many years, to offer a benchmark in this unit of study on organization. The results are used to judge whether more activities are merited, or as in this case, one student who only attained a 29% achievement will be offered more one on one consultation."

Additional Resources/Development

"Perhaps videos on 'critical thinking'; 'problem solving' would assist in teaching."

"Assistance in developing computer exercises customized to augment classroom instruction and text information."

"My objective is not to change approaches to the learning processes that have worked over the years."

"I have already attended several conferences, and read a number of books on critical thinking that have had a significant impact on my teaching strategies. While a new video or book here of there might be interesting, my goal is not to change approaches to the learning process that have served my students well over the years."

Liberal Arts***English*****Changes in the Classroom**

"Each semester, exams and assignments are evaluated to determine the effectiveness with which they measure students' abilities to think through a situation, apply course concepts, and present ideas in a logical, clear, concise manner. Both exams and writing assignments are revised as needed to insure that they help students meet overall course objectives."

"I link this assignment back to teaching and learning by having the students use other reference tools they may not look to first in their search for information. Usually, students think of standard reference tools such as general encyclopedias and dictionaries. This assignment shows them more specialized reference books and how to use them. This information is useful for doing research for English classes or any other classes they take. This assignment also teaches students to think carefully about definitions and that word-for-word definitions do not always apply with idioms whether they occur in English or some other language."

"This assignment grew out of short writings that eventually formed three body paragraphs of a larger essay. The fourth source provided the opportunity to unite the short writings under a common thread. The critical thinking activities learned from this assignment continue building skills towards Essay #3(five sources) and the Final Exam essay."

"I try to incorporate additional class discussion and additional class discussion and additional small-group sessions where students can work together in the planning stage to generate more logical ideas and locate more supporting examples. In order to make inferences, students must re-read the play, searching for examples that support their position. In order to apply knowledge and understanding to different contexts, situations and/or specific endeavors, students must use their personal values to select events or dialogue that will provide supporting evidence."

"Optimally, I'd like to move the thinking to a more complex, insightful level once this basic process is in hand. In reading assignments and in peer reviews, students are asked to identify strategies of

Additional Resources/Development

"Other than regular updates of course texts and materials, no additional resources are necessary."

"I would like opportunities to attend conferences with other teachers, not only English teachers, but all disciplines. I especially like the Master Teacher Concept of teachers teaching each other. I also wish for more information about and more opportunity to explore Accelerated Learning techniques, a whole concept of teaching, not merely accelerated formats."

"None at this time."

"I should give more writing topics requiring synthesis of ideas. Attending conferences will help me do this."

"Our teaching task in Composition I and II is often reading, writing, and thinking, all of which are difficult and often, at a formal, substantive level, alien to our students. Smaller class sizes (18 maximum) would ensure our students got

development similar to the ones they employ in their own writings (contrast, analogy, definition, etc.) and to assess how successfully the strategies work to reveal relationships, judgements, solutions, inferences, etc. Along with Writing Exam #2, I have attached a copy of Writing Exam #3, which is, on the face of it, discernibly less demanding. This is my own assessment to see if, having endured Writing Exam #1 and #2, my students can then employ the appropriate strategies to make their arguments. If not, I'll make adjustments accordingly."

the intense, individual attention they both need and

History

Changes in the Classroom

"There will be an increased emphasis on developing critical thinking skills in the class. Additional essays will show if the students are improving in using these

"The critical thinking skills identified here will be included in the course syllabus as well as on the 'Preparation for Exams' page where they are currently available

"I will give the students in the HIS1483 survey course TWO assignments of this type. One will have the timeframe from 1492 to 1860 and the second assignment will have the timeframe from 1861 to 1865. The method of lecture I use in relating historical information will continue. I use a questioning method that encourages students to go beyond their factual

"Future examinations will show whether the students are demonstrating an appropriate mastery of critical thinking, problem solving and inference drawing skills discussed above."

"Critical thinking skills will receive increased emphasis and explanation in the syllabus."

"There will be an increase emphasis and explanation in the syllabus, lecture or other learning tools on the critical thinking skills explained above. Future essays will show whether the students are demonstrating an appropriate mastery of the problem solving and inference drawing skills discussed."

