Assessing Core Competencies: Results of Critical Thinking Skills Testing

2017 Spring Graduating Seniors from the College of Liberal Arts and Social Sciences (CLASS)

Office of Institutional Effectiveness
Academic and Student Affairs
University of Guam
Unibetsedat Guahan
### Critical Thinking Skills Assessment - Graduating Seniors

#### MEDIAN Scores

<table>
<thead>
<tr>
<th>Skill/Attribute</th>
<th>2015 Spring</th>
<th>2015 Fall</th>
<th>2016 Spring</th>
<th>2016 Fall</th>
<th>2017 Spring</th>
<th>Five-Semester Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>251</td>
<td>153</td>
<td>275</td>
<td>172</td>
<td>242</td>
<td>218.6</td>
</tr>
<tr>
<td>OVERALL SCORE</td>
<td>71</td>
<td>71</td>
<td>71</td>
<td>72</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>Analysis</td>
<td>70</td>
<td>75</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>Deduction</td>
<td>69</td>
<td>69</td>
<td>69</td>
<td>69</td>
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<tr>
<td>Evaluation</td>
<td>71</td>
<td>67</td>
<td>67</td>
<td>71</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>Explanation</td>
<td>74</td>
<td>68</td>
<td>68</td>
<td>68</td>
<td>74</td>
<td>70</td>
</tr>
<tr>
<td>Induction</td>
<td>77</td>
<td>77</td>
<td>74</td>
<td>74</td>
<td>77</td>
<td>76</td>
</tr>
<tr>
<td>Inference</td>
<td>75</td>
<td>72</td>
<td>75</td>
<td>72</td>
<td>75</td>
<td>74</td>
</tr>
<tr>
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<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>81</td>
<td>75</td>
</tr>
</tbody>
</table>

#### OVERALL SCORE Analysis Deduction Evaluation Explanation Induction Inference Interpretation

Aggregate sample of CCTST Four Year College Students, average percentile score: 29 32 30 31 30 30

#### MEAN Scores

<table>
<thead>
<tr>
<th>Skill/Attribute</th>
<th>2015 Spring</th>
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<td>275</td>
<td>172</td>
<td>242</td>
<td>218.60</td>
</tr>
<tr>
<td>OVERALL SCORE</td>
<td>71.4</td>
<td>70.8</td>
<td>70.9</td>
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<td>Deduction</td>
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<td>70.2</td>
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<td>77.2</td>
<td>76.4</td>
<td>76.4</td>
<td>77.9</td>
<td>76.92</td>
</tr>
</tbody>
</table>

Aggregate sample of CCTST Four Year College Students, average percentile score: 29 32 30 31 34 31

Critical Thinking Skills Assessment - Graduating Seniors

Median Scores

**Assessment instrument:** California Critical Thinking Skills Test (CCTST); Insight Assessment 5 Semester SR TrendChart
### Critical Thinking Skills Test Overall Results - CLASS
Graduating Seniors 2017 Spring

<table>
<thead>
<tr>
<th>Subject</th>
<th>Average (n)</th>
<th>Overall Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTHROPOLOGY (n=1)</td>
<td>64.0</td>
<td>UOG Average (n=242) 72.0</td>
</tr>
<tr>
<td>COMMUNICATION STUD Average (n=5)</td>
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<tr>
<td>ENGLISH UNDERGRAD Average (n=17)</td>
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</tr>
<tr>
<td>FINE ARTS/ART Average (n=7)</td>
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<tr>
<td>FINE ARTS/THEATER Average (n=2)</td>
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</tr>
<tr>
<td>HISTORY Average (n=1)</td>
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<tr>
<td>PACIFIC ASIAN STUDIES PROGRAM Average (n=4)</td>
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<td>POLITICAL SCIENCE Average (n=1)</td>
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<td>PSYCHOLOGY Average (n=12)</td>
<td>74.9</td>
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<td>SOCIOLOGY Average (n=1)</td>
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<tr>
<td>CLASS Average (n=50)</td>
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<tr>
<td>UOG Average (n=242)</td>
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### Critical Thinking Skills Test Percentile Results - CLASS
Graduating Seniors 2017 Spring

