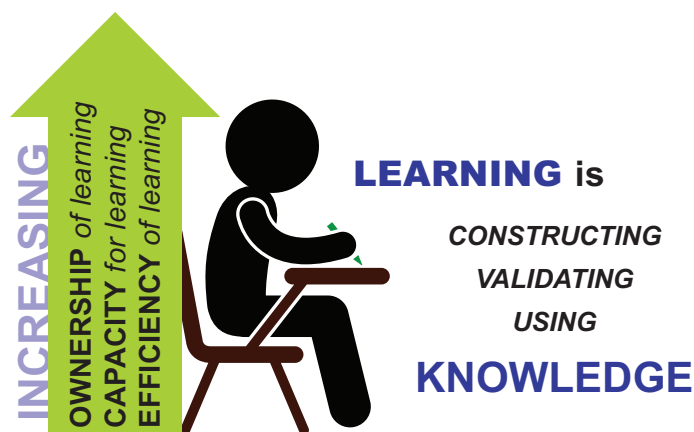


Learning to learn focuses on improving the performance of learning through increasing the ownership, capacity, and efficiency learners demonstrate when constructing, using, and validating knowledge (figure 1).



The idea of learning to learn was the direct result of an experiment with 22 colleges during the 1989/1990 academic year where freshmen and seniors were asked to compete in a learning challenge. To the surprise of nearly all, the learning performance of the seniors was no better than that of the freshmen; in four years of college, the ability to learn had not observably improved (Apple, Ellis, & Hintze, 2015). When shared, this discovery led to the creation of the Problem Solving Across the Curriculum (PSAC) conference. At the inaugural conference, hosted by Wells College in 1990, more than 120 faculty came together to share their insights and concerns regarding learning and the idea of learning to learn (Kramer & Beery, 1990). Participants collaborated on a model for the learning process at the first conference, which became the basis for subsequent activity by the conference community, including Pacific Crest in its first Teaching Institute in 1991 (Apple, 1991).

The key ideas shared at that Teaching Institute were about shifting the focus from teaching disciplinary content to teaching students how to learn:

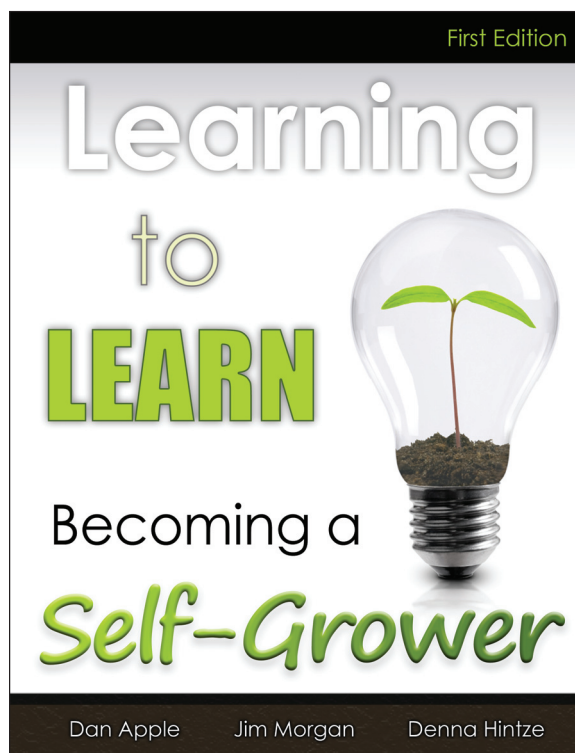
1. Students need to be the center of the learning process
2. Students must learn how to learn
3. Students must improve their critical thinking, problem solving, communication, and learning skills

It is worthy of note that together these principles offer the very definition of active learning, where the responsibility of learning lies with the learner (Bonwell & Eison, 1991).

