Focus on Institutional Improvement:
First Steps in Developing Meaningful General Education Assessment

West Virginia Advisory Council of Faculty
Spring Meeting: April 26, 2013

Mary E. Reynolds, Marshall University
Tracey Anderson, Bluefield State College
Concerns

Collegiate Learning Assessment: CLA

- Student sample size (200): Difficult for small institutions
- Results too holistic
- Results not used to inform improvement
- Student sample size (200): Too small for large institutions
Solution

Examine these issues

Discuss ideas regarding meaningful assessment

Develop method of meaningful assessment for WV’s colleges
Moving away from the CLA

Important Issues

- Assessments must address outcomes institutions value
- Assessment must identify strengths and weaknesses in student learning
- Results must inform pedagogical and curricular improvement
- Assessments must be externally validated
West Virginia Higher Education Assessment Council’s Actions: May 2012

Discussed Importance of:

- Assessment for two and four-year institutions
- Customized assessment tailored to missions of institutions
- Externally validated assessments
- Identifying commonalities among state institutions’ outcomes
West Virginia Higher Education Assessment Council’s Actions: May – June 2012

May – June 2012
• Each institution shared its learning outcomes.
• Outcomes were collated for Council members.

June 2012
• Pearson representatives attended June meeting.
• Council decided first step was to determine areas of learning common to all two- and four-year institutions. Formed subcommittee for this purpose.
<table>
<thead>
<tr>
<th>GENERAL EDUCATION STUDENT LEARNING OUTCOMES</th>
<th>Communication</th>
<th>Quantitative Literacy</th>
<th>Diversity/Global Awareness/Intercultural Thinking</th>
<th>Scientific Literacy</th>
<th>Critical/Analytic Thinking</th>
<th>Information and Technical Literacy</th>
<th>Ethical Behavior</th>
<th>Inquiry/Research</th>
<th>Social Science Literacy</th>
<th>Civic Engagement</th>
<th>Arts</th>
<th>Lifelong Learning</th>
<th>Integrative Thinking</th>
<th>Wellness</th>
<th>Metacognitive Reflection</th>
<th>Creative Thinking</th>
<th>Teamwork</th>
<th>Career Knowledge and Related Skills</th>
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Top Seven Shared Areas of Learning

1. Communication – all institutions
2. Quantitative Literacy – all institutions
3. Diversity/Intercultural Thinking/Global Awareness
4. Scientific Literacy
5. Critical/Analytic Thinking
6. Information/Technical Literacy
7. Ethical Behavior
West Virginia Higher Education Assessment Council’s Actions: September 2012

Analysis and discussion

Agreement on four areas of learning

<table>
<thead>
<tr>
<th>Communication</th>
<th>Quantitative Literacy</th>
<th>Citizenship</th>
<th>Critical Thinking/Analytic Inquiry/Problem Solving</th>
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</thead>
</table>
Council’s Thought Process

Communication

Communication
Council’s Thought Process

Quantitative Literacy

Quantitative Literacy
Council’s Thought Process

Citizenship

Interpersonal (Teamwork, Global Awareness, Civic Engagement)

Intrapersonal (Lifelong Learning, Wellness, Metacognitive Reflection)

Ethical Reasoning
Council’s Thought Process

Critical/Analytic Thinking

Information and Technical Literacy

Scientific Literacy

Inquiry/Research

Critical Thinking — Analytic Inquiry — Problem Solving
West Virginia Higher Education Assessment Council’s Actions

- Formed a Subcommittee for each Area of Learning charged with
  - Developing its definitions
  - Developing its essential traits
West Virginia Higher Education Assessment Council’s Actions: September – February 2013

Subcommittees used

- Bloom’s Taxonomy
- Lumina Foundation’s DQP

To develop

- Credential specific performance level expectations for each Essential Trait
- Credential specific outcomes for each Area of Learning
West Virginia Higher Education Assessment Council’s Actions

Outcomes address learning at the

- 30-Hour Certificate Level
- Associate’s Degree Level
- Bachelor’s Degree Level
- Advanced Level
# Quantitative Literacy

**Definition:** Quantitative Literacy is defined as the ability to analyze and evaluate quantitative information and to use that information to formulate valid arguments supported by quantitative evidence and quantitative solutions to real-world problems.

**Outcome for students receiving a One-Year Certificate:** Students will explain basic quantitative concepts, visual representations of quantitative information and the process of estimation. Additionally, students will identify patterns in data and report circumstances, problems, or actions quantitatively.

**Outcome for students receiving an Associate’s Degree:** Students will retrieve and prioritize visual representations of quantitative information, choose an estimate and explain rationale for doing so, interpret the results of a statistical analysis, and illustrate and examine circumstances, problems, and/or actions quantitatively.

