

5.4 Understands the cognitive processes associated with various kinds of learning (e.g., critical and creative thinking, problem structuring and problem solving, invention, memorization and recall) and ensures attention to these learning processes so that students can master content standards. (CO: 5.5)

Basic (1.0 - 1.9)		Developing (2.0 - 2.9)		Proficient (3.0 - 3.9)		Advanced (4.0)	
<p>A table that includes the thinking/cognitive processes that should be addressed in plans and in instruction are included below. These are based on the revised levels of Bloom's taxonomy (see http://oregonstate.edu/instruct/coursedev/models/id/taxonomy/#table)</p>							
Questioning	No evidence of questioning OR questions are 1) written by others (e.g., from a teacher's manual) or 2) require only recall and/or comprehension	Demonstrates at least one example of a question at each level of Bloom's taxonomy in lesson plans; questions must be written by teacher	Demonstrates that s/he can plan and ask questions that include all levels of Bloom's taxonomy (see http://oregonstate.edu/instruct/coursedev/models/id/taxonomy/#table)	Shows creativity and flexibility in using a variety of questioning strategies, including all levels of Bloom's taxonomy			
	No evidence for how s/he implements or uses questions OR consistently does not use any of the following effective questioning strategies: a. good questions (not too complex, ambiguous, double questions) b. asks frequent questions c. equitably distributes questions, randomly calling upon students d. appropriate wait time after asking and after initial response	Demonstrates planning or impelmentation of the following effective questioning strategies but may be inconsistent in one or more OR may have insufficient evidence because of lack of opportunity to apply in instruction: a. good questions (not too complex, ambiguous, double questions) b. asks frequent questions c. equitably distributes questions, randomly calling upon students d. appropriate wait time after asking and after initial response	Demonstrates use of all of the following effective questioning strategies across successive observations: a. good questions (not too complex, ambiguous, double questions) b. asks frequent questions c. equitably distributes questions, randomly calling upon students d. appropriate wait time after asking and after initial response	Consistently demonstrates all of the following effective questioning strategies across numerous observations: a. good questions (not too complex, ambiguous, double questions) b. asks frequent questions c. equitably distributes questions, randomly calling upon students d. appropriate wait time after asking and after initial response			
	No evidence that s/he can modify questioning during lessons to prompt different levels of thinking	Provides evidence that s/he can modify questions during lessons to prompt different levels of thinking but has had limited oportunity to demonstrate consistency/fluency OR is inconsistent in doing so	Demonstrates that s/he can consistently (across different observations) modify questions during lessons to prompt different levels of thinking	Spontaneously and frequently modifies questions to stimulate various types of student thinking			

Questioning (cont.)	No evidence that s/he can use questions for a variety of purposes OR uses questions only for factual recall	<p>Demonstrates the use of questions for a variety of purposes in planning instruction (3 or more):</p> <p>a. probing for learner understanding (factual recall, comprehension)</p> <p>b. guiding inquiry (probing for deeper understanding, presenting contradictions, pointing discussion in a new direction, passing responsibility to student)</p> <p>c. guiding inquiry (probing for deeper understanding, presenting contradictions, pointing discussion in a new direction, passing responsibility to student)</p> <p>d. helping students articulate their thinking processes and ideas</p> <p>e. encouraging both convergent and divergent thinking</p> <p>f. stimulating curiosity/risk taking/problem solving</p> <p>g. developing social discourse</p> <p>h. enhancing content literacy (pre/post, and during)</p>	<p>Demonstrates the use of questions for a variety of purposes in planning and implementing instruction (6 or more):</p> <p>a. probing for learner understanding (factual recall, comprehension)</p> <p>b. guiding inquiry (probing for deeper understanding, presenting contradictions, pointing discussion in a new direction, passing responsibility to student)</p> <p>c. guiding inquiry (probing for deeper understanding, presenting contradictions, pointing discussion in a new direction, passing responsibility to student)</p> <p>d. helping students articulate their thinking processes and ideas</p> <p>e. encouraging both convergent and divergent thinking</p> <p>f. stimulating curiosity/risk taking/problem solving</p> <p>g. developing social discourse</p> <p>h. enhancing content literacy (pre/post, and during)</p>	Demonstrates fluency in using questions for a variety of purposes in planning and implementing instruction, including all of the purposes listed under "Proficient;" demonstrates flexibility in the variety of questions used for various purposes
Teaching Thinking	No evidence that s/he is aware of the individual cognitive levels of her/his students	May not always be aware of the individual cognitive levels of her/his students and may not alter interactions accordingly	Usually demonstrates awareness of the individual cognitive levels of her/his students by altering interactions	Consistently demonstrates awareness of the individual cognitive levels of her/his students by altering interactions
	Few activities require higher level thinking; focus of activity is usually memorization, recall, and remembering	Includes plans for activities which require the majority of cognitive skills included in the new Bloom's taxonomy but may not have the opportunity to teach them	Plans and implements activities which stimulate all of the cognitive/thinking skills in the new Bloom's taxonomy	Meets criteria for "Proficient" with a variety of types of activities; plans and implements activities which require complex combination of skills (problem structuring and problem solving, project learning, invention, designing, and decision making)
Thinking	No evidence that s/he can teach thinking by cognitively modeling the thinking processes (e.g., think alouds)	Demonstrates the development of thinking by cognitively modeling the thinking processes in written lesson plans but may not have the opportunity to teach them OR models a limited number of thinking skills	Demonstrates the development of direct types of thinking by cognitively modeling the thinking processes	Demonstrates consistency and flexibility in directly teaching different thinking skills by cognitively modeling the thinking processes

