"Assessment is a natural, inescapable, human, and scholarly act... our scholarly training urges us to look for evidence to support claims... so when the college catalogue claims that students learn to be critical thinkers, we ask, 'well, do they?'" -Barbara Walwoord
AE Overview
Student Learning Outcomes
Assessment Methods
Findings
Action Plans
Graduate Programs
INSTITUTIONAL EFFECTIVENESS
OVERVIEW

| WHO | All university units participate in planning and assessment efforts, including colleges, academic departments and programs, administrative and student support units, as well as centers and institutes. It is a faculty and staff driven process. |
| WHAT | The systematic and ongoing process of collecting, analyzing and acting on data. Results should be used for improvement and decision-making purposes. |
| WHERE | Documentation of the IE process should be recorded in Annual Reports. |
| WHEN | Assessment occurs throughout the academic year, but is reported annually in the Annual Report system. |
| | - Academic departments – due August 31 |
| | - Non degree granting departments/centers and institutes – due August 31 |
| | - Colleges, libraries, university offices – due October 31 |
Faculty and staff have a professional responsibility to establish and assess outcomes for improvement purposes.

Increased pressure from higher education stakeholders to provide evidence of academic accountability:
- professional associations and accrediting bodies
- state and federal governments
- students and parents
- research and good practice

Engagement in assessment exclusively for the purpose of accreditation compliance is detrimental to the institutional effectiveness process.

The IE process allows us the opportunity to document credible evidence of outcomes and actions taken for the purpose of improving instruction, programs, and services.
INSTITUTIONAL EFFECTIVENESS BENEFITS

- Align college, department, academic program, service unit, center or institute missions with the broader university mission
- Streamline curriculum/program development
- Determine student/program areas of strength and weakness
- Illustrate courses/program value to the university
- Provide evidence-based feedback to colleagues and students
- Contribute to creating a data-driven, disciplined culture of excellence
IE CYCLE
Ongoing
Systematic
Research based
Integrated
Institution-wide

Closing the Loop -> Expected Outcomes
Findings -> Assessment Methods
Competencies include:
- Knowledge – what should students know?
- Skills – what should student be able to do?
- Attitudes – what should students value, think or care about?

Student learning outcomes should be:
- Specific
- Measurable
- Aspirational, but Attainable
- Reasonable and Relevant
- Time-specific and Timely

Common errors:
- Not related to student learning
- Lacks specificity
Sample verbs for stating specific student learning outcomes

Grouped to demonstrate movement from lower to higher level thinking

**Evaluation**
- Appraise, Argue, Assess, Choose, Conclude, Critic, Decide, Evaluate, Judge, Justify, Predict, Prioritize, Prove, Rank, Rate, Select

**Synthesis**
- Compose, Construct, Create, Design, Develop, Integrate, Invent, Make, Organize, Perform, Plan, Produce, Propose, Rewrite

**Analysis**
- Analyze, Characterize, Classify, Compare, Contrast, Debate, Deduce, Diagram, Differentiate, Discriminate, Distinguish, Examine, Outline, Relate, Research, Separate

**Application**
- Apply, Change, Choose, Compute, Dramatize, Interview, Prepare, Produce, Role-play, Select, Show, Transfer, Use

**Comprehension**
- Conclude, Demonstrate, Discuss, Explain, Generalize, Identify, Illustrate, Interpret, Paraphrase, Predict, Report, Restate, Review, Summarize, Tell

**Knowledge**
- Count, Define, Describe, Draw, Find, Identify, Label, List, Match, Name, Quote, Recall, Recite, Sequence, Tell, Write
Students will learn biology.
[lacks specificity]

Students will demonstrate an understanding of fundamental concepts in the fields of organismal biology, evolutionary biology, genetics, and ecology.

Students will receive instruction in historical music.
[not learning focused]

Students will be able to identify important musical works in historical context.
Incorrect: Students will acquire advanced knowledge in teaching for students with disabilities.

[ lacks specificity ]

Correct: Students will demonstrate the ability to design, implement, and evaluate instruction for students with disabilities.

Incorrect: Students will acquire knowledge to prepare them for careers.