<table>
<thead>
<tr>
<th>Subject</th>
<th>Percentile (n)</th>
<th>Percentile Results</th>
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</thead>
<tbody>
<tr>
<td>ANTHROPOLOGY (n=1)</td>
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<td>UOG Average (n=242) 35.1</td>
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<td>ENGLISH UNDERGRAD Average (n=17)</td>
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<td>FINE ARTS/THEATER Average (n=2)</td>
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<tr>
<td>HISTORY Average (n=1)</td>
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<td>PACIFIC ASIAN STUDIES PROGRAM Average (n=4)</td>
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<td>POLITICAL SCIENCE Average (n=1)</td>
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<td>PSYCHOLOGY Average (n=12)</td>
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<td>SOCIOLOGY Average (n=1)</td>
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<tr>
<td>CLASS Average (n=50)</td>
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<tr>
<td>UOG Average (n=242)</td>
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</tbody>
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Source: California Critical Thinking Skills Test Results
17SP CCTST Overall and Percentile Avg Results by College
Critical Thinking Skills Test Overall Results - Anthropology
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Anthropology
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results

17SP CCTST SR (CLASS) Results
Critical Thinking Skills Test Overall Results - Communication Studies
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Communication Studies
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
Critical Thinking Skills Test Overall Results - English
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - English
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results

17SP CCTST SR (CLASS) Results
Critical Thinking Skills Test Overall Results - Fine Arts/Art
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Fine Arts/Art
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
17SP CCTST SR (CLASS) Results
Critical Thinking Skills Test Overall Results - Fine Arts/Theater
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Fine Arts/Theater
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
17SP CCTST SR (CLASS) Results
Critical Thinking Skills Test Overall Results - History
Graduating Seniors 2017 Spring

<table>
<thead>
<tr>
<th></th>
<th>OVERALL</th>
<th>Analysis</th>
<th>Interpretation</th>
<th>Inference</th>
<th>Evaluation</th>
<th>Explanation</th>
<th>Induction</th>
<th>Deduction</th>
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<td>72.5</td>
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<td>71.8</td>
<td>76.2</td>
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<tr>
<td>C</td>
<td>74.4</td>
<td>74.5</td>
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<td>UOG</td>
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<td>71.7</td>
<td>70.4</td>
<td>33.5</td>
</tr>
</tbody>
</table>

Critical Thinking Skills Test Percentile Results - History
Graduating Seniors 2017 Spring

<table>
<thead>
<tr>
<th></th>
<th>HISTORY Average (n=1)</th>
<th>CLASS Average (n=50)</th>
<th>UOG Average (n=242)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg</td>
<td>79.0</td>
<td>66.0</td>
<td>33.5</td>
</tr>
<tr>
<td>H</td>
<td>72.0</td>
<td>35.1</td>
<td></td>
</tr>
<tr>
<td>UOG</td>
<td>71.7</td>
<td>33.5</td>
<td></td>
</tr>
</tbody>
</table>

Source: California Critical Thinking Skills Test Results

17SP CCTST SR (CLASS) Results
Critical Thinking Skills Test Overall Results - Pacific Asian Studies
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Pacific Asian Studies
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results

17SP CCTST SR (CLASS) Results
Critical Thinking Skills Test Overall Results - Political Science
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Political Science
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
Critical Thinking Skills Test Overall Results - Psychology
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Psychology
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results

17SP CCTST SR (CLASS) Results
Critical Thinking Skills Test Overall Results - Sociology
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Sociology
Graduating Seniors 2017 Spring

Source: Califonia Critical Thinking Skills Test Results

17SP CCTST SR (CLASS) Results
Assessing Core Competencies: Results of Critical Thinking Skills Testing

2017 Spring  Graduating Seniors from the College of Natural and Applied Sciences (CNAS)

Office of Institutional Effectiveness
Academic and Student Affairs
University of Guam
Unibetsedat Guahan
Critical Thinking Skills Test Overall Results - CNAS
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
17SP CCTST Overall and Percentile Avg Results by College
Critical Thinking Skills Test Overall Results - Biology
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Biology
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
### Critical Thinking Skills Test Overall Results - Chemistry
Graduating Seniors 2017 Spring