Improving Learning Performance

During the 1991/1992 academic year, 20 members of this same community worked together to produce a freshmen course and curriculum focused on improving student learning performance. The first chapter of *Learning Through Problem Solving* offered a model of a high-quality learner and added that “everyone can improve their ability to learn” (Apple, Beyerlein, & Schlesinger, 1992). This idea of learning as a malleable and improvable process was further advanced in *Everyone Can Learn to Learn* (Arah & Apple, 1993), which noted a variety of ways in which learning rate or learning performance can be improved: by targeting life skills, intervening in and teaching students about the learning process, the use of cooperative learning, and the practice of self-assessment.

Figure 1



Foundations of Learning (Krumstiegl & Baehr, 1996) continued along this same vein; Chapter 2, titled "Learning to Learn," presented the Learning Process Methodology as a concrete way to improve learning performance, with the profile of a high-quality learner as a model for what a strong learner should look like, in practice. Four editions

Table 1 Performance Levels for Learners

Trained Individuals
<ol style="list-style-type: none">1. Must have new things explained to them.2. Need to be told what to do.3. Must have explicitly defined rules, procedures and policies.4. Find that managing others is extremely difficult.5. Need constant supervision and monitoring of performance.
Learned Individuals
<ol style="list-style-type: none">1. Feel comfortable learning within their base of experience.2. Can perform low level problem solving within their base of experience.3. Are willing to accept challenges within their areas of expertise.4. Can train others in the areas of knowledge they know best.5. Accept feedback based on “what they produce” better than feedback on “how they perform.”
Lifelong Learners
<ol style="list-style-type: none">1. Can tackle a reasonable percentage of learning requirements in a changing environment.2. Are able to apply previous problem solutions to new situations.3. Seek out new challenges in related areas of knowledge.4. Are willing to manage people who have more expertise than they do.5. Accept and use feedback based on their performance.
Enhanced Learners
<ol style="list-style-type: none">1. Accept all learning challenges and adapt readily to changing environments.2. Seek out greater challenges, responsibilities, and problems to solve.3. Seek to push the boundaries of their performance.4. Are willing to manage a team effort and mentor team members.5. Seek out mentors to help them improve their own performance.
Self -Growers
<ol style="list-style-type: none">1. Seek to improve their own learning performance with every experience.2. Create their own challenges.3. Take control of their own destiny—“there are no bounds.”4. Serve as a mentor to others.5. Self-assess and self-mentor to facilitate their own growth.

later, the core learning to learn content was joined with the research and experiences gained from 20 years of Learning to Learn Camps, resulting in *Learning to Learn: Becoming a Self-Grower* (Apple, Morgan, & Hintze, 2013; see Figure 1).

Twenty-two years after *Everyone Can Learn to Learn*, Apple & Ellis performed a fruitful analysis of learning as a performance in itself in *Learning How to Learn—Improving the Performance of Learning* (2015). They identified 13 components that contribute to a learning performance, each of which can be targeted to improve the performance of learning.

Defining and Measuring Learner Performance: From the General to the Specific

The first *Teaching Institute Handbook* provided a list of characteristics of a “Good Learner” (e.g., “1. Good learners have the self esteem, confidence, and self worth to tackle the unknown with the knowledge that they will be able to master any learning exercise with which they are presented or need...”) which was then formally published in *Learning Through Problem Solving*.

This general list of characteristics was revised and reordered into the Levels of Learner Performance published

in *The Classification of Learning Skills for Educational Enrichment and Assessment* (Apple, 1997), highlighting the characteristics of high-level learners and their learning skills (see Table 1). This basic rubric was greatly upgraded into a model of a strong learner, found in the *Faculty Guidebook* module *Profile of a Quality Learner* (Nancarrow, 2007). This extended profile was further revised as the *Rubric for an Engaged Learner*, allowing for the level of learner performance to be measured (Pacific Crest, 2013).

The most current contribution to defining learner performance is the Profile of a Quality Collegiate Learner (Apple, Duncan, & Ellis, 2016). With respect to measuring learner performance, we have come a long way, as is obvious with the Analytical Rubric of a Collegiate Learner, an excerpt of which is shown in Figure 2 and can be distributed and completed online (Pacific Crest, 2015).