[ lacks specificity ]

Correct: Students will be able to effectively initiate and produce original design concepts using both traditional and electronic media.
DEVELOPING OUTCOMES

Review
- Plans at other institutions
- External, end of program exam
  - What are outcomes measured?
  - Do they match your program?
- Specialized accreditation
- Learned societies
- Professional organizations

Consider
- Exemplary recent graduates
  - What did they know/could they do at end of program?
- What are the essential matters of content, skills, behaviors the graduate must have?
- Course grades ≠ Program assessment
  - Grading criteria often include attendance, participation, extra credit, improvement or effort that, while valued and may be correlated to learning, typically are not direct measures of learning. Impossible to infer what a student knows/can do based on a course grade.

- Course completion ≠ Program assessment
  - A program of study is not simply a series of courses. Courses are elements used to achieve a program’s student learning outcomes.
  - *Courses* = Formative, *Program* = Summative

- Direct vs. indirect measures
  - In order to effectively measure learning, it is essential to employ multiple assessment methods.

ASSessment METHODS
Assessment methods should measure what knowledge, skills, and attitudes the student has learned.
# ASSESSMENT METHODS

<table>
<thead>
<tr>
<th>Direct</th>
<th>Indirect</th>
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<tbody>
<tr>
<td>Authentic performances/demonstrations</td>
<td>Alumni surveys</td>
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<td>Comprehensive exams</td>
<td>Employer surveys</td>
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<td>Internship evaluations</td>
<td>Exit interviews</td>
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<td>Jury-judged capstone assignments</td>
<td>Focus groups</td>
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<td>Juried activities with outside panels</td>
<td>Graduate rates</td>
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<td>Licensure/professional exams</td>
<td>Graduate school/job placement data</td>
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<td>Papers (with evaluation tool applied)</td>
<td>Honors/awards</td>
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<td>Portfolios of student work over time</td>
<td>National Survey of Student Engagement (NSSE) data</td>
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<td>Pre/post tests</td>
<td>Retention rates</td>
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<td>Presentation or projects</td>
<td>Student evaluations</td>
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<td>Theses/dissertations</td>
<td>Student satisfaction surveys</td>
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<td>Standardized tests</td>
<td>Transfer acceptance</td>
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<td>Questionnaires</td>
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- **Good measures:**
  - Refined and aligned with outcomes
  - Employ assortment of assessment types
  - Recognize that surveys are indirect, subjective, incomplete assessments of academic programs

- **Common errors:**
  - Use course grades, course completion, GPA analysis
  - Poorly align with outcomes
  - Focus solely on participation in the course component
  - Identify assignment (paper, portfolio, project, presentation), but no evaluation tool
  - Fail to implement

Assessment methods should measure what knowledge, skills, and attitudes the student has learned.
ASSESSMENT METHOD EXAMPLES

INCORRECT
Outcome: Students are able to conduct independent research
Assessment Method: Grades in COURSE 4567
Finding: 85% of students achieved a B or better
Problem: Cannot determine what students learned, not detailed enough to be actionable

CORRECT
Outcome: Students are able to conduct independent research
Assessment Method: Research paper graded by rubric
Finding: 85% of students achieved score of 3 or higher on two components, but only 65% achieved score of 3 or higher on the ability to synthesize information in literature review
This level of data collection allows for closing the loop improvements
INCORRECT
Outcome: Students will demonstrate the ability to identify, formulate, and solve engineering problems
Assessment Method: Exit survey
Finding: 85% of students indicated that they were satisfied with their ability to solve engineering problems
Problem: Self-report, satisfaction, cannot determine what students learned

CORRECT
Outcome: Students will demonstrate the ability to identify, formulate, and solve engineering problems
Assessment Method: Final project in capstone course graded by rubric
Finding: 85% of students achieved score of 3 or higher on two components, but only 65% achieved score of 3 or higher on the ability to formulate problems
This level of data collection allows for closing the loop improvements
INCORRECT
Outcome: Students will demonstrate proficiency in three art media
Assessment Method: Portfolio
Finding: 10 of 12 student submitted high quality portfolios
Problem: Measure insufficient, cannot determine what students learned

CORRECT
Outcome: Students will demonstrate proficiency in three art media
Assessment Method: Portfolio graded using evaluation checklist
Finding: 75% of students achieved benchmarks, 25% demonstrated inadequate blending skills in watercolor
This level of data collection allows for closing the loop improvements
INCORRECT
Outcome: Students will apply skills related to editorial process of magazine publishing
Assessment Method: Internship
Finding: 12 of 12 students participated in internship
Problem: Measure insufficient, cannot determine what students learned

