

*A quality learning environment is characterized by respect, trust, openness, high expectations, support for risk-taking, a willingness to challenge performance, continuous assessment, and a growth-oriented mindset for everyone.*

The question of what constitutes a high-quality or productive learning environment is not likely to be answered anytime soon, not least because we are not yet in agreement about who “we” are (A university? A culture? A nation?), let alone how “we” define the terms, *learning* and *education*. What we (the authors and scholars of Process Education) **can** do, and with a great degree of utility, is to define and explore what constitutes a high-quality learning environment within the bounds of Process Education (PE) and its principles.

While we do have a set of those PE principles, they were not the result of a thought experiment, where we asked, “What does a quality learning environment look like?” and “How does it function?” Instead, the principles arose as a result of a critical analysis of what was sought as a result of education, what worked best to meet those needs, and possibly more critically, what didn’t.

### Defining a Preferred Learning Environment

The handbook for the first Teaching Institute set forth the idea that, for facilitating the development of problem solving and critical thinking skills, “the traditional learning environment (in which the instructor delivers content and the students copy from the blackboard) is the wrong environment” (Apple, 1991). From this perspective, the ability to think critically and solve problems is the **preferred** result of education, and the traditional education dynamic does **not** lead to that result. Faculty were reminded of the characteristics they long to see in learners and the kind of environment that tends to foster those characteristics:

*Inherent to the problem-solving process are an inquisitive spirit and critical-thinking skills. However, most educational processes do little today to stimulate students to develop an attitude of asking “why?” or encouraging students to explore and experiment. Somewhere along the way, students are losing the exploring nature they had as children and have become afraid to be wrong. The most desirable type of learning environment for problem solving emphasizes a “process-oriented” approach where self-discovery on the part of the student is paramount. The role of the instructor in this environment is to facilitate student learning*

*through the use of timely critical thinking questions. The objective is to develop students who are able to “process” or evaluate a data base of knowledge rather than render the data base (that was taken from the text to the blackboard) (Apple 1991).*

By 1993, the key characteristics of a learning environment that best foster critical thinking and problem solving were slightly more polished and included the ideas that,

1. Students need to experiment, explore, test, and seek their own answers with the help of their teammates.
2. Students should be forced to think, but not to the point that they become overwhelmed.
3. Frustration is valuable but must be continually monitored; some frustration is good, and provides motivation to find a solution and resolve the frustration.
4. Discovery learning works well in tandem with cooperative learning; the students have a pool of thinking and learning skills to draw on in addition to their own, and the effort, excitement, and frustration can be shared (Apple, 1993).

Let’s take a pause to summarize what has thus far been claimed about the characteristics of a Process Education quality learning environment:

It should...

- Build critical thinking skills
- Foster an inquisitive spirit in learners where they ask “Why?,” explore, and experiment
- Support risk taking and student willingness to be wrong and make mistakes
- Be process-oriented
- Foster self-discovery
- Facilitate student learning
- Shift responsibility for learning to the learner with facilitators asking critical thinking questions
- Challenge students, with facilitators creating/allowing enough frustration to motivate
- Include cooperative/team learning
- Incorporate problem solving

## How to Create a Quality Learning Environment

During the fall of 1994, a peer coaching visit to Rick Moog's general chemistry class at Franklin & Marshall College led to an ongoing discussion of what characteristics make up a quality learning environment (Moog, 1999). The question was turned into an optional activity, "Designing a Challenging Learning Environment" that appears in the 1995 *Teaching Institute Handbook* (Apple), giving faculty the opportunity to participate in the discussion and to realize the benefits of potentially improving their practice. The 1998 *Teaching Institute Handbook* (Apple & Krumsieg) provided a summary of the learning environment characteristics that had been identified to date and further introduced the 10-step Methodology to Create a Quality Learning Environment. Within two years, the one-page outline had been expanded to include a discussion and tips for implementing all 10 steps of the methodology (Apple & Krumsieg, 2000).

This work was formalized between 2003 and 2007 and published in the *Faculty Guidebook* in the modules, *Overview of a Quality Learning Environment* (Apple & Smith 2007b) and *Methodology for Creating a Quality Learning Environment* (Apple & Smith 2007a). The 10 Principles for Establishing a Quality Learning Environment (Figure 1) include nearly all of the points offered previously.

The Methodology for Creating a Quality Learning Environment (Figure 2) not only offers steps for realizing a Quality Learning Environment; it also offers justification and rationale for each step, all of which are supported by additional modules from the *Faculty Guidebook* (see Figure 3).

Beyond the *Faculty Guidebook*, the article Conditions for Challenging Learner Performance notes that, with regard to Step 10, growth occurs not when we are 'coasting,' but, rather, when we are challenged... it is especially important

**Figure 1** Principles for Establishing a Quality Learning Environment (QLE)

1. Establish a high degree of trust and respect.
2. Make sure both learner and mentor are committed to the learner's success.
3. Get student buy-in very early in the process.
4. Challenge students.
5. Set clear and high expectations.
6. Encourage risk-taking.
7. Seek student feedback regularly by using assessment on a consistent and timely basis.
8. Measure and document progress and growth.
9. Create a collaborative learning space.
10. Create a balance between structure and flexibility.