"There will be an increase emphasis and explanation in the syllabus, including the online version, lecture or other learning tools on the critical thinking skills explained above. Future essays will show whether the students are demonstrating an appropriate mastery of the problem solving and inference drawing skills

Additional Resources/Development

No response

No response

"Due to the multi-media classroom, staff of the Technology Learning Center and the Learning Resource center personnel, I am equipped to successfully continue this and other critical thinking learning exercises at West campus."

No response

"None."

"An expanded testing center at Southeast Campus would be of help in the process of assessing the critical thinking abilities of the students."

"An expanded testing center at Metro Campus would be of help in the process of assessing the critical thinking abilities of the students."

Humanities

Changes in the Classroom

"I have extensive instructions on each assignment unit. I point out the areas to be most aware of in the assignment and then if there are particularly important websites, I include those in the instructions. I also encourage as much email or phone communication with me as they need to successfully complete the assignments. In the first unit, I give extensive feedback on each assignment in order to allow each student the chance for improvement on future assignments. Feedback also helps guide them to better critical thinking."

"I would like to see more students choose this option and start early enough so that they can do it well. This seemed to happen with the 3rd project, although I have not completely evaluated it. The students Final is cumulative, open-book, 3-item essay, and they are encouraged to prepare for it by setting up a final project

Additional Resources/Development

"Students pacing their work throughout the week and asking questions as needed instead of waiting 2 hours before the assignment is due would help them be more

"Well, for one thing, I need a new computer. The one that I have does not have CD-Rom capacity, and in my work, that hurts a lot. I cannot explore a lot of sites, nor check on what the students are doing in the way I ought to be able to do, much less encourage them to become computer-literate, which I think is part of our duty. I want

for their use during the Final. Next semester, I plan to give them a lot more help early on (I thought I had learned this, but apparently not, for they can do this, and are themselves delighted when they do, but it's slow going at first. Evidence? I am in the process of re-writing the format, as I often do, but the key is really making the students believe they can do it, early on, and in my experience, a lot of directive information at first only intimidates them. As usual, I will talk with them about the experience at the very end of the course, and afterward. That seems to help me learn how to be a better teacher for them. In summary, I would say I seek to revise the work assigned, increase student interaction, and state goals and criteria more accessibly; I already give a lot of feedback and coaching; I need to rethink the 'how'."

"A sample work showing how primary materials can be used to support conclusions will be developed to illustrate the assignment."

"I plan to insert a small group activity that will encourage my students to see the connecting among those seemingly disparate subjects. I am still conceptualizing

"I use the results learned from the essays I read on the exams to concentrate on specific character analysis and other literary analysis in future class discussions."

"I now begin each class with a short lecture on authorial intent and on the director's technique to be on the lookout for in the film about to be shown. Students then do more post-film analysis and discussion. The subsequent final will provide evidence of the linking of the assessment of critical thinking back to teaching and

"I have to assess this in order to proceed to the more complex levels of Bloom's Taxonomy."

"I now make a point of telling them to check out the author's credentials and bias when reading an internet site. They often use such sites when doing their research project for my course and I warn them to check the quality of a site before using it for class. Most of the time, their results are satisfactory. Occasionally, I still get a student bringing in material that is wrong and they say, 'That's what it said on the Internet.' I now have a way of responding to that.. 'Did you apply the criteria to this site before using it?'"

Music

Changes in the Classroom

"Each class begins with review of previous class information and questions that anyone can answer that shows that they are thinking and analyzing the information. My classrooms are fairly informal, so students typically feel safe to comment as we discuss and learn new information. This is also a great way to assess their understanding and ability to think and analyze. In the class period before a test, I give examples of the short essays so that they can be thinking and preparing and come ready to write and demonstrate their abilities to think."