<table>
<thead>
<tr>
<th>Category</th>
<th>CHEMISTRY Average (n=5)</th>
<th>CNAS Average (n=44)</th>
<th>UOG Average (n=242)</th>
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<tbody>
<tr>
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<tr>
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<td>Interpretation</td>
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<td>77.9</td>
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<tr>
<td>Inference</td>
<td>80.5</td>
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</tr>
<tr>
<td>Evaluation</td>
<td>80.7</td>
<td>74.3</td>
<td>71.8</td>
</tr>
<tr>
<td>Explanation</td>
<td>80.7</td>
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<td>76.2</td>
</tr>
<tr>
<td>Induction</td>
<td>82.5</td>
<td>77.2</td>
<td>73.9</td>
</tr>
<tr>
<td>Deduction</td>
<td>74.4</td>
<td>77.9</td>
<td>71.2</td>
</tr>
</tbody>
</table>

### Critical Thinking Skills Test Percentile Results - Chemistry
Graduating Seniors 2017 Spring

<table>
<thead>
<tr>
<th>Category</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>59.2</td>
<td>43.9</td>
<td>33.5</td>
</tr>
</tbody>
</table>

Source: California Critical Thinking Skills Test Results

17SP CCTST SR (CNAS) Results
Critical Thinking Skills Test Overall Results - Computer Info Systems
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Computer Info Systems
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
17SP CCTST SR (CNAS) Results
Critical Thinking Skills Test Overall Results - Computer Science
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Computer Science
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results

17SP CCTST SR (CNAS) Results
Critical Thinking Skills Test Overall Results - Consumer & Family Sciences
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Consumer & Family Sciences
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results

17SP CCTST SR (CNAS) Results
Critical Thinking Skills Test Overall Results - Mathematics
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Mathematics
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
Assessing Core Competencies: Results of Critical Thinking Skills Testing

2017 Spring Graduating Seniors from the School of Business and Public Administration (SBPA)

Office of Institutional Effectiveness
Academic and Student Affairs
University of Guam
Unibetsedat Guahan
Critical Thinking Skills Test Overall Results - SBPA
Graduating Seniors 2017 Spring

ACCOUNTING Average (n=15)  BUSINESS ADMINISTRATION (UG) Average (n=45)  CRIMINAL JUSTICE Average (n=20)  PUBLIC ADMIN Average (n=3)  SBPA Average (n=78)  UOG Average (n=242)

Critical Thinking Skills Test Overall Results - SBPA
Graduating Seniors 2017 Spring

ACCOUNTING Average (n=15)  BUSINESS ADMINISTRATION (UG) Average (n=45)  CRIMINAL JUSTICE Average (n=20)  PUBLIC ADMIN Average (n=3)  SBPA Average (n=78)  UOG Average (n=242)

Source: California Critical Thinking Skills Test Results

17SP CCTST Overall and Percentile Avg Results by College
Critical Thinking Skills Test Overall Results - Accounting
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Accounting
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results

Source: University of Guam
Academic & Student Affairs
Institutional Effectiveness

May 2017
Critical Thinking Skills Test Overall Results - Business Administration
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Business Administration
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
17SP CCTST SR (SBPA) Results
Critical Thinking Skills Test Overall Results - Criminal Justice
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Criminal Justice
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
Critical Thinking Skills Test Overall Results - Public Administration
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Public Administration
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results

17SP CCTST SR (SBPA) Results
Assessing Core Competencies: Results of Critical Thinking Skills Testing

2017 Spring Graduating Seniors from the School of Nursing and Health Sciences (SNHS)

Office of Institutional Effectiveness
Academic and Student Affairs
University of Guam
Unibetsedat Guahan
Critical Thinking Skills Test Overall Results - SNHS
Graduating Seniors 2017 Spring

- **Health Science (n=16)**: 71.6
- **Nursing (n=16)**: 73.3
- **Social Work (n=15)**: 69.1
- **SNHS Average (n=47)**: 71.4
- **UOG Average (n=242)**: 71.7

Critical Thinking Skills Test Overall Results - SNHS
Graduating Seniors 2017 Spring

- **Health Science (n=16)**: 31.3
- **Nursing (n=16)**: 41.1
- **Social Work (n=15)**: 23.7
- **SNHS Average (n=47)**: 32.2
- **UOG Average (n=242)**: 33.5

Source: California Critical Thinking Skills Test Results

17SP CCTST Overall and Percentile Avg Results by College
Critical Thinking Skills Test Overall Results - Nursing Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Nursing Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
Critical Thinking Skills Test Overall Results - Social Work
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Social Work
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results

17SP CCTST SR (SNHS) Results
Assessing Core Competencies: Results of Critical Thinking Skills Testing