**Figure 2** Steps in the Methodology for Creating a Quality Learning Environment

1. Establish initial respect.
2. Start with no prejudging.
3. Obtain shared commitment.
4. Foster and support risk-taking.
5. Permit the learner to fail.
6. Set high expectations.
7. Establish clear performance criteria.
8. Implement a quality assessment system.
9. Document performance.
10. Continuously challenge performance.

**Figure 3** Correlation of Steps in the Methodology with Supporting *Faculty Guidebook* Modules

Step(s)	Supporting <i>Faculty Guidebook</i> Modules (all from 2007)
1. Establish initial respect. 2. Start with no prejudging.	<i>Establishing Initial Respect Without Prejudging</i> (Smith)
3. Obtain shared commitment.	<i>Getting Student Buy-In</i> (Burke) <i>Obtaining Shared Commitment</i> (Smith & Beyerlein)
4. Foster and support risk-taking 5. Permit the learner to fail	<i>Letting Students Fail So They Can Succeed</i> (Hadley)
6. Set high expectations.	<i>Setting High Expectations</i> (Smith)
7. Establish clear performance criteria.	<i>Writing Performance Criteria for a Course</i> (Hinton) <i>Writing Performance Criteria for Individuals and Teams</i> (Utschig)
8. Implement a quality assessment system. 9. Document performance	<i>Creating Meaningful Assessment and Documentation Systems</i> (Wicks)
10. Continuously challenge performance.	<i>The Accelerator Model</i> (Morgan & Apple)

to have a supportive, risk-friendly environment so that educators and learners feel secure enough for performance to be challenged” (Smith & Spoelman, 2009). The steps in the methodology and principles behind them are thus reaffirmed to be interdependent, just as the attributes of a learning environment were assumed to be when they were first articulated and shared in 1991.

### QLE and the Transformation of Education

The principles of a quality learning environment are also present in the 14 aspects of the Transformation of Education (Hintze-Yates, Beyerlein, Apple & Holmes 2011),

which may be helpfully read as an extended description of the environment and practices of a high-quality Process Education learning environment — possibly the ideal PE learning environment. A mapping of the aspects from the Transformation of Education to the principles of a Quality Learning Environment (Figure 4) shows that there is not only alignment between the two, but that the Transformation aspects may provide a useful perspective for educators who are unsure of how to shift their current practice to practice that creates a quality learning environment. A learning object for the Transformation of Education is available at <http://www.transformation-of-education.com/>

**Figure 4** Mapping the Aspects from the Transformation of Education to the Principles of a Quality Learning Environment

Aspect from the Transformation of Education	Correlates to Principle for Establishing a Quality Learning Environment (QLE)
<b>Challenge</b> <i>The level of difficulty is increased in order to grow capacity for learning and performing</i>	4. Challenge students. 5. Set clear and high expectations.
<b>Cognitive Complexity</b> <i>The degree to which training and doing is elevated to problem solving and research</i>	4. Challenge students. 5. Set clear and high expectations.
<b>Control</b> <i>The locus of power/authority for the learning situation or experience</i>	3. Get student buy-in. 4. Challenge students. 5. Set clear and high expectations.
<b>Delivery</b> <i>The means by which information/knowledge is obtained by learners</i>	4. Challenge students. 9. Create a collaborative learning space. 10. Create a balance between structure and flexibility.
<b>Design</b> <i>The purposeful arrangement of instructional environment, materials, and experiences to support learning</i>	9. Create a collaborative learning space. 10. Create a balance between structure and flexibility.
<b>Efficacy</b> <i>The well-founded belief in one’s capacity to change and to make a difference</i>	2. Make sure both learner and mentor are committed to the learner’s success. 5. Set clear and high expectations. 6. Encourage risk-taking. 8. Measure and document progress and growth
<b>Feedback</b> <i>Information about what was observed in a performance or work product</i>	7. Use assessment on a consistent and timely basis. 8. Measure and document progress and growth.
<b>Measurement</b> <i>The process of determining the level of quality surrounding a performance or product</i>	8. Measure and document progress and growth.
<b>Ownership</b> <i>The degree to which the learner accepts responsibility and accountability for achieving learning outcomes</i>	1. Establish a high degree of trust and respect. 2. Make sure both learner and mentor are committed to the learner’s success. 3. Get student buy-in very early in the process.
<b>Relationship</b> <i>The degree of emotional investment an instructor or mentor has in his or her students or mentees</i>	1. Establish a high degree of trust and respect. 2. Make sure both learner and mentor are committed to the learner’s success.
<b>Scope of Learning</b> <i>The contexts across which learning occurs and its application are demonstrated</i>	4. Challenge students. 5. Set clear and high expectations.
<b>Self-Awareness</b> <i>The degree to which reflective and self-assessment practices are used by the individual to foster the growth of his or her learning skills across the cognitive, affective, and social domains</i>	3. Get student buy-in very early in the process. 4. Challenge students. 7. Seek student feedback regularly by using assessment on a consistent and timely basis.

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Figure 4 (continued)

Aspect from the Transformation of Education	Correlates to Principle for Establishing a Quality Learning Environment (QLE)
<b>Social Orientation</b> <i>The investment, interdependence, and responsibility for learning throughout a community.</i>	9. Create a collaborative learning space.
<b>Transparency</b> <i>The degree to which stakeholders can view individual, team, or collective performances.</i>	6. Encourage risk-taking. 9. Create a collaborative learning space.

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