"In order to have a meaningful understanding of the structure style of a specific piece of music, students must have at least some broad knowledge of the historical and social context in which the piece was written. As an introduction to each new topic of music

to encourage them to send previews of their work as attachments, but at present my computer cannot handle that. This is a very big subject, of course. For another thing, the students' ability to read and write is a very sore subject all across the nation; some kind of hurdle as a prerequisite seems to me to be in order. As a third thing, I think it helps to talk with other teachers, and even to do reports like this one: things fall into perspective a little better, and we recall what we came into teaching for in the first place. Any encouragement teachers get to interact, share, collaborate with, or mentor each other, seems to almost all of us to help. Finally, I could probably use a greater sense of humor. I'm working on that."

"any tools and skills that help students organize and practice their writing skills. Higher scores in writing before they can enter Comp I. Comp I required before taking Humanities courses."

"Attendance of appropriate workshops on teaching. The content is not the issue. Creative presentation methods to be learned will enhance the learning opportunities for my students."

"Activities that include film analysis, literary analysis, or character analysis would be more helpful than anything

"A stereo system would enhance the learning on this class. Sometimes it is very difficult to hear the dialogue."

"updated materials."

"Based on the results, I don't think I need any further training in enhancing their learning. It is a matter of maturation and willingness to apply what they know. They have demonstrated they can do it. Now if they just

Additional Resources/Development

"Students would be even more successful if they would recognize that the skills that they should be learning in Comp 1 and 2 classes apply to writing in other classes. That is my biggest challenge - communicating the need for their best writing."

"Students would be more successful if we worked more on writing skills and addressed the difficulties in writing and speaking clearly about musical ideas and

theory, I now include a brief overview of the historical setting in which this musical entity (a specific chord, a formal structure, a compositional process, etc.) was developed and how it has changed over the course of musical time periods. Assignments, classroom lectures and in-class discussions encourage the students to understand a specific musical concept by approaching the idea through various means. For example, students analyze and listen to selections of music from different time periods, explore the similarities and differences, discuss the aural affect and practice articulating what they have discovered. Students also apply what they have learned by writing music (a four-voice harmonic progression or a 'theme and variations' for example.)"

Philosophy

Changes in the Classroom

"The day they turn the assignment in, we will have extensive class discussion about it."

"Analysis indicates that no improvement in instructional techniques is necessary."

Additional Resources/Development

"Encourage and support 'Master Teacher' workshops in which faculty share their successes and failures in developing critical thinking skills."

no response

Speech

Changes in the Classroom

"Upon review of the introduction assessment, the instructor will prepare individualized lesson plans that will re-teach and provide extra practice for each class depending on the area of weakness. Individualized plans may include: group practice with writing and critiquing various introductions followed by discussion, individual critiques of various introductions presented by audio-visual presentations followed by discussion, and individual preparation of the introduction with instructor critiques. The results are used to judge whether more activities are merited and which students need more individualized instruction."

Additional Resources/Development

"Although the finding of this assessment proved successful with 83% of the students attaining this goal, I will incorporate other methods such as PowerPoint presentations, videos and computer assisted programs to those students that are in need of further assistance."

Nursing

Nursing

Changes in the Classroom

"If a student is unable to identify appropriate concerns/problems, will determine cause (i.e., lack of understanding of class material, inability to transfer information from one situation to another). Make adjustments as needed to help students to learn."

Additional Resources/Development

"None at this time."

Science, Mathematics, and Engineering

Astronomy

Changes in the Classroom

"Provide instruction give examples of how to perform activities"

Additional Resources/Development

"National Science Foundation Chautauqua short courses"

Biology

Changes in the Classroom

"Many students appear to begin this introductory biology course with negative bias towards the subject matter and lack of comprehension of how such subject matter can relate directly to them. Frequently throughout the semester, certain lecture topics naturally lead to a class discussion in bioethics. Choosing their bioethics topic is frequently difficult for some students. They must fully understand what is the definition of ethics, how humans acquire ethics, and what is bioethics. A number of bioethics books, personally belonging to the instructor, are placed on reserved in the LRC to assist them in ideas. This assignment is given midway through the semester and is due at the end of the semester . their ultimate choice of topic typically relates to a broader subject presented earlier in the semester. By visibly and orally demonstrating their knowledge as well as in a written summary, I have confidence that their assignment were completed entirely by the students themselves and they have a complete understanding of the biology of such issues. I am always available outside of scheduled class time to answer any questions the students may have. by the assignment due date, most students have asked at least one question pertaining to this assignment."

