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| **DEGREE PROGRAM**  **STUDENT LEARNING REPORT**  (Rev. August 2013) | **ROGERS STATE UNIVERSITY**  **Department of Applied Technology**  **For Academic Year 2012-2013** |

Effectively assessing a degree program should address a number of factors:

1. Valid student learning outcomes should be clearly articulated;
2. Valid assessment measures should be used, consistent with the standards of professional practice;
3. There should be evidence that assessment data are being used by faculty to make necessary instructional or assessment changes; and

there should be evidence that instructional or assessment changes are being implemented to improve student learning.

**Relationship of Degree Program (or Major) Learning Outcomes to Departmental and University Missions**

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| **Name of Degree, including Level and Major: AS in Computer Science** |

1. **A.**  Insert and clearly state the school, department and degree program missions in the spaces below.

| **University Mission** | **School Mission** | **Department Mission** | **Degree Program Mission** |
| --- | --- | --- | --- |
| Our mission is to ensure students develop the skills and knowledge required to achieve professional and personal goals in dynamic local and global communities. | The mission of the School of Business and Technology is to prepare students to compete and perform successfully in diverse careers in business, technology, sport management, and related fields by providing a quality academic experience. Undergraduate programs and their respective curricula will remain responsive to social, economic, and technical developments. | The mission of the Department of Applied Technology is to support the School of Business and Technology and RSU in their mission to prepare students to achieve professional and personal goals in dynamic local and global communities. Specifically, the organizational structure of the Department of Technology provides the technology course support for the Associate in Science and Associate in Applied Science degrees, as well as the Bachelor of Science in Business Information Technology, the Bachelor of Science in Game Development, and the Bachelor of Technology in Applied Technology. As indicated, many of the programs offered by the Department of Applied Technology are available online. | To provide students with the necessary skills required to become competent in computer programming at the entry level, as well as to understand the significant issue s of how technology is changing the workplace; and to provide students with the academic background to seek a baccalaureate degree in Computer Science, Computer Information Systems, or Information Technology. |

**B.**  Insert and clearly state school purposes, department purposes and degree program student learning outcomes in the spaces below, making sure to align the degree program student learning outcomes with their appropriate school and department purposes, and these outcomes and purposes with their appropriate university commitments.

| **University Commitments** | **School Purposes** | **Department Purposes** | **Student Learning Outcomes** |
| --- | --- | --- | --- |
| To provide quality associate, baccalaureate, and graduate degree opportunities and educational experiences which foster student excellence in oral and written communications, scientific reasoning and critical and creative thinking. | The SBT provides this support by offering two-year and four-year educational opportunities in business, sport management, and technology. | To provide the technology course support for the AS in Computer Science and AAS in Applied Technology degrees as well as BS in Business Information Technology, BS in Game Development, and BT in Applied Technology. | Students will demonstrate competence in analyzing problems, designing, and implementing programs to solve the problems using computer programming languages.  Students will integrate the design, implementation and administration of computer networks.  Students will demonstrate computer proficiency. |
| To promote an atmosphere of academic and intellectual freedom and respect for diverse expression in an environment of physical safety that is supportive of teaching and learning. | The associate and baccalaureate degrees are taught using a large  array of innovative methods, including regular classes, online  courses, and compressed video. |  |  |
| To provide a general liberal arts education that supports specialized academic program sand prepares students for lifelong learning and service in a diverse society. | To prepare students to compete and perform successfully in diverse careers in business, technology, sport management, and related fields by providing a quality academic experience. |  |  |
| To provide students with a diverse, innovative faculty dedicated to excellence in teaching, scholarly pursuits and continuous improvement of programs. |  |  |  |
| To provide university-wide student services, activities and resources that complement academic programs. |  |  |  |
| To support and strengthen student, faculty and administrative structures that promote shared governance of the institution. |  |  |  |
| To promote and encourage student, faculty, staff and community interaction in a positive academic climate that creates opportunities for cultural, intellectual and personal enrichment for the University and the communities it serves. |  |  |  |

**Discussion of Instructional Changes Resulting from 2011-2012 Degree Program Student Learning Report**

1. List and discuss all instructional or assessment changes proposed in Part 5 of last year’s Degree Program Student Learning Report, whether implemented or not. Any other changes or assessment activities from last year, but not mentioned in last year’s report, should be discussed here as well. Emphasis should be placed on student learning and considerations such as course improvements, the assessment process, and the budget. If no changes were planned or implemented, simply state “No changes were planned or implemented.”