CORRECT
Outcome: Students will apply skills related to editorial process of magazine publishing
Assessment Method: Internship evaluation completed by site supervisor
Finding: 70% of students scored satisfactory on evaluation items, 30% of students scored unsatisfactory on proofreading element, evaluation comments from site supervisors indicated theme of unprofessionalism
This level of data collection allows for closing the loop improvements
- **Good results:**
  - Reported in aggregate form (program or unit rather than individuals)
  - Maintain anonymity of all participants
  - Offer cogent analysis
  - Exhibit multiple years of data to illustrate improvement
  - Include supporting documentation

- **Common errors:**
  - Lack of follow through with measures
  - Assume need for “enough” students for valid results
  - No results = no use = no improvement = no compliance
  - Summary of findings is unnecessarily detailed
  - Lack of data to support findings
Exit Test Results (FALL 2013) in 1234, 2345, 3456. First for all students who took it; second, for the majors who took it. CLASS 1234 124 students took it; 110 passed; 14 failed Success rate: 88% Objective of 80% success attained. Majors who took it: 1 Successful results Objective attained: 100% CLASS 2345 62 students took it: 43 passed; 19 failed Success rate: 70% Objective of 80% success not attained. Majors. There were no majors enrolled in 2345 this term. CLASS 3456 16 students took it: 9 passed; 7 failed Success rate: 55.5% Objective of 80% success not attained. Majors who took it: 1 Unsuccessful results. Objective not attained. EXIT TESTS RESULTS (Spring 2014) in CLASS 1234, 2345, 3456. First for all the students who took it; second, for the majors in the concentration who took it. CLASS 1234 – 116 students took it, 95 passed and 21 failed. Success rate: 81.5%; objective of 80% success attained. There were no majors enrolled in CLASS 1234 in Spring 2014. CLASS 2345, 95 students took it, 79 passed and 16 failed. Success rate: 83%; our objective of 80% was attained. There were no majors enrolled in CLASS 2345 in Spring 2014. CLASS 3456, 31 students took it, 28 passed and 3... [too much detail, need to be able to easily compare year to year, summarize and refer to supporting documentation]
The instructor forgot to send out the link to the survey. No data. [lack of follow through]

Of the 16 students who completed a final project in our capstone course, 13 (or 81.2%) received more than 80% on their final project rubric. [nice summary, more detail in supporting docs]

Goal was partially met. Assessment indicators reveal weaknesses in evolution, population, and plant biology. Analytical skills are weak, especially compared to the national sample of institutions. The program appears to be succeeding in content areas of Biochemistry, Cell and Molecular Biology and Genetics, but less so in analytical aspects. [nice summary, no numbers, but useful results gained, more detail in supporting docs]

Fall 2013 1 P 2 P 3 P 4 P 5 P 6 P 7 P 8 P 9 P 10 P 11 P 12 P
Spring 2014 1 P 2 P 3 P 4 P 5 P 6 P 7 P 8 P 9 P 10 P 11 P
[not useful]

6/6 (100%) of master’s students passed their thesis defense on the first attempt with all committee members in agreement. [important to track, but not detailed enough to be useful for improvement purposes]
- **Good action plans:**
  - Clearly based on findings
  - Clearly state how/when findings were reviewed
  - Clearly state changes implemented
  - Include plan for how success of implemented changes will be tracked

- **Common errors:**
  - No plans made based on data collected
  - Modifications come from nowhere, not tied to assessment results, no cause and effect
  - Modifications only to assessment method
  - Plan is to “maintain”
  - Plans made, but not implemented
Our goal was met. No further action is needed. We will continue to monitor. [unacceptable]

Since 100% of students completing the degree passed the comprehensive exam on the first try, we are not planning any change of this outcome or measure. [unacceptable]

The actual thesis defense process needs to be reviewed. Better data on student performance during the thesis defense - quality of background investigation, quality of oral presentation, quality of computer-aided presentation, ability to answer questions during presentation, breadth and depth of knowledge of candidate. A questionnaire will be developed that all thesis committee members will complete at the thesis defense. [assessment]

Seek input from faculty teaching CLASS 1234 on how we can have better measure of the performance of students in this class. [assessment]

Develop capstone assessment course, add to curriculum. Effective Spring 2014, all BS students will be required to enroll in CLASS 4567 to take the ETS Major Field Test prior to graduation. [curriculum]
Finding:
80% of students correctly answered the majority of items in all sections, except for genetics – 35% of students missed 3 or more of the 5 questions in this section.

