

## KEEN Learning Outcome 2: Apply critical and creative thinking to ambiguous problems

Students demonstrate the ability to correctly identify the underlying problems or issues in both theoretical and practical realms, apply appropriate analytical and creative skills to develop feasible alternatives while considering multiple perspectives, and propose creative and logical solutions.

<i>Section 1 of 3: Problem Identification</i>				
The Student:	<i>at novice level</i>	<i>at apprentice level</i>	<i>at proficient level</i>	<i>at advanced level</i>
<i>Identifies key issues and formulates a problem statement</i>	Demonstrates <b>little or no</b> comprehension of the key issues related to a given situation and is <b>unable</b> to formulate a clear and relevant problem statement.	Demonstrates <b>superficial</b> comprehension of <b>some but not all</b> of the key issues related to a given situation and is able to formulate a relevant but <b>partial or overly general</b> problem statement.	Demonstrates <b>adequate</b> comprehension of <b>most</b> of the key issues related to a given situation and is able to formulate a relevant and <b>generally</b> clear problem statement.	Demonstrates <b>substantial</b> comprehension of <b>all or nearly all</b> of the key issues related to a given situation and is able to formulate a relevant and <b>completely</b> clear problem statement.
<i>Considers the context and key issues from multiple perspectives</i>	Demonstrates <b>little or no</b> ability to consider the context and/or to consider <b>any</b> of the key issues from more than one perspective when framing the problem statement.	Demonstrates <b>some</b> ability to consider the context and to consider <b>a few</b> of the key issues from more than one perspective when framing the problem statement.	Demonstrates <b>some</b> ability to consider the context and to consider <b>most</b> of the key issues from more than one perspective when framing the problem statement.	Demonstrates <b>substantial</b> ability to consider the context and to consider <b>all or nearly all</b> of the key issues from multiple perspectives when framing the problem statement.

<b>Section 2 of 3: Research and Analysis</b>				
The Student:	<i>at novice level</i>	<i>at apprentice level</i>	<i>at proficient level</i>	<i>at advanced level</i>
<i>Demonstrates ability to identify and evaluate information</i>	Demonstrates <b>little if any</b> skill locating and selecting sources of information that would support analysis of the problem; any evaluation of sources is <b>superficial</b> , leading to selection of few if any sources that are credible or salient.	Demonstrates <b>some</b> skill locating and selecting sources of information that would support analysis of the problem, but evaluation is <b>incomplete or overly general</b> , and some sources selected may not be credible or salient.	Demonstrates <b>adequate</b> skill locating and selecting, after <b>sufficient</b> evaluation, generally credible and salient sources of information that would support substantive analysis of the problem.	Demonstrates <b>considerable</b> skill locating and selecting, after <b>thorough</b> evaluation, consistently credible and salient sources of information that would support comprehensive analysis of the problem.
<i>Provides plausible data-based reasoning for position or actions described</i>	Demonstrates <b>little if any</b> ability to provide rationale(s) for a position or proposed solution based on data; any data referred to may be <b>inaccurate or inappropriate</b> .	Demonstrates <b>some</b> ability to provide rationale(s) for a position or proposed solution based on data that may be <b>partially</b> accurate and/or appropriate.	Demonstrates <b>adequate</b> ability to provide rationale(s) for a position or proposed solution based on data that is <b>generally</b> accurate and appropriate, with minor if any weaknesses.	Demonstrates <b>considerable</b> ability to provide rationale(s) for a position or proposed solution based on <b>consistently</b> accurate and appropriate data.
<i>Analyzes information using appropriate conceptual framework/tools</i>	<b>Rarely if ever</b> employs adequate and appropriate tools and methods as needed to analyze information, clarify issues, and facilitate decision-making; can justify the relevance of those tools and/or methods in a given context <b>minimally</b> if at all.	<b>Only sometimes</b> employs adequate and appropriate tools and methods as needed to analyze information, clarify issues, and facilitate decision-making; can <b>only partly</b> justify the relevance of those tools and/or methods in a given context.	<b>Generally</b> employs adequate and appropriate tools and methods as needed to analyze information, clarify issues, and facilitate decision-making; can <b>adequately</b> justify the relevance of those tools and/or methods in a given context.	<b>Consistently</b> employs adequate and appropriate tools and methods as needed to analyze information, clarify issues, and facilitate decision-making; can <b>clearly and fully</b> justify the relevance of those tools and/or methods in a given context.

<b>Section 3 of 3: Solution Development</b>				
The Student:	<i>at novice level</i>	<i>at apprentice level</i>	<i>at proficient level</i>	<i>at advanced level</i>
<i>Demonstrates ability to explore alternate solutions to the identified problem</i>	<b>Attempts</b> to generate and explores <b>at least one</b> relevant <b>but unoriginal</b> alternate solution to an identified problem.	Generates and explores at least <b>a few</b> relevant, but <b>rarely original</b> , alternate solutions to an identified problem.	Generates and explores <b>multiple</b> relevant and <b>sometimes original</b> alternative solutions to an identified problem.	Generates and explores <b>multiple</b> relevant and <b>often original</b> alternative solutions to an identified problem.
<i>Makes convincing arguments for recommended solution aligned to the given context</i>	Any attempt to make a case for a particular solution is <b>unconvincing</b> and/or does <b>not</b> appear to be based on <b>even minimal</b> investigation and analysis of issues and implications.	Makes an <b>only somewhat convincing</b> case for a particular solution; the solution may be based on <b>minimal</b> investigation and analysis of issues and implications.	Makes an <b>adequately convincing</b> case for a particular solution based on at least <b>adequate</b> investigation and analysis of issues and implications.	Makes a <b>compelling</b> case for a particular solution based on <b>considerable</b> investigation and analysis of issues and implications.