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| **Instructional or Assessment Changes** | **Changes Implemented (Y/N)** | **Impact of Changes on Degree Program Curriculum or Budget** |
| Utilized a new textbook for Introduction to Computing, which places more emphasis on object oriented programming. | Y | This change will more thoroughly prepare students for programming 1. |
| Replaced the Program Assessment Test (PAT) with the Major Field Test (MFT),in Computer Science allowing us to compare student scores against a national benchmark | Y | No impact expected since it is the first exam; as we compare cumulative data over next two to three years, we may consider instructional or curriculum changes. |

1. The University Assessment Committee in its Degree Program Peer Review Report provided feedback and recommendations for improvement in assessment. List or accurately summarize all feedback and recommendations from the committee, and state whether they were implemented or will be implemented at a future date. If they were not or will not be implemented, please explain why. If no changes were recommended last year, simply state “No changes were recommended.”

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| **Feedback and Recommended Changes from the University Assessment Committee** | **Suggestions Implemented**  **(Y/N)** | **Changes that Were or Will Be Implemented, or**  **Rationale for Changes that Were Not Implemented** |
| Page 1. Section 1(A). Yes. | N | N/A |
| Page 2. Section 1(B). Only one University Commitment addressed by the School Purposes. The School of Liberal Arts is aligned with five and the School of Mathematics, Sciences and Health Science is aligned with four.  . | Y | This report contains three alignments of university commitments and school purposes. |
| Pages 3-4. Section 2. Why is the addition of CS 1113 (Microcomputer Applications) considered an indirect measure?  Other than the addition of CS 1113 as a course from which to draw an assessment measure, the department made no other instructional or assessment changes in the past year. | N  Y | Course grades are listed as indirect evidence under the “Explanation and Examples of Direct and Indirect evidence.”  We removed the PAT(Programming Assessment Test) and replaced with the national Computer Science MFT(Major Field Test). |
| Page 4. Section 3. No. 4(B). The department states that CS 3333 is removed from the SLR, but it remains as an assessment measure (see p. 7 col. B).  The department listed and fully responded to all of the peer reviewers’ concerns (other than those with a rating of 4). | Y | It was an error. CCS3333 should have been removed from column B. |
| Pages 6-8. Section 4. Col. A. Yes. | N | N/A |
| Pages 6-8. Section 4. Col. B. Yes. | N | N/A |
| Pages 6-7. Section 4. Col. C. No. 1. Not clear what is meant by, “This is wittingly raised expectation for the CS majors.”  Page 8. Section 4(C). No. 3. The department should consider using a more specific standard than “C or better,” which can range from 70% to 79%. The department might consider ≥ 70%, ≥ 75%, or whatever it deems appropriate.  Other than the two modest concerns expressed above, the performance standards seem to provide a clearly defined and acceptable level of student performance. | N  Y | Our program requires only two sequenced programming courses CS2223 and CS2323, and requires computer network courses. So students are not expected to do as well as those who are majoring computer science with concentration of programming courses.  We used the course grades since the grades determine whether or not the students met their computer proficiency requirement of the university. The results have now been broken down into specific ranges, such as (70 – 79.9%) |
| Pages 6-8. Section C. Col. D. On page 5 (4E) of this year’s BS-BIT Student Learning Report, the department stated, “We will come up with a distinct AS-CS assessment measure or a way to gather separate data.” This has not been done. | Y | We have not insisted on breaking down the majors of the programming classes. We believe that the collective data is just as useful as separating two groups for measuring the learning outcomes of programming courses especially if the sample size is small. Since ASCS is a subset of BIT curriculum, and frequently BIT students become ASCS majors to obtain the 2 year degree on the way to the bachelor’s degree.  The MFT which replaced the PAT contains the majors of those who took the exam. |
| Pages 6-8. Section C. Col. E. Yes. | N | N/A |
| Pages 6-8. Section C. Col F. The data related to CS 3333 are displayed but the course has not been taught since 2010? | N | We used the same table in which the year started 2008 to show comparison of data as we accumulate data. Table. The scores of CS3333 are left blank after the year 2010. |
| Pages 6-7. Section C. Col. G. The department states that the fluctuation in results (especially in the last year) from CS 2323 is not known. No faculty speculation is offered.  Page 7. Section C. Col. G. Data from CS 2223 for 2012 are not available.  Pages 7. Section C. Col. G. Regarding the interpretation of the Worst Scored table, it is not clear if the percentage reflects the proportion of students who answered the question correctly? | N | It is difficult to speculate the variation of data. Perhaps, the CS2323 students were not as prepared as previous year. The dip also occurred in 2009 according to the table.  According to the faculty who extracted data, the CS2223 data was not available. The faculty left the university at the end of this academic year.  Yes. |
| Pages 6-8. Section C. Col. H. Yes. | N | N/A |
| Page 9. Section 5. It is not clear where the PAT measure is used and why it is being replaced. | Y | We replaced the PAT with the MFT in Computer Science which provides a national benchmark so that we may compare our students’ test results with the benchmark. |
| Page 9. Section 6. No best practice reported. | N | There were no notable or exemplified assessment activities to be included in the best practices. |
| Page 9. Section 7. Yes. | N | N/A |
| Page 10. Section 8(A) and 8(B). Yes. | N | N/A |