2017 Spring  Graduating Seniors from the School of Education (SOE)

Office of Institutional Effectiveness
Academic and Student Affairs
University of Guam
Unibetsedat Guahan
Critical Thinking Skills Test Overall Results - SOE
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
17SP CCTST Overall and Percentile Avg Results by College
Critical Thinking Skills Test Overall Results - Early Childhood
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Early Childhood
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results

17SP CCTST SR (SOE) Results
Critical Thinking Skills Test Overall Results - Elementary Education
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Elementary Education
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
17SP CCTST SR (SOE) Results
Critical Thinking Skills Test Overall Results - Secondary Education
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Secondary Education
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
17SP CCTST SR (SOE) Results
Critical Thinking Skills Test Overall Results - Special Education
Graduating Seniors 2017 Spring

Critical Thinking Skills Test Percentile Results - Special Education
Graduating Seniors 2017 Spring

Source: California Critical Thinking Skills Test Results
17SP CCTST SR (SOE) Results
OVERALL

The Reasoning Skills Overall score describes overall strength in using reasoning to form reflective judgments about what to believe or what to do. High Overall scores are attained by test takers who excel in the sustained, focused and integrated application of core thinking skills measured on this test, including analysis, interpretation, inference, evaluation, explanation, induction and deduction. The Overall score predicts the capacity for success in educational or workplace settings which demand reasoned decision making and thoughtful problem solving.

INDUCTION

Decision making in contexts of uncertainty relies on inductive reasoning. We use inductive reasoning skills when we draw inferences about what we think is probably true based on analogies, case studies, prior experience, statistical analyses, simulations, hypotheticals, and patterns recognized in familiar objects, events, experiences and behaviors. As long as there is the possibility, however remote, that a highly probable conclusion might be mistaken even though the evidence at hand is unchanged, the reasoning is inductive. Although it does not yield certainty, inductive reasoning can provide a confident basis for sold belief in our conclusions and a reasonable basis for action.

EXPLANATION

Explanatory reasoning skills, when exercised prior to making a final decision about what to believe or what to do, enable us to describe the evidence, reasons, methods, assumptions, standards or rationale for those decisions, opinions, beliefs and conclusions. Strong explanatory skills enable people to discover, to test and to articulate the reasons for beliefs, events, actions and decisions.

INTERPRETATION

Interpretative skills are used to determine the precise meaning and significance of a message or signal, whether it is a gesture, sign, set of data, written or spoken words, diagram, icon, chart or graph. Correct interpretation depends on understanding the message in its context and in terms of who sent it, and for what purpose. Interpretation includes clarifying what something or someone means, grouping or categorizing information, and determining the significance of a message.

INFERENCE

Inference skills enable us to draw conclusions from reasons and evidence. We use inference when we offer thoughtful suggestions and hypotheses. Inference skills indicate the necessary or the very probable consequences of a given set of facts and conditions. Conclusions, hypotheses, recommendations or decisions that are based on faulty analyses, misinformation, bad data or biased evaluations can turn out to be mistaken, even if they have been reached using excellent inference skills.

EVALUATION

Evaluative reasoning skills enable us to assess the credibility of sources of information and the claims they make. And, we use these skills to determine the strength or weakness of arguments. Applying evaluation skills we can judge the quality of analyses, interpretations, explanations, inferences, options, opinions, beliefs, ideas, proposals, and decisions. Strong explanation skills can support high quality evaluation by providing the evidence, reasons, methods, criteria, or assumptions behind the claims made and the conclusions reached.

ANALYSIS

Analytical reasoning skills enable people to identify assumptions, reasons and claims, and to examine how they interact in the formation of arguments. We use analysis to gather information from charts, graphs, diagrams, spoken language and documents. People with strong analytical skills attend to patterns and to details. They identify the elements of a situation and determine how those parts interact. Strong interpretation skills can support high quality analysis by providing insights into the significance of what a person is saying or what something means.

DEDUCTION

Decision making in precisely defined contexts where rules, operating conditions, core beliefs, values, policies, principles, procedures and terminology completely determine the outcome depends on strong deductive reasoning skills. Deductive reasoning moves with exacting precision from the assumed truth of a set of beliefs to a conclusion which cannot be false if those beliefs are true. Deductive validity is rigorously logical and clear-cut. Deductive validity leaves no room for uncertainty, unless one alters the meanings of words or the grammar of the language.