**Outcome for students receiving a Bachelor’s Degree:** Students will validate visual representations of quantitative information, formulate plausible estimates, differentiate valid from questionable statistical results, and analyze real-world problems quantitatively.

**Outcome for students achieving an Advanced Level:** Students will construct visual representations of quantitative information, synthesize relevant information and data to formulate plausible estimates, modify quantitative analyses that produce questionable results, generalize specific patterns to new situations, and validate problems quantitatively.

<table>
<thead>
<tr>
<th>Essential Traits</th>
<th>Certificate Benchmark</th>
<th>Associate’s Benchmark</th>
<th>Bachelor’s Benchmark</th>
<th>Advanced Benchmark</th>
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<tbody>
<tr>
<td><strong>Visual Representations</strong></td>
<td>Summarize or explain a visual representation of quantitative information.</td>
<td>Retrieve and prioritize visual representations of quantitative information.</td>
<td>Validate visual representations of quantitative information.</td>
<td>Construct a visual representation of quantitative information.</td>
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<td><strong>Estimation</strong></td>
<td>Explain the process of estimation.</td>
<td>Choose an estimate and explain rationale for doing so.</td>
<td>Use appropriate procedures to formulate plausible estimates to specific questions/problems.</td>
<td>Synthesize relevant information and data to formulate plausible estimates to specific questions/problems.</td>
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<tr>
<td><strong>Data Analysis</strong></td>
<td>Explain basic quantitative terms/concepts. Identify patterns in the data.</td>
<td>Interpret the results of data analyses. Explain patterns in the data.</td>
<td>Differentiate valid from questionable statistical (or other quantitative) results and explain why the latter may be misleading. Analyze patterns in the data.</td>
<td>Suggest how a statistical analysis that produces a questionable result might be modified to produce a valid result. Generalize patterns to new situations or problems.</td>
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<tr>
<td><strong>Context</strong></td>
<td>Explain and report circumstances, problems, and/or actions quantitatively.</td>
<td>Illustrate and examine circumstances, problems, and/or actions quantitatively.</td>
<td>Analyze and gauge circumstances, problems, and/or actions quantitatively.</td>
<td>Evaluate and validate circumstances, problems, and/or actions quantitatively.</td>
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Citizenship

**Definition:** Citizenship is the status of being civically engaged in one's community; demonstrating the ability to reason ethically within one's own community; demonstrating a willingness to be a lifelong learner; exhibiting intercultural knowledge and skills; contributing politically and non-politically to one's community as a member of a team and; actively promoting wellness and good health throughout one's community.

**Outcome for students receiving a One-Year Certificate:** Students will **demonstrate** basic tenets of citizenship to include ethical reasoning; interpersonal engagement in areas such as teamwork, global awareness, and civic engagement; and intrapersonal engagement in areas such as lifelong learning, wellness, and metacognitive reflection.

**Outcome for students receiving an Associate's Degree:** Students will **apply** basic tenets of citizenship to include ethical reasoning; interpersonal engagement in areas such as teamwork, global awareness, and civic engagement; and intrapersonal engagement in areas such as lifelong learning, wellness, and metacognitive reflection.

**Outcome for students receiving a Bachelor's Degree:** Students will **analyze** and **evaluate** the tenets of citizenship to include ethical reasoning; interpersonal engagement in areas such as teamwork, global awareness, and civic engagement; and intrapersonal engagement in areas such as lifelong learning, wellness, and metacognitive reflection.

**Outcome for students achieving an Advanced Level:** Students will **initiate** the tenets of citizenship to include ethical reasoning; interpersonal engagement in areas such as teamwork, global awareness, and civic engagement; and intrapersonal engagement in areas such as lifelong learning, wellness, and metacognitive reflection.

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<th>Essential Traits</th>
<th>Certificate Benchmark</th>
<th>Associate's Benchmark</th>
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<tr>
<td><strong>Interpersonal Engagement</strong> (teamwork, global awareness, and civic engagement)</td>
<td>Demonstrate basic tenets of interpersonal engagement.</td>
<td>Apply basic tenets of interpersonal engagement.</td>
<td>Analyze and evaluate basic tenets of interpersonal engagement.</td>
<td>Initiate basic tenets of interpersonal engagement.</td>
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<tr>
<td><strong>Ethical Reasoning</strong></td>
<td>Apply basic tenets of ethical reasoning.</td>
<td>Discuss and apply basic tenets of ethical reasoning.</td>
<td>Judge basic tenets of ethical reasoning.</td>
<td>Integrate basic tenets of ethical reasoning.</td>
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</table>
Critical Thinking/Analytic Inquiry/Problem Solving

**Definition:** This area of learning incorporates the comprehensive exploration of issues, ideas, and events, the analysis of these explorations, and the designing, evaluating, and implementing of strategies to draw informed conclusions, form opinions, solve problems. This includes the ability to know when more information is needed, and where to identify, locate, effectively evaluate, and use information in this process.

