

Table 1. Developmental Perspectives on Reflection and Learning¹

Frameworks and Themes	Observations from Student Examples of Reflection on Prior Work		
	Beginning	Intermediate	Advanced
<p><i>Self Assessment Framework²</i> Observing performance Using evidence, feedback Finding and analyzing patterns Making judgments</p>	<p>Vague, global judgments, asserted without evidence Simply repeats description, judgment of assessors Sees performance as same as assignment (e.g., did what was told to do) Sees feedback as affirmation and evidence Offers procedural stories, describing action without perspective on ability Uses observations without inference</p>	<p>Relates judgments/conclusions to multiple sources of evidence (inference) Deepens understanding of ability Uses feedback to expand understanding of ability Realizes connections and links in plans Recognizes cause and effect relationships Uses designated discipline frameworks</p>	<p>Makes connections and applications, and uses them to move forward Observes intentional changes as a basis for complex learning Uses multiple frameworks from disciplines and beyond Probes own work and meaning of ability Uses abilities as a framework for learning and assisting others</p>
<p><i>How People Learn³</i> Concepts and misconceptions Knowledge construction Metacognition</p>	<p>Sees feedback as external and not subject to control and analysis Sees knowledge construction as only what is received through assignment/assessment Sees meaning of ability as limited to the terms given in the assignment or assessment Employs personal theories, more or less consciously, but without exploration or analysis</p>	<p>Sees feedback as a means for understanding links between her performance and target abilities Uses diverse tools and notes own changes in own patterns of performance Begins to have an understanding of the tools being employed and the metacognitive nature of one's decisions and planning Uses explicit theory applications</p>	<p>Incorporates feedback and past performance in constructing further performance and learning plans Uses growing command of knowledge structure (e.g., expertise, discipline, theory, abilities) as a foundation for further learning Understands own performance as a learner and transfers learning strategies to multiple contexts</p>
<p><i>Learning That Lasts⁴</i> Using metacognitive strategies to restructure knowledge and enable thinking while performing, connects knowing and doing, reasoning and performance Self assessing role performance, using criteria and standards from diverse sources, fosters identity as a learner and professional Engaging with depth and breadth, diverse approaches, views, and activities means appreciating multiple perspectives and mutuality, engaging others, and independent learning that leads to personal transformation</p>	<p>Observes own behavior with concrete relationships to broad criteria Utilizes criteria and generalized notions of effectiveness/success as the basis for reflection Uses global self evaluations that minimize the opportunity to find connections between performance and reflecting on performance</p>	<p>Self-identifies as a learner, constructing meaning in experience Employs a concern for a future self and performance Includes personal values and identity in own narrative Recognizes and analyzes personal change Recognizes multiplicity Questions personal assumptions Uses abilities as a framework for criteria through which to interpret situations Clear conception of challenges, with positive attitude or confidence in ability Develops self assessment as a basis for personal improvement</p>	<p>Elaborates own identity as person, learner, and professional Employs an internalized construction of effectiveness Uses multiplicity as a basis for developing identity Moves between questioning personal assumptions and construction/articulation of commitments Situates personal narrative in relation to a wider narrative history (e.g., becoming a professional) Develops personal identity in relation to mature commitments Uses self assessment and reflection to transfer ability and capacity to new situations Integrates personal effectiveness as part of a developing future self</p>

¹ Rickards, W.H., Diez, M.E., Ehley, L., Guilbault, L.F., Loacker, G., Reisetter Hart, J., & Smith, P.C. (in press). Learning, reflection, and electronic portfolios: Stepping toward an assessment practice. *Journal of General Education*. [Paper presented at the annual meeting of the American Educational Research Association, San Francisco, April 2006.]

² Alverno College Faculty. (2000). *Self assessment at Alverno College*. (G. Loacker, Ed.). Milwaukee, WI: Alverno College Institute.

³ Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). *How people learn: Brain, mind, experience, and school* (Expanded ed.). Washington, DC: National Academy Press.

⁴ Mentkowski, M., & Associates. (2000). *Learning that lasts: Integrating learning, development, and performance in college and beyond*. San Francisco: Jossey-Bass.