**Analysis of Evidence of Student Learning Outcomes**

1. For all student learning outcomes (as listed in Part 1 B above), describe the assessment measures and performance standards used, as well as the sampling methods and sample sizes. For each measure, document the results of the activity measured and draw any relevant conclusions related to strengths and weaknesses of their performance.

| **A.**  **Student Learning Outcomes** | **B.**  **Assessment Measures** | **C.**  **Performance Standards** | **D.**  **Sampling Methods** | **E.**  **Sample Size**  **(N)** | **F.**  **Results** | **G.**  **Conclusions** | **H.**  **Performance Standards Met**  **(Y/N)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Students will demonstrate competence in analyzing problems, designing, and implementing programs to solve the problems using computer programming languages. | The Major Field Test (MFT) in Computer Science by the Educational Testing Service will be administered to all ASCS students. | 50% of the students who took the exam score higher than 50th percentile of the national scale. | All students completing CS2323 Programming II. | 7 | Major Total Score Percentile  107 122 1  111 130 7  117 139 25  117 122 1  117 134 15  \*108N 128 4  097 123 1  \* BIT major  The scale range for the total score is 120-200. | There was only one ASCS major in the group; hence, no conclusion can be made. However, it is a starting point for the new assessment measure. As expected, students did not do well. There were three areas of assessment:   1. programming and software engineering 2. discrete structures and algorithms 3. systems: architecture/operating systems/networking/database   The mean percent correct for each area is 23, 23, 18, respectively.  This exam covers much more than algorithm and programming skills. | N |
| 2. Students will integrate the design, implementation and administration of computer networks. | An IT 2153 hands-on project will be assigned that examines the students’ knowledge and ability to set up a minimal Local Area Network (LAN) involving a server and two or more clients. | 70% of the students will be able to design a Local Area Network (LAN) upon completing the IT2153 Network Operating Systems I course with an accuracy of 70%. | All ASCS students taking IT 2153. All classes are online. | 12 | 9 out of 12 students (75%) accomplished the Assessment Measure. | A high percentage of students demonstrated their ability to set up a Local Area Network meeting the performance standard. | Y |
| 3. Students will demonstrate computer proficiency. | Course grades for all ASCS students. | 75% of the students who took CS1113 will earn a “C” or better. | All ASCS students taking CS 1113 | 14 | In-class  8 out of 10 students earned a course grade of C or better (80%).  5 A’s (90%-100%)  2 B’s (80%-89.9%)  1 C (70% - 79.9%)  0 D’s (60%-69.9%)  2 F’s (less than 60%)  Online  2 out of 4 students earned a course grade of C or better (50%).  1 A (90%-100%)  1 B (80%-89.9%)  0 C (70% - 79.9%)  0 D (60%-69.9%)  2 F’s (less than 60%)  Overall: 10 out of 14 students (71%) earned a grade of C or better, meeting the RSU computer proficiency requirement. | ASCS students demonstrated the proficiency in the use of Microsoft Office, thus meeting the RSU computer proficiency requirement.  This is the first time in-class and online final course grades have been separated out. The online students did not meet the proficiency. At least one more year of the same breakdown needs to be derived and compared. | N |

