

**Table 1 - Four Dimensions of Understanding and Levels (summarized from Mansilla and Gardner, 1998)**

Framework for Understanding - Four Dimensions of Understanding and Levels			
Knowledge	Methods	Purposes	Forms
<b>A. Transformed intuitive beliefs</b>	<b>A. Healthy skepticism</b>	<b>A. Awareness of the purposes of knowledge</b>	<b>A. Mastery of performance genres</b>
Naïve – intuitive beliefs dominate	Naïve – the world “is what it is”	Naïve – do not see the importance of what is being taught	Naïve – unaware that there are accepted ways of showing expertise
Novice – some disciplinary knowledge	Novice – there is a need to back up statements but information is not used to question content presented in the discipline	Novice – can see there are important questions but still do not understand why	Novice – able to follow instructions
Apprentice – disciplinary knowledge taking hold and competing with intuitive beliefs	Apprentice – beginning to see that knowledge is created by humans and can be questioned but may become hyper critical or simply repeat the skepticism of others	Apprentice – can see importance of big questions and connect them back to what they are learning when prompted	Apprentice – understand instructions and are aware of one set of rules when they start to learn another set
Master – the discipline dominates and common sense or intuitive beliefs are used to inspire future disciplinary knowledge	Master – knowledge is contestable and is best when constructed using multiple methods versus only a single method	Master - can independently look for essential questions, puzzle through why they are important in people’s lives, and understand how some knowledge accumulation can have negative effects at times	Master – move easily from one set of performance skills or criteria to another, has ownership of own way of doing things within accepted rules, and can create new ways of doing things
<b>B. Coherent &amp; rich conceptual webs</b>	<b>B. Building knowledge in the domain</b>	<b>B. Multiple uses &amp; consequences of knowledge</b>	<b>B. Effective use of symbol systems</b>
Naïve – no differentiation between examples and generalizations	Naïve – the only way of gaining knowledge is through trial and error	Naïve – can perform tasks as told	Naïve – symbol systems are used but do not communicate a clear message
Novice – connections between examples and generalizations are made based on rehearsed answers	Novice – starting to see that there are other ways of figuring out what works but just go “by the book” for now	Novice – can see consequences or make connections to real world when prompted	Novice – overreliance on one system

Framework for Understanding - Four Dimensions of Understanding and Levels

<b>Knowledge</b>	<b>Methods</b>	<b>Purposes</b>	<b>Forms</b>
<b>B. Coherent and rich conceptual webs (cont.)</b>	<b>B. Building knowledge in the domain (cont.)</b>	<b>B. Multiple uses &amp; consequences of knowledge (cont.)</b>	<b>B. Effective use of symbol systems (cont.)</b>
Apprentice – while not seamless, can move between examples and generalizations as needed	Apprentice – can see how useful different methods are for building knowledge but get stuck on using just one method	Apprentice – can use knowledge in new ways and relate knowledge to real world problem solving	Apprentice – can use more than one symbol system when asked and showing mastery of one system to the point of being able to be flexible and creative
Master – ideas are organized, can move easily between specifics and broader concepts, and new interpretations can be made	Master – use variety of methods from the profession to create dependable knowledge and even see how new methods can come from “public, rational argument” (pg. 189)	Master – can use knowledge in new ways to make predictions or improvements and can see the world through the discipline’s lenses	Master - can use symbol systems effectively and persuasively to communicate ideas and can flexibly use them in creative ways
	<b>C. Validating knowledge in the domain</b>	<b>C. Ownership &amp; autonomy</b>	<b>C. Consideration of audience &amp; context</b>
	Naïve – no criteria for validation	Naïve – do not see a need for own personal view of the profession	Naïve – unaware of audiences and surprised that miscommunication occurs
	Novice – validation based on textbooks or recent experiences	Novice – can see personal philosophies of those in authority and can be creative when prompted	Novice – aware of audience but expects audience to adjust to them and miscommunication is the audience’s fault
	Apprentice – validation is important but unsophisticated	Apprentice – can use knowledge on their own but do not take into consideration that others have different views	Apprentice – can take audience into consideration when reminded but still think good intentions equal good communication
	Master – use of multiple methods of validation, see how validation criteria is based on worldviews, and can question criteria	Master - feel authorized to use knowledge, understand they have a point of view, and able to see consequences from different points of view	Master – different worldviews are taken into consideration, listening is seen as a part of communication, context is used to enhance communication, and realizes that communication can engage other people’s deeply held beliefs

Summary of Tables 6.1 - 6.5 (Mansilla and Gardner 1998, 184-196)