Learning to Learn and...

The majority of topics that follow in this article are related more or less closely with learning to learn and have grown from some of the same research and scholarship. Of particular note are the following:

1. Methodologies
2. Learning Process Methodology
3. Reflection/Meta-Cognition
4. Self-Assessment
5. Performance Criteria
6. Self-Growth/Growth Mindset
7. Accelerator Model
8. Performance Measures
9. Performance Model
10. Classification of Learning Skills

Figure 2

Analytic Rubric of a Collegiate Learner

(Across 50 Dimensions of Performance)

Name: _____ Date: _____

Rater: _____

Point Total:
50 to 250 possible
0

Scoring timepoint: initial in-process final

Behavior and Profile	Survival Learners 1	Need-Based Learners 2	Contained Learners 3	Professional Learners 4	Pioneer Learners 5
1 COLLEGIATE/ACADEMIC MINDSET (6 to 30 points) total for section: 0					
Clarifies Expectations <i>Knows what others want delivered by which dates and can establish standards of quality by writing performance criteria</i>	Mostly in the dark regarding what is due, at what level of quality, and by when <input type="radio"/>	Know the major requirements and roughly when they are due <input type="radio"/>	Have a task list of what needs to be done by what dates <input type="radio"/>	Have a task list that specifies the requirements for each task <input type="radio"/>	Align personal standards to those of the instructor to exceed expectations prior to deadlines <input type="radio"/>
Self-Efficacious <i>Has a strong belief in who they are, who they can become, and their ability to succeed in each new activity</i>	Lack conviction except in tasks previous achieved <input type="radio"/>	Believe they can succeed in certain situations where others have confidence in them <input type="radio"/>	Believe in meeting challenges that are within their comfort zone <input type="radio"/>	Willing to attempt challenges outside their comfort zone <input type="radio"/>	Believe they will be successful in everything they try <input type="radio"/>
Evolve a Life Vision <i>Evolves life vision based on analysis of past, present, and future, including life goals, and a well constructed plan for achieving them</i>	May have a wish or dream for their life but no clear direction/plan whatsoever <input type="radio"/>	Have developed some passion that guides a general life focus but live day to day <input type="radio"/>	Have some analysis of who they are and where they want to go directed by some life goals <input type="radio"/>	Have values, actions, and plans lined up and use them to move towards a set of life goals <input type="radio"/>	Have a well thought-out life plan that is annually adapted to integrate new opportunities <input type="radio"/>
Self-Motivated <i>Has passion and desire to explore new information, concepts, and challenges in areas of interest as well as tackling weekly commitments</i>	Are trained to respond to teacher requests and the grade system they set up <input type="radio"/>	Can find some interest in the learning by asking some questions themselves <input type="radio"/>	Create some learning goals that have more important value to them <input type="radio"/>	Try to make learning meaningful for themselves by finding relevant context for use <input type="radio"/>	Are intrinsically motivated by what they want to learn and from their own growth goals <input type="radio"/>
Self-Confident <i>Approaches each new task with self-assurance that mastery of a new challenge can be met</i>	Are insecure in most situations, questioning the need for most actions <input type="radio"/>	Perform only in areas where they excel <input type="radio"/>	Consistently perform in skilled areas <input type="radio"/>	Perform to expectations in all situations except those that are truly novel <input type="radio"/>	Willing to "fake it till they make it" and learn as they go <input type="radio"/>
Inquisitive <i>Constantly seeks new knowledge in multiple forms and from many disciplines by asking lots of interesting questions</i>	Ask very few questions even in new environments and situations <input type="radio"/>	Only explore things that have immediate impact on what they really care about <input type="radio"/>	Will freely explore and asks very interesting questions in areas of interest <input type="radio"/>	Want to see the connections to what they are doing in other closely related areas or disciplines <input type="radio"/>	Want to be on top of every situation, new environment, research activity or conversation <input type="radio"/>

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