Teaching	Students rarely required to talk about what they have learned and how well; no emphasis on requiring different metacognition skills	Includes questions that require students to talk about what they have learned and how well they have learned and prompt other metacognitive skills (e.g., evaluating, monitoring in lesson plans but may not have opportunity to apply questions in instruction	Demonstrates questions that require students to talk about what they have learned and how well they have learned and prompt other metacognitive skills (e.g., evaluating, monitoring in lesson plans and daily instruction	Consistently demonstrates questions that require students to talk about what they have learned and how well they have learned and prompt other metacognitive skills (e.g., evaluating, monitoring in lesson plans and daily instruction
Learning to Learn & Work Skills	No evidence that he/she requires students to establish learning goals, self-evaluate learning, or monitor progress	Demonstrates planning that requires students to do one of the following: establish learning goals, self-evaluate, or monitor progress	Demonstrates in teaching requires students to do all of the following: establish long term and short term learning goals (break tasks into smaller, manageable parts), self-evaluate learning, and monitor progress	Consistently and with flexibility implements strategies that require students to establish long term and short term learning goals (break tasks into smaller, manageable parts), self-evaluate learning, and monitor progress
	No evidence that he/she requires students to ask questions (e.g., about new information)	Includes activities in lesson plans that require students to ask questions (e.g., about new information) but may not have opportunity to instruct	Demonstrates that he/she requires students to ask questions (e.g., about new information) in lesson planning and in instruction	Consistently demonstrates activities that require students to ask questions, showing flexibility in approaches and activities
	No evidence that he/she explicitly designs or implements instruction in any of the following postsecondary & workforce readiness skills related to learning to learn at a level that is developmentally appropriate: a. work ethic (setting priorities and managing time, taking initiative and following through, taking responsibility for actions and work, acting with civility and politeness b. personal responsibility (behaving honestly and ethically, acting assertively, being a self advocate)	Evidence that s/he designs activities that explicitly instruct at least one of the following postsecondary & workforce readiness skills related to learning to learn at a level that is developmentally appropriate: a. work ethic (setting priorities and managing time, taking initiative and following through, taking responsibility for actions and work, acting with civility and politeness b. personal responsibility (behaving honestly and ethically, acting assertively, being a self advocate)	Evidence that s/he designs activities that explicitly instruct all of the following postsecondary & workforce readiness skills related to learning to learn at a level that is developmentally appropriate: a. work ethic (setting priorities and managing time, taking initiative and following through, taking responsibility for actions and work, acting with civility and politeness b. personal responsibility (behaving honestly and ethically, acting assertively, being a self advocate)	Demonstrates a variety of activities and strategies to teach the learning to learn skills below: a. work ethic (setting priorities and managing time, taking initiative and following through, taking responsibility for actions and work, acting with civility and politeness b. personal responsibility (behaving honestly and ethically, acting assertively, being a self advocate)
Work Skills	c. collaboration (being a team player, cooperating for a common purpose, acknowledging authority and taking direction)	c. collaboration (being a team player, cooperating for a common purpose, acknowledging authority and taking direction)	c. collaboration (being a team player, cooperating for a common purpose, acknowledging authority and taking direction)	c. collaboration (being a team player, cooperating for a common purpose, acknowledging authority and taking direction)
	No evidence that s/he explicitly designs or implements instruction related to students' finding and using information, including any of the following:	Evidence in written plans that s/he designs instruction related to students' finding and using information in one of the following areas:	Evidence that s/he designs and implements instruction related to students' finding and using information in at least two of the following areas:	Evidence that s/he designs and implements instruction related to students' finding and using information in all of the following:

Learning to Learn &	a. conducting research using acceptable research methods	a. conducting research using acceptable research methods	a. conducting research using acceptable research methods and information from different sources	a. conducting research using acceptable research methods and information from different sources
	b. assessing the credibility and relevance of information	b. assessing the credibility and relevance of information	b. assessing the credibility and relevance of information	b. assessing the credibility and relevance of information
	c. applying different research paradigms, including the collection and analysis of both quantitative and qualitative data and research	c. applying different research paradigms, including the collection and analysis of both quantitative and qualitative data and research	c. applying different research paradigms, including the collection and analysis of both quantitative and qualitative data and research	c. applying different research paradigms, including the collection and analysis of both quantitative and qualitative data and research
	d. select, integrate, and apply appropriate technology to expand information and knowledge	d. select, integrate, and apply appropriate technology to expand information and knowledge	d. select, integrate, and apply appropriate technology to expand information and knowledge	d. select, integrate, and apply appropriate technology to expand information and knowledge

Operationalization/Criteria:

Guidelines for Admission to Education: *Not evaluated at admission*

Guidelines for Admission to Student Teaching: *Meets criteria for "developing" in all dimensions*

1. Benchmark at admission to student teaching is a rating of "developing" for all dimensions, averaging scores
2. To evaluate, supervisors should review the material in the portfolio that is attached to the standard.

Evidence to be Evaluated: Lesson plans in the portfolio, field experience teachers' feedback, videoclips of teaching

Guidelines for Program Completion/Student Teaching:

1. Required for program completion are ratings of "proficient" on evaluations of the university supervisor.
2. Observe teaching during different types of instruction (direct, inquiry) and different content areas to determine consistency
4. Observe student teacher's ability to utilize a variety of strategies (per criteria in inventory), as well as frequency and consistency.
5. Consistency = requires fluency/repetition, including documentation of competence in different content areas, with different lesson formats.
6. Required for program completion are ratings of "proficient" on all dimensions. The OVERALL rating for the standard should average the ratings across dimensions.
7. The narrative for the Inventory should specify an example of a skill/observation that led to the rating, e.g.: *Within TWS lessons, she demonstrated questioning and activities that prompted all cognitive processes in all dimensions (included a table that documented this).*

Examples of Evidence:

Observation of teaching, lesson plan book/lesson plans, TWS, unit plans, videotapes of teaching, interviews with school personnel (e.g., cooperating teacher), reflections of teaching, unit plans, videotapes of teaching, interviews with school personnel (e.g., cooperating teacher), reflections of teaching

Rationale:

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Bloom's Taxonomy

The Knowledge Dimension	The Cognitive Process Dimension		
	<u>Remember</u>	<u>Understand</u>	<u>Apply</u>
<u>Factual Knowledge</u>	<u>List</u>	<u>Summarize</u>	<u>Classify</u>
<u>Conceptual Knowledge</u>	<u>Describe</u>	<u>Interpret</u>	<u>Experiment</u>
<u>Procedural Knowledge</u>	<u>Tabulate</u>	<u>Predict</u>	<u>Calculate</u>
<u>Meta-Cognitive Knowledge</u>	<u>Appropriate Use</u>	<u>Execute</u>	<u>Construct</u>

<u>Analyze</u>	<u>Evaluate</u>	<u>Create</u>
<u>Order</u>	<u>Rank</u>	<u>Combine</u>
<u>Explain</u>	<u>Assess</u>	<u>Plan</u>
<u>Differentiate</u>	<u>Conclude</u>	<u>Compose</u>
<u>Achieve</u>	<u>Action</u>	<u>Actualize</u>