ECC’s Second Core Competency Assessment: “Critical, Creative, and Analytical Thinking”

Presented By: Carolyn Pineda & Kaysa Laureano
Core Competency Statement

Critical, Creative, and Analytical Thinking: Students solve problems, make judgments and reach decisions using critical, creative and analytical skills.
Assessment Design

Student Survey
- Self-assessment of 6 discrete skills in critical, creative, and analytical thinking.
  1) Draw conclusion based on evidence or information
  2) Evaluate quality and credibility of a source or evidence
  3) Create a work that meets defined standards
  4) Use standards to make judgment
  5) Apply theory to analyze data or solve a problem
  6) Create solution or approach to a problem

- Beginning of education at El Camino College
- Current rating overall rating
El Camino College
Student Survey: Critical, Creative and Analytical Thinking

Thank you for participating in this survey. Your participation is very important in helping the college measure whether students are meeting the following college-wide learning outcomes:

Critical, Creative and Analytical Thinking: Students solve problems, make judgments and reach decisions using critical, creative and analytical skills.

Your responses to these questions will be grouped with other students' responses and will help the college make decisions about how to improve programs and services to enhance student learning on the campus.

Note: By providing your student ID number, you are giving ECC's research office access to your student records, including grades. However, please rest assured this information will not go beyond the research office and that providing this information will not affect current or future grades in your classes. Your responses will not be considered individually. Instead, your information will be grouped with other students' information and analyzed as a whole. By providing this information, you will be helping the College improve programs and services for its students.

Please ONLY use a #2 pencil and fill in the bubble completely.

1. Student ID Number:

Instructions: Based on your overall experience at the college, not just this course, rate how well you are able to do the following general activities (in bold). Do not rate yourself on all of the activities in the parentheses—these examples are meant as guides. Rate yourself 1-5, where 1 is Beginner and 5 is Advanced.

1. I am able to draw a conclusion based on evidence or information (for example, from a test, a mock investigation, or scientific evidence, etc.).
   o 1 Beginner
   o 2
   o 3
   o 4
   o 5 Advanced

2. I am able to evaluate the quality and credibility of a source or evidence (for example, a website or article, etc.).
   o 1 Beginner
   o 2
   o 3
   o 4
   o 5 Advanced

3. I am able to create a work that meets defined standards (for example, an essay, a lab report, a poem or art work, etc.).
   o 1 Beginner
   o 2
   o 3
   o 4
   o 5 Advanced

4. I am able to use standards to make judgments (for example, evaluate another student's essay, or make a drawing by judging proportion of the subject, etc.).
   o 1 Beginner
   o 2
   o 3
   o 4
   o 5 Advanced

(OVER)

5. I am able to apply theory to analyze data or solve a problem (for example, use a math formula to solve a problem, or use a theory or concept to analyze information or data, etc.).
   o 1 Beginner
   o 2
   o 3
   o 4
   o 5 Advanced

6. I am able to create a solution or approach to a problem (for example, create a business plan to solve a problem in business or develop a plan to assess and guide a child's behavior in a child care setting, etc.).
   o 1 Beginner
   o 2
   o 3
   o 4
   o 5 Advanced

7. Based on my answers above, I rate my current OVERALL critical, creative, and analytical thinking skills as:
   o 1 Beginner
   o 2
   o 3
   o 4
   o 5 Advanced

8. I would have rated my OVERALL critical, creative, and analytical thinking skills when I began my education at ECC as:
   o 1 Beginner
   o 2
   o 3
   o 4
   o 5 Advanced
Faculty Survey

- Faculty evaluated students in only the categories they were familiar with and that their courses covered.

Course Grades

- Courses coded for alignment with core competencies in IR database
- Only courses aligning with “critical, creative, and analytical thinking” core competency were included; only for students who participated in the survey and agreed to include their ID number
Faculty from 13 sections returned student self-assessments
  • 313 students submitted self-assessments

8 faculty completed assessments on their students’ critical thinking skills
  • Faculty assessed 186 students
# Student Self-Assessment & Faculty Assessment Mean Scores by Activity

<table>
<thead>
<tr>
<th>Activity/Skill</th>
<th>Student Mean</th>
<th>Faculty Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw conclusion based on evidence or information</td>
<td>4.01</td>
<td>3.45</td>
</tr>
<tr>
<td>Evaluate quality and credibility of a source or evidence</td>
<td>3.99</td>
<td>3.56</td>
</tr>
<tr>
<td>Create a work that meets defined standards</td>
<td>4.11</td>
<td>3.72</td>
</tr>
<tr>
<td>Use standards to make judgment</td>
<td>4.07</td>
<td>3.73</td>
</tr>
<tr>
<td>Apply theory to analyze data or solve a problem</td>
<td>3.95</td>
<td>3.57</td>
</tr>
<tr>
<td>Create solution or approach to a problem</td>
<td>3.97</td>
<td>3.63</td>
</tr>
</tbody>
</table>
## Student Self-Assessment & Faculty Assessment Overall Mean Scores