**Outcome for students receiving a One-Year Certificate:** Students will **distinguish** fact from opinion, **identify** assumptions when constructing an argument, **employ** one or more approaches to solving problems, and **determine** conclusions that are tied to the results of the strategy.

**Outcome for students receiving an Associate’s Degree:** Students will **distinguish** fact from opinion, **question** the validity of some assumptions, **explain** why various approaches to solving a problem may be effective, and **discuss** several possible conclusions.

**Outcome for students receiving a Bachelor’s Degree:** Students will **examine** the reliability of sources, **analyze** own and others’ assumptions, **evaluate** the success of various strategies to solve problems, and **discuss** several possible conclusions, taking opposing viewpoints into consideration.

**Outcome for students achieving an Advanced Level:** Students will **synthesize** information from reliable sources, **evaluate** own and others’ assumptions, **develop** problem-solving strategies as needed, and **evaluate** several possible conclusions, taking opposing viewpoints into consideration.

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<th>Essential Traits</th>
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<th>Associate’s Benchmark</th>
<th>Bachelor’s Benchmark</th>
<th>Advanced Benchmark</th>
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<tbody>
<tr>
<td><strong>Fact versus Opinion</strong></td>
<td>Distinguish the difference between fact and opinion. Determine and Evaluate the relevance of facts.</td>
<td>Distinguish fact from opinion by thoroughly evaluating evidence and questioning the viewpoints of experts.</td>
<td>Determine whether or not information is factual by critically examining the reliability of its source.</td>
<td>Synthesize information from several reliable sources.</td>
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<tr>
<td><strong>Assumptions</strong></td>
<td>Identify own and others’ assumptions when presenting a position.</td>
<td>Question the validity of some assumptions.</td>
<td>Thoroughly (systematically and methodically) analyze own and others’ assumptions when presenting a position.</td>
<td>Evaluate own and others’ assumptions before presenting a position.</td>
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<td><strong>Strategies</strong></td>
<td>Employ one or more strategies/approaches to solve a problem.</td>
<td>Explain why one or more strategies/approaches to solving a problem will be effective.</td>
<td>Evaluate the success of one or more strategies/approaches to solve a problem and, based on this evaluation,</td>
<td>Develop strategy if necessary.</td>
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<tr>
<td><strong>Logical Conclusions</strong></td>
<td>Determine a conclusion that is tied to the results of the strategy.</td>
<td>Discuss several possible conclusions, taking into consideration multiple viewpoints.</td>
<td>Discuss several possible conclusions, taking opposing viewpoints into consideration and examine evidence to support his/her conclusion.</td>
<td>Evaluate several possible conclusions, taking opposing viewpoints as well as related outcomes (consequences and implications) into consideration.</td>
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**Communications**

**Definition:** Communication is an interaction designed to increase knowledge, to foster understanding, or to promote change in attitudes, values, beliefs, or behaviors.

**Outcome for students receiving a One-Year Certificate:** Students will use appropriate techniques to deliver messages using various communication channels within the chosen professional environment.

**Outcome for students receiving an Associate’s Degree:** Students will apply appropriate techniques to deliver messages using a combination of conversing, speaking, listening, corresponding, and writing using various communication channels.

**Outcome for students receiving a Bachelor's Degree:** Students will determine and implement appropriate techniques to deliver messages to a specific audience using a combination of conversing, speaking, listening, corresponding, and writing using various communication channels.

**Outcomes for students achieving an Advanced Level:** Students will judge an audience’s perceived receptiveness to a planned message and construct a message using a combination of conversing, speaking, listening, corresponding, and writing using various communication channels.

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<td>Certificate Benchmark</td>
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<td>Plan and deliver forms of communications appropriate to the work environment.</td>
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<tr>
<td><strong>Receiving</strong></td>
<td>Interpret the messages of supervisors, co-workers, and customers with accuracy.</td>
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<tr>
<td><strong>Purpose</strong></td>
<td>Determine the appropriate purpose of messages and convey with confidence.</td>
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Feedback Requested

- Captured essential traits?
- Performance level expectations?
- Bloom’s taxonomy language?
Immediate Plans

Pilot Test

Share with WVAA, WVACF, and faculty of WV public institutions

Receive feedback/suggestions

Make modifications as appropriate
Future Plans

Following analysis of and feedback regarding pilot testing

Contact vendors

Choose vendor to externally validate assessment of the outcomes
Considerations

Must differentiate

- Performance levels of native versus transfer students

Must address

- Institutional “value-added.” Especially important in institutions with high transfer populations.
Questions
References