Action:
Additional class time will be devoted to genetics instruction, extra practice questions will be given as homework assignment, exam items will be re-evaluated.

Finding:
85% of students achieved a score of 3 or higher on two components, but only 60% achieved a score of 3 or higher on the ability to synthesize information in literature review.

Action:
Disseminate three examples of quality literature reviews as required reading assignments prior to paper assignment.
Finding:
70% of students scored satisfactory or above on evaluation items, 30% of students scored unsatisfactory on proofreading element; evaluation comments from site supervisors indicated theme of unprofessionalism

Action:
Two in-class proofreading assignments will be added in Fall semester; invite industry professional as guest speaker to discuss detailed expectations of professional work behavior

Finding:
All five students satisfactorily demonstrated appropriate eye contact, self-confidence, professionalism, enthusiasm, timing/pace, etc. Use of visual aids was exceptionally effective. While content was good, major area of weakness was organization.

Action:
Provide one sheet with guidance on organization. Encourage visual aids that enhance presentation.
- **Specific**
- **Measurable**
- **Pay attention to verbs – Bloom’s taxonomy – choose higher level**
  - Find, identify, label vs. develop, integrate, evaluate
  - Student will describe x, y, z [undergraduate]
  - Student will analyze x, y, z [graduate]
- **Master’s level**
  - Research
  - Advanced demonstration of skill
- **Doctoral level**
  - Independent inquiry
<table>
<thead>
<tr>
<th>GRADUATE PROGRAMS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SLO EXAMPLES - INCORRECT</strong></td>
</tr>
<tr>
<td>- Students will receive a high quality accounting education that will allow them to pursue, or advance in, accounting, business, or related careers.</td>
</tr>
<tr>
<td>- <em>Not learning focused, not measurable</em></td>
</tr>
<tr>
<td>- The department will maintain high graduate student satisfaction with the program.</td>
</tr>
<tr>
<td>- <em>Not learning focused, satisfaction</em></td>
</tr>
<tr>
<td>- Students will acquire knowledge of an advanced area of computing and be able to communicate the acquired knowledge in written form.</td>
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<tr>
<td>- <em>Lacks specificity</em></td>
</tr>
<tr>
<td>- Students will develop advanced research skills.</td>
</tr>
<tr>
<td>- <em>Lacks specificity, could be in any graduate program</em></td>
</tr>
<tr>
<td>- Students will demonstrate competency in marketing skills that are pertinent to the hospitality and tourism industry.</td>
</tr>
<tr>
<td>- <em>Lacks indicators of graduate level work and expectations</em></td>
</tr>
<tr>
<td>- Students will develop skills in clinical counseling supervision and in advanced counseling practice during their academic programs.</td>
</tr>
<tr>
<td>- <em>Two outcomes in one, separate for ease of measurement</em></td>
</tr>
</tbody>
</table>
Students will be able to analyze and critique the historical schools of thought that have shaped scholarly understanding of their chosen field(s) of study.

Students will develop an advanced understanding of research methods and their application in the hospitality and tourism industry.

Students will have a specialized knowledge in one of the sub-fields of physics such as, atomic and molecular physics, condensed matter physics, nuclear and particle physics. In addition the physics graduate will be able to demonstrate a basic knowledge in all the subfields mentioned above.

Students will demonstrate advanced skills in clinical counseling supervision including application of a theoretical framework and use of appropriate evaluation tools.
The following are logical assessment points for graduate programs:

- Research paper or project
- Thesis
- General/qualifying/comprehensive exam
- Internship
- Dissertation
- Departmental seminar/capstone course

Although the following findings are important to track, they are not useful in terms of assessing student learning:

- Five out of five students passed their qualifying exam.
- Four out of five students successfully defended their dissertation.
- 100% of students successfully completed their internship.
Therefore it is critical to develop an assessment tool that can obtain more meaningful data so as to facilitate closing the loop/action plan improvement efforts. Consider:

- Rubric
- Checklist
- Evaluation

Please note that course completion and grades may not be used to assess student learning.

The following may not be used to assess student learning, but are appropriate to be used as supplemental measures.