"By requiring students , during testing, to critically weigh the information covered in assigned readings and lecture presentations, they learn to apply these critical thinking skills in their test preparation. The success/failure rates of students on questions on specific topics is evaluated to determine if lecture presentations and laboratory exercises addressing these topics should be amended. the appropriateness

"Increase in-class critical thinking discussions and activities."

Additional Resources/Development

"Concerning myself: Continuing education in biology is of utmost importance to be able to explain background information in current environmental science issues, genetics and medicine. Additional training in leading group discussions would be extremely useful. Honors classes typically attract rather outspoken and more confident students. When using the same assignment in a regular general biology class, it is difficult to get students to participate in class discussions. Concerning the students: The biggest problems that the students have is beyond my control. they enter the class with little or poor reading comprehension skills. With honor's students, this is less of a problem, but with regular General Biology classes, it is a big problem. The students typically are unwilling to spend time on the necessary research. A fairly new problem is the lack of computer skills in using the internet. Many students have no idea how to conduct an internet search. They need one-to-one assistance in the student computer labs. Lack of student access to the LRC and computer labs on Friday evenings and throughout the weekend days and evenings. Our working students and students with families are finding that TCC's antiquated campus hours are inadequate for their needs."

"The existing resources appear to be adequate at this

"Access to more comprehensive websites."

Chemistry

Changes in the Classroom

"Of the 13 black dotted areas, this exercise would be most amenable to areas 2 and 4: 'increase in class critical thinking, etc.' and 'provide more frequent or fuller feedback, etc'"

"Uncertain at this time. While I could increase in-class critical thinking discussions and activities, this would be at the expense of other activities. I currently make use of questioning methods that encourage critical thinking, but I have received very little response and enthusiasm from this particular class."

Additional Resources/Development

"on the last page of the form: regarding the 9 black dotted areas, I would mention area 3: 'encourage faculty to share"

"More problem sets with solutions. Better prepared students"

"I will plan more in class critical thinking discussions and activities as well as explicitly state critical thinking goals and criteria for grading. The biggest challenge is getting students to read assigned material and homework problems so a meaningful discussion and critical thinking activity can be carried out."

"The results are an indication of where extra effort and study need to be applied by the student and also where the instructor needs to help individuals in developing their skills. Occasionally they show the instructor that the examination question is flawed and should be changed

"The institution can help by offering and allowing time for faculty to attend seminars or workshops about assessment of critical thinking. The division can also encourage faculty to share their experiences/activities that foster critical thinking. Creating a bibliography of resource materials and providing articles and books on college teaching and learning will also help."

"Continued support of the program by the college is appreciated. Attendance of American Chemical Society meetings and constant review of the latest publications is necessary to keep the instructor aware of new developments and techniques in teaching for this subject."

Engineering

Changes in the Classroom

"This approach applies more to laboratory exercises."

Additional Resources/Development

"More open-ended problems."

Geography

Changes in the Classroom

"To the extent this tool shows a woeful inadequacy in critical thinking skills, an emphasis on the benefit of developing those skills will be stated in the course syllabus. However, the measuring tool, in fact the entire process of assessing critical thinking as the institution has directed, seems woefully inadequate. At best effort, this offers a snapshot, if you will, of a point in time, not a measure of progress throughout the semester's course. A meaningful application of the results seems greatly suspect."

"Class discussion of the complexity of the components of the problem as it might have accrued in 1849."

Additional Resources/Development

No response

"Computer simulations"

Geology

Changes in the Classroom

"I was very pleased with the results. I would have been disappointed with anything less. This is a good group of Geology students. They participate in class discussions and ask thought provoking questions that also demonstrate to me their ability to process lecture information and critically think. The two students that did not successfully demonstrate critical thinking fell into category two - marginal critical thinking. With addition(al) tutoring I was able to bring them up to category one. this assessment exercise identified the students that needed additional help.

Additional Resources/Development

No response

Mathematics

Changes in the Classroom

"There will be increased emphasis and explanation in regard to application problems in future lectures. Examples from basic mathematics will be used to review the students. There will be increased counseling of students in the areas of math anxiety and lack of course prerequisites."