<table>
<thead>
<tr>
<th>Critical Thinking Skills Rating</th>
<th>Student Mean</th>
<th>Faculty Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning of education at El Camino College</td>
<td>3.42</td>
<td>N/A</td>
</tr>
<tr>
<td>Current</td>
<td>4.06</td>
<td>3.59</td>
</tr>
<tr>
<td>Activity/Skill</td>
<td>Female Mean (n=167)</td>
<td>Male Mean (n=119)</td>
</tr>
<tr>
<td>---------------------------------------------------------</td>
<td>---------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Draw conclusion based on evidence or information</td>
<td>3.93</td>
<td>4.14</td>
</tr>
<tr>
<td>Evaluate quality and credibility of a source or evidence</td>
<td>3.98</td>
<td>4.04</td>
</tr>
<tr>
<td>Create a work that meets defined standards</td>
<td>4.07</td>
<td>4.13</td>
</tr>
<tr>
<td>Use standards to make judgment</td>
<td>4.00</td>
<td>4.17</td>
</tr>
<tr>
<td>Apply theory to analyze data or solve a problem</td>
<td>3.50</td>
<td>3.78</td>
</tr>
<tr>
<td>Create solution or approach to a problem</td>
<td>3.66</td>
<td>3.82</td>
</tr>
</tbody>
</table>
# Student Self-Assessment

## Overall Mean Scores by Gender

<table>
<thead>
<tr>
<th>Critical Thinking Skills Rating</th>
<th>Female Mean</th>
<th>Male Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning of education at El Camino College</td>
<td>3.24</td>
<td>3.46</td>
</tr>
<tr>
<td>Current</td>
<td>3.99</td>
<td>4.08</td>
</tr>
</tbody>
</table>
## Student Self-Assessment Mean Scores by Ethnicity

<table>
<thead>
<tr>
<th>Activity/Skill</th>
<th>Asian (n=40)</th>
<th>African Amer. (n=86)</th>
<th>Latino (n=88)</th>
<th>White (n=45)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw conclusion based on evidence or information</td>
<td>3.73</td>
<td>3.88</td>
<td>3.94</td>
<td>4.47</td>
</tr>
<tr>
<td>Evaluate quality and credibility of a source or evidence</td>
<td>3.70</td>
<td>3.94</td>
<td>3.99</td>
<td>4.44</td>
</tr>
<tr>
<td>Create a work that meets defined standards</td>
<td>3.70</td>
<td>3.93</td>
<td>4.20</td>
<td>4.60</td>
</tr>
<tr>
<td>Use standards to make judgment</td>
<td>3.65</td>
<td>3.95</td>
<td>4.15</td>
<td>4.42</td>
</tr>
<tr>
<td>Apply theory to analyze data or solve a problem</td>
<td>3.05</td>
<td>3.71</td>
<td>3.64</td>
<td>4.02</td>
</tr>
<tr>
<td>Create solution or approach to a problem</td>
<td>3.25</td>
<td>3.78</td>
<td>3.63</td>
<td>4.07</td>
</tr>
</tbody>
</table>
## Student Self-Assessment

### Overall Mean Scores by Ethnicity

<table>
<thead>
<tr>
<th>Critical Thinking Skills Rating</th>
<th>Asian</th>
<th>African Amer.</th>
<th>Latino</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning of education at El Camino College</td>
<td>3.00</td>
<td>3.4</td>
<td>3.36</td>
<td>3.47</td>
</tr>
<tr>
<td>Current</td>
<td>3.63</td>
<td>3.95</td>
<td>4.08</td>
<td>4.44</td>
</tr>
</tbody>
</table>
Course Grades

- Course grades in “critical, analytical, and creative thinking” courses—Torrance
  - GPA=3.00
  - Average number of courses taken=7.5
  - Success=76%; Retention=87%

- Course grades in critical, analytical, and creative thinking” courses—Compton
  - GPA=3.14
  - Average number of courses taken=4.1
  - Success=75%; Retention=87%
Students indicated their critical thinking skills have improved since they began ECC or CEC.

Overall, faculty ratings of their students’ critical thinking skills were lower than the student self-assessment.

Students demonstrate high performance in success, retention, and GPAs in courses with a greater emphasis on critical thinking.
Questions... Comments
After reading and reflecting about the Critical, Creative and Analytical Thinking Core Competency assessment results, please answer the following questions:

1) What are your general observations of the data?

2) What are the implications/recommendations for the college?

3) What are the implications/recommendations for your area/program?

4) Do you have any specific questions or concerns about this core competency or its assessment?
Thank you!!!