- Teaching evaluations/instructor ratings
- Student satisfaction survey
- Exit interview
- Job or graduate school placement data
- Alumni survey
# Sample Thesis Rubric

<table>
<thead>
<tr>
<th>Component</th>
<th>Component Fully Met (Rating = 3)</th>
<th>Component Met (Rating = 2)</th>
<th>Component Partially Met (Rating = 1)</th>
<th>Component Not Met (Rating = 0)</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis</td>
<td>Effectively and insightfully develops an arguable, persuasive thesis</td>
<td>Develops an arguable, clear thesis</td>
<td>Develops a thesis</td>
<td>Develops no viable point of view or is vague or is seriously limited</td>
<td></td>
</tr>
<tr>
<td>Develop claims</td>
<td>Effectively and insightfully develops strong claims on the issue and demonstrates outstanding critical thinking</td>
<td>Develops claims on the issue and demonstrates competent critical thinking</td>
<td>Develops inconsistent claims on the issue and demonstrates some critical thinking, but may do so inconsistently</td>
<td>Develops no viable point of view or claims are vague or seriously limited, demonstrates weak critical thinking or provides little or no reasoning to support its position</td>
<td></td>
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<tr>
<td>Supporting evidence</td>
<td>Provides clearly appropriate evidence to support position</td>
<td>Provides adequate evidence to support position</td>
<td>Provides inappropriate or insufficient evidence to support position</td>
<td>Provides little or no evidence to support position</td>
<td></td>
</tr>
<tr>
<td>Review of relevant scholarship</td>
<td>Sophisticated integration, synthesis and critique of literature from related fields</td>
<td>Provides a meaningful summary of the literature</td>
<td>Fails to cite important, relevant scholarship</td>
<td>Provides little or no relevant scholarship</td>
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<tr>
<td></td>
<td>Places work within larger context</td>
<td>Shows understanding of relevant literature</td>
<td>Misinterprets the literature</td>
<td></td>
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<tr>
<td>Theoretical framework</td>
<td>Framework is integrated, illuminating all aspects, sophisticated understanding</td>
<td>Grounded in relevant framework, understood and explained</td>
<td>Framework is poorly understood or not used effectively</td>
<td>No framework or lacks relevance or is inappropriate</td>
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<tr>
<td>Maintains purpose/focus</td>
<td>Purposefully focused</td>
<td>Generally focused</td>
<td>Somewhat focused or minor drift in focus</td>
<td>Lacks focus or major drift in focus</td>
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<tr>
<td><strong>Methodology</strong></td>
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<tr>
<td><strong>Sampling</strong></td>
<td>Identifies appropriate methodologies and research techniques (e.g., model of inquiry specified and justified, variables identified, procedures described, data analysis strategies are delineated), includes detailed timeline</td>
<td>Identifies appropriate methodologies and research techniques, but some details are missing or vague</td>
<td>Identifies appropriate methodologies and research techniques, but many details are missing or vague</td>
<td>Not suited or poorly suited for testing the hypothesis or not described or poorly described</td>
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<td><strong>Instrumentation</strong></td>
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<td><strong>Data collection</strong></td>
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<td><strong>Data analysis</strong></td>
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<tr>
<td><strong>Clarity and organization</strong></td>
<td>Purposeful organization of complex claims, clearly considers intended audience</td>
<td>Generally organized including a logical sequence of claims</td>
<td>An attempt at organization, but overall exist some errors that confuses communication of ideas</td>
<td>Lacks organization and fails to include logical sequence of claims</td>
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<td></td>
<td>Effectively uses a variety of transitional strategies</td>
<td>Adequately uses transitional strategies</td>
<td>Inconsistently uses basic transitions</td>
<td>Few or no transitions used</td>
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<tr>
<td><strong>References and citations</strong></td>
<td>Properly and explicitly cited</td>
<td>Properly cited</td>
<td>Improperly cited</td>
<td>Improperly cited or no citations present</td>
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</table>

**Notes:**
<table>
<thead>
<tr>
<th>Components</th>
<th>Yes</th>
<th>Sometimes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>Eye contact</td>
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<td>Facial expressions</td>
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<td>Gestures/movement</td>
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<tr>
<td>Appropriate word choice</td>
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<td>Proper pronunciation</td>
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<tr>
<td>Vocal variety</td>
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<td>Self-confidence</td>
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<td>Professionalism</td>
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<td>Enthusiasm</td>
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<td>Timing/pace</td>
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<tr>
<td>Components</td>
<td>Yes</td>
<td>Sometimes</td>
<td>No</td>
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<td>Well organized</td>
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<td>Clear and readable</td>
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<td>Free of mechanical and grammatical errors</td>
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<tr>
<td>Relevant and meaningful</td>
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<tr>
<td>Enhance overall presentation</td>
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