"I intend to contrive more enticing ways of involving students in such explorations. Participation was minimal as students thought the work involved in preparing the report was not worth the possible

"I always discuss samples of variations."

Additional Resources/Development

"Teaching and learning would be enhanced in the mathematics classes if students were not able to enroll in courses where they are lacking the required and necessary prerequisites."

"Travel to professional meetings to discuss efforts of this sort with colleagues from other institutions."

"none."

"Mathematics consistently incorporates critical thinking skills. I will continue to provide my students with the opportunity to practice their critical thinking skills by including real-life word problems on homework, quizzes, and exams. I stay away from the practice of simply taking the homework word problems and changing the number for the exams. I like to test the student with new problems that incorporate the same skills and abilities that were necessary to solve the homework problems. I also plan to increase student collaboration and to state my criteria for grading more

"I feel there is a need to target the instructors of the developmental mathematics courses and encourage them to attend seminars, workshops or discussion groups about assessment of critical thinking."

"The exam question tells me which students are weak and in what phase of the critical thinking path. In the future I will need to place a greater emphasis on the concept of inflow and outflow."

"Adjunct training on the appropriate use of technology. Too many of these students have difficulty with this question due to previous dependence on calculators."

"I used the results of the assessment to restructure my lectures as well as to restructure critical thinking assignments."

no response

"I will try to provide more class time and assignments directed at recognizing relationships between functions and making judgements based on those relationships."

"Sharing positive critical thinking experiences with other faculty members."

"Seeing that my students can reason through a problem and apply the correct process to solve this problem, I plan to continue discussing application problems in class. We will continue to discuss how to solve a specific type of algebra equation and then see how real application involve that technique."

"Professional development activities that would enhance teaching and learning in mathematics would be to attend workshops at either AMATYC conferences or Teaching for Technology conferences."

"Revise the amount of written work; Increase in-class critical thinking discussions and activities; and Revise the content of critical thinking assignments/activities."

"Encourage faculty to share their exercises/activities that foster critical thinking."

"I have given the students an assignment to only identify the greatest common factor and number of terms to determine the method of factoring, only."

"A fall break might be beneficial since the students are exhausted by November. (Factoring is a challenging

Physics

Changes in the Classroom

"Laboratory exercises in physics require critical thinking skills. The course already requires four of lab work per week. Thus this topic is covered in great depth. In addition, assessment results indicate that further enhancement is not necessary."

Additional Resources/Development

"Nothing. Assessments indicate that promotion of critical thinking skills are satisfactory."

Appendix For Outcomes Assessment (OA)

**Tulsa Community College
Instructor/Course Survey**

Students: Please complete the INSTRUCTOR/COURSE SURVEY. Your thoughts and comments regarding instructors and courses are valuable to Tulsa Community College. The completed survey will be available to the instructor only after grades for the course are submitted.

I. As A Student In This Class:

1. I attended the first day of class. Yes No

5 = Not Applicable
4 = Strongly Agree
3 = Agree
2 = Disagree
1 = Strongly Disagree

2. My skills were adequate for this class in:

Math ① ② ③ ④
 Reading ① ② ③ ④
 Writing ① ② ③ ④

3. I attended class regularly. ① ② ③ ④

4. I prepared for each class. ① ② ③ ④

5. I turned in papers and assignments on time. ① ② ③ ④

6. I was free to ask questions and contribute to class discussions. ① ② ③ ④

7. So far in this class, my grades reflect my level of performance. ① ② ③ ④

II. The Instructor, At the Beginning of the Course:

8. The instructor explained the syllabus. <input type="checkbox"/> Yes <input type="checkbox"/> No	9. The instructor explained what work would be required. <input type="checkbox"/> Yes <input type="checkbox"/> No	10. The instructor explained how required work would be evaluated. <input type="checkbox"/> Yes <input type="checkbox"/> No
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III. The Instructor Throughout the Semester:

5 = Not Applicable
4 = Strongly Agree
3 = Agree
2 = Disagree
1 = Strongly Disagree