1. State any proposed instructional or assessment changes to be implemented for the next academic year. They should be based on conclusions reported in Part 4 (above) or on informal activities, such as faculty meetings and discussions, conferences, pilot projects, textbook adoption, new course proposals, curriculum modifications, etc. Explain the rationale for these changes and how they will impact student learning and other considerations, such as curriculum, degree plan, assessment process, or budget. If no changes are planned, simply state “No changes are planned.”

| **Student Learning Outcomes** | **Instructional or Assessment Changes** | **Rationale for Changes** | **Impact of Planned Changes on Student Learning and Other Considerations.** |
| --- | --- | --- | --- |
| Outcome #3 | **Updating software:** Operating System to Windows 8. Office suite to 2013.  **Textbook change:** Updating from Microsoft Office 2010 to Microsoft Office 2013 | This reflects the usage of the most recent version of Microsoft Office and the cloud technology which will be taught in the Microcomputer Applications course. | These changes will give students the skills they need to be computer proficient. |

1. (OPTIONAL) If your department or an individual faculty member has developed a teaching technique they believe improves student learning or student engagement in the classroom, please share it below. Examples can be seen at <http://www.rsu.edu/committees/assessment/docs/FacultyInsights.pdf> . Please briefly describe the instructional practice. More detail can be communicated during the face to face peer review session. The Peer Review Report does not rate this part, but it does note whether or not any contribution has been made.

| **Description** |
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1. Assessment Measures:
2. How many different assessment measures were used? 3
3. List the direct measures (see rubric): assignment, MFT Computer Science exam
4. List the indirect measures (see rubric): course grade

**Documentation of Faculty Assessment**

1. **A.** How many full time faculty (regardless of department affiliation) teach in the program? 5

**B.** Provide the names and signatures of all faculty members who contributed to this report and indicate their respective roles:

|  |  |  |
| --- | --- | --- |
| **Faculty Members** | Roles in the Assessment Process  (e.g., collect data, analyze data, prepare report, review report, etc.) | **Signatures** |
| Roy Gardner | Prepare report | On separate sheet |
| Tetyana Kyrylova | Collect, analyze data for CS 1113 | On separate sheet |
| Cliff Layton | Collect, analyze data for IT 2153 | On separate sheet |
| Thomas Luscomb | Collect, analyze data for CS 1113, review report | On separate sheet |
| Curtis Sparling | Collect, analyze data for CS 1113 | On separate sheet |
| Vadim Kyrylov | Collect, analyze the MFT test results for students taking CS 232e. | Not available (faculty left school in May, 2013) |

1. Reviewed by:

| **Titles** | **Names** | **Signatures** | **Date** |
| --- | --- | --- | --- |
| Department Head | Roy Gardner | On separate sheet |  |
| Dean | Bruce Garrison | On separate sheet |  |

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| **RUBRIC FOR STUDENT LEARNING STUDENT LEARNING REPORT** |

1. **A. Are the school, department and program missions clearly stated?**

|  |  |  |  |
| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| The program, department, and school missions are clearly stated. | The program, department, and school missions are stated, yet exhibit some deficiency (e.g., are partial or brief). | The program, department, and school missions are incomplete and exhibit some deficiency (e.g., are partial or brief). | The program, department, and school missions are not stated. |

1. **Are student learning outcomes and department purposes aligned with university commitments and school purposes?**

|  |  |  |  |
| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| Student learning outcomes and department purposes are aligned with university commitments and school purposes. | Student learning outcomes and department purposes demonstrate some alignment with university commitments and school purposes. | Student learning outcomes and department purposes demonstrate limited alignment with university commitment and school purposes. | Student learning outcomes and department purposes do not demonstrate alignment with university commitment and school purposes. |