11. The instructor set and maintained high course standards. ① ② ③ ④

12. The instructor was well prepared for each class. ① ② ③ ④

13. The instructor explained topics clearly. ① ② ③ ④

14. The instructor encouraged understanding and applying facts as well as memorizing them. ① ② ③ ④

15. The instructor encouraged the students' creative thinking. ① ② ③ ④

16. The instructor encouraged the students' critical thinking. ① ② ③ ④

17. The instructor was available for consultation during posted office hours or by appointment. ① ② ③ ④

18. The instructor was patient with students' learning. ① ② ③ ④

19. The instructor alternated methods of instruction (handouts, films, overheads, the Internet). ① ② ③ ④

20. The instructor returned graded work as promised. ① ② ③ ④

21. The instructor returned papers, tests, and assignments with helpful comments. ① ② ③ ④

IV. Generally:

22. The instructor's attitude toward the subject matter was:

- Enthusiastic Uninspired
- Interested Bored
- Neutral

23. Information and dates for major assignments were announced and/or distributed through the syllabus, handouts, or course materials:

- Always Rarely
- Frequently Never
- Sometimes

24. Regarding course subject matter, the instructor's ability to answer students' questions suggests:

- Mastery Limited Knowledge
- Strong Competence Slight Familiarity
- Adequate Knowledge

25. The instructor responded to students' questions in a manner that was:

- Respectful Impatient
- Patient Inappropriate
- Reasonable

Summary of Course:

26. My expectations for this course were met. <input type="checkbox"/> Yes <input type="checkbox"/> No	27. This course was a challenging and learning experience for me. <input type="checkbox"/> Yes <input type="checkbox"/> No	28. I would recommend this course to other students. <input type="checkbox"/> Yes <input type="checkbox"/> No
---	---	--

Discipline/Program Specific Response:

Additional Comments:

The following comments will be seen only by your instructor and may be made anonymously.

Course Call Number:

☐	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
①	☐	③	④	⑤	⑥	⑦	⑧	⑨	⑩
①	②	③	④	☐	⑥	⑦	⑧	⑨	⑩
①	②	③	④	⑤	⑥	⑦	⑧	☐	⑩
①	②	③	④	⑤	☐	⑦	⑧	⑨	⑩

1 2 3 4 5 6 7 8 9 0

**Course/Instructor Evaluation Results, Spring 2000**

Survey Items	Students who "Agree" or "Strongly Agree"
The instructor set and maintained high course standards.	12,976 (94%)
The instructor was well prepared for each class.	12,615 (93%)
The instructor explained topics clearly.	11,856 (88%)
The instructor encouraged understanding and applying facts as well as memorizing them.	12,406 (91%)
The instructor encouraged the students' creative thinking.	11,834 (86%)
The instructor encouraged the students' critical thinking.	12,411 (90%)
The instructor was available for consultation during posted office hours or by appointment.	11,658 (85%)
The instructor was patient with students' learning.	12,632 (91%)
The instructor alternated methods of instruction.	11,018 (79%)
The instructor returned graded work as promised.	12,851 (92%)
The instructor returned papers, tests, and assignments with helpful comments.	11,686 (84%)

Survey Items	Students who Responded "Yes"
The instructor explained the syllabus.	10,292 (99%)
The instructor explained what work would be required.	10,578 (99%)
The instructor explained how work would be evaluated.	9,233 (96%)
My expectations for this course were met.	2,791 (98%)
This course was a challenging and learning experience for me.	1,521 (92%)
I would recommend this course to other students.	3,994 (91%)

Survey Items	Students who Responded as Described
The teacher's attitude toward the subject matter was either "enthusiastic" or "Interested":	1,995 (89%)
Information and dates for major assignments were either "always" or "frequently" announced and/or distributed through the syllabus, handouts, or course materials:	2,442 (94%)
Regarding course subject matter, the instructor's ability to answer students' questions suggests either "mastery," "strong competency," or "adequate knowledge":	2,451 (98%)
The instructor responded to students' questions in a manner that was either "respectful," "patient," or "reasonable":	2,580 (94%)

Total Number of Students Assessed*

17,354

* The above percentages represent the ratio of those students responding as described over the total number of students responding to the item indicated.