1. **How well did the department incorporate instructional or assessment changes from last year’s report or from other assessment activities?**

|  |  |  |  |
| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| All planned changes were listed, whether they were implemented or not, and their impact on curriculum or program budget was discussed thoroughly. | Most planned changes were listed, and their status or impact on curriculum or program budget was discussed. | Some planned changes were listed, and their status or impact on curriculum or program budget was not clearly discussed. | No planned changes were listed, and their status or impact on curriculum or program budget was not discussed. |

1. **Did the department include peer review feedback and provide rationale for implementing or not implementing suggestions?**

|  |  |  |  |
| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| All reviewer feedback was listed, and for each suggestion a clear rationale was given for its being implemented or not. | Most reviewer feedback was listed, and for most suggestions a rationale was given for their being implemented or not. | Some reviewer feedback was listed, and for some suggestions a rationale was given for their being implemented or not. | Feedback from reviewers was not included. |

1. **A. Are the student learning outcomes listed and measurable?**

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| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| All student learning outcomes are listed and measurable in student behavioral action verbs (e.g., Bloom’s Taxonomy). | Most student learning outcomes are listed and measurable in student behavioral action verbs (e.g., Bloom’s Taxonomy). | Some student learning outcomes are listed and measurable in student behavioral action verbs (e.g., Bloom’s Taxonomy). | Student learning outcomes are either not listed or not measurable. |

1. **Are the assessment measures appropriate for the student learning outcomes?**

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| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| Allassessment measures are appropriate to the student learning outcomes. | Mostassessment measures are appropriate to the student learning outcomes. | Someassessment measures are appropriate to the student learning outcomes. | None of theassessment measures are appropriate to the student learning outcomes. |

1. **Do the performance standards provide a clearly defined threshold at an acceptable level of student performance?**

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| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| All performance standards provide a clearly defined threshold at an acceptable level of student performance. | Most performance standards provide a clearly defined threshold at an acceptable level of student performance. | Some of the performance standards provide a clearly defined threshold at an acceptable level of student performance. | No performance standards provide a clearly defined threshold at an acceptable level of student performance. |

1. **Is the sampling method appropriate for all assessment measures?**

|  |  |  |  |
| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| The sampling methodology is appropriate for all assessment measures. | The sampling methodology is appropriate for most assessment measures. | The sampling methodology is appropriate for some assessment measures. | The sampling methodology is appropriate for none of the assessment measures. |

1. **Is the sample size listed for each assessment measure?**

|  |  |  |  |
| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| Sample size was listed for all assessment measures. | Sample size was listed for most assessment measures. | Sample size was listed for some assessment measures. | Sample size was not listed for any assessment measures. |

1. **How well do the data provide clear and meaningful overview of the results?**

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| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| For all student learning outcomes the results were clear, more than a single year’s results were included, and meaningful information was given that reveals an overview of student performance. | For most student learning outcomes the results were clear, more than a single year’s results were included, and meaningful information was given that reveals an overview of student performance. | For some student learning outcomes the results were clear, more than a single year’s results were included, and meaningful information was given that reveals an overview of student performance. | For none of the student learning outcomes were the results clear, more than a single year’s results were included, and meaningful information was given that reveals an overview of student performance. |

1. **Are the conclusions reasonably drawn and significantly related to student learning** **outcomes?**

|  |  |  |  |
| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| All conclusions are reasonably drawn and significantly based on the results and related to the strengths and weaknesses in student performance. | Most conclusions are reasonably drawn and significantly based on the results and related to the strengths and weaknesses in student performance. | Some conclusions are reasonably drawn and significantly based on the results and related to the strengths and weaknesses in student performance. | No conclusions are reasonably drawn and significantly based on the results or related to the strengths and weaknesses in student performance. |

1. **Does the report indicate whether the performance standards were met?**

|  |  |  |  |
| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| Stated for all performance standards. | Stated for most performance standards. | Stated for some performance standards. | Not stated for any performance standard. |

1. **How well supported is the rationale for making assessment or instructional changes? The justification can be based on conclusions reported in Part 4 or on informal activities, such as faculty meetings and discussions, conferences, pilot projects, textbook adoption, new course proposals, curriculum modifications, etc. Explain the rationale for these changes and how they will impact student learning and other considerations, such as curriculum degree plan, assessment process, or budget.**

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| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| All planned changes are specifically focused on student learning and based on the conclusions. The rationale for planned changes is well grounded and convincingly explained. | Most planned changes are specifically focused on student learning and based on the conclusions. The rationale for planned changes is mostly well grounded and convincingly explained. | Some planned changes are specifically focused on student learning and based on the conclusions. The rationale for planned changes is lacking or is not convincingly explained. | No planned changes are specifically focused on student learning and based on the conclusions. There is no rationale. |

1. **Did the faculty include at least one teaching technique they believe improves student learning or student engagement in the classroom?**

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| --- | --- | --- | --- |
| **Yes** | **No** |  |  |
| The faculty has included at least one teaching technique they believe improves student learning or student engagement in the classroom. | The faculty has not included any teaching techniques they believe improve student learning or student engagement in the classroom. |  |  |

1. **How well did the faculty vary the assessment measures?**

|  |  |  |  |
| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| Assessment measures vary and include multiple direct measures and at least one indirect measure. The number of measures is consistent with those listed. | Assessment measures vary, but they are all direct. The number of measures is consistent with those listed. | Assessment measures do not vary or are all indirect. There is some inconsistency in the number of measures recorded and the total listed. | Assessment measures are not all listed or are listed in the wrong category. The total number of measures is not consistent with those listed. |

1. **Does the list of faculty participants indicate a majority of those teaching in the program and clearly describe their role in the assessment process?**

|  |  |  |  |
| --- | --- | --- | --- |
| **4 = Exemplary** | **3 = Established** | **2 = Developing** | **1 = Undeveloped** |
| The faculty role is clearly identified and it is apparent that the majority of the faculty participated in the process. The roles are varied. | The faculty role is identified and it is apparent that the majority of the faculty participated in the process. The roles are not varied. | The faculty roles are not identified. Few faculty participated. | The faculty roles are not identified. Faculty participation is not sufficiently described to make a determination about who participated. |

**DIRECT EVIDENCE of student learning is tangible, visible, self-explanatory evidence of exactly what students have and haven’t learned. Examples include:**

**EXPLANATION & EXAMPLES OF DIRECT AND INDIRECT EVIDENCE OF LEARNING**

1. Ratings of student skills by their field experience supervisors.
2. Scores and pass rates on licensure/certification exams or other published tests (e.g. Major Field Tests) that assess key learning outcomes.
3. Capstone experiences such as research projects, presentations, oral defenses, exhibitions, or performances that are scored using a rubric.
4. Written work or performances scored using a rubric.
5. Portfolios of student work.
6. Scores on locally-designed tests such as final examinations in key courses, qualifying examinations, and comprehensive examinations that are accompanied by test blueprints describing what the tests assess.
7. Score gains between entry and exit on published or local tests or writing samples.
8. Employer ratings of the skills of recent graduates.
9. Summaries and analyses of electronic class discussion threads.
10. Student reflections on their values, attitudes, and beliefs, if developing those are intended outcomes of the program.

**INDIRECT EVIDENCE provides signs that students are probably learning, but the evidence of exactly what they are leaning is less clear and less convincing. Examples include:**

1. Course grades.
2. Assignment grades, if not accompanied by a rubric or scoring guide.
3. For four year programs, admission rates into graduate programs and graduation rates from those programs.
4. For two year programs, admission rates into four-year institutions and graduation rates from those programs.
5. Placement rates of graduates into appropriate career positions and starting salaries.
6. Alumni perceptions of their career responsibilities and satisfaction.
7. Student ratings of their knowledge and skills and reflections on what they have learning over the course of the program.
8. Those questions on end-of-course student evaluations forms that ask about the course rather than the instructor.
9. Student/alumni satisfaction with their learning, collected through surveys, exit interviews, or focus groups
10. Honors, awards, and scholarships earned by students and alumni.

Suskie, L. (2004). *Assessing Student Learning: A Common Sense Guide*. Anker Publishing Company: Bolton, MA

These examples “Discussion of Instructional Changes” in Part 2 of the Student Learning Report illustrate how an instructional or assessment change, even though not listed or discussed in the previous year’s Student Learning Report, was nevertheless included in the current year’s report. Important changes cannot always be anticipated, yet they are significant and should not be left out of the report.