

# Evolution of Six Functions in the History of the Process Education Framework

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## Abstract

*The Process Education (PE) framework has evolved from an emphasis on the primary education functions of knowing, learning, and learning to learn to include emphasis on the functions of self-regulation of performance, which is a key to the function of growth, and on the self-determination of life decisions as the essential characteristic of the function of self-growth. This expanded vision has created the need for greater awareness of contexts and situations that offer opportunities for self-development of capabilities that have the potential to support growth related to one's ideal self. Conscious strengthening of distinctive mindsets and integration of learning skills across the domains of the Classification of Learning Skills (CLS) associated with each of the six PE functions has become central not only to the educational aims of PE but also to the personal life journeys of individuals. The enriched understanding of growth and self-growth as organizing constructs for the PE framework presents individuals, especially professionals, with new observations and insights about conceptualizing assessment and utilizing reflection to enhance Quality of Life (QoL) along one's life journey.*

## Introduction

Process Education (PE) is an educational framework based on a hierarchy of six functions that can be consciously actualized in distinctive ways. This paper provides detailed descriptions of the characteristics of each function in this hierarchy: knowing, learning, and learning to learn; performing, growing, and self-growing. The organizing construct of this hierarchy is self-growth (Jain et al., 2020), which requires conscious integration of insights from practices associated with the other five functions, potentially leading to unlimited, positive *capabilities*. This word choice is deliberate; capabilities are not capacities which are fixed or limiting (Nussbaum, 2011; Robeyns & Fibieger Byskov, 2021). Self-Growth plays a special role in the PE framework because it requires self-determined choices, actions, and self-regulation that all positively impact QoL and the trajectory of personal life journeys.

## Background

### Functions of Knowing and Learning

The PE framework has been developed as a system of educational interventions that addresses many of the barriers that frustrate professional satisfaction and restrict the range and quality of outcomes (Horton (2015; Apple et al., 2013). Since Bloom's publication of a taxonomy of cognitive educational objectives (1956), it has been clear that learning occurs at multiple levels and those levels must be consciously explored by engaged students. Bobrowski's

re-casting of Bloom's taxonomy served to more closely match it to the methods and needs of PE users (2007). The Learning Process Methodology (LPM) (Krumsieg and Baehr, 1996; Watts, 2018) was created to delineate the process of creating knowledge as the result of using all the elements of an effective learning process. Learning at each level of Bloom's taxonomy requires use of all the learning steps in the LPM but with more complex knowledge at each step; the later steps of the LPM are more critical to learning success. Redfield and Lawrence (2009) provide conceptualization of how learning skills embedded in facilitated activities change the learner's process from production of knowledge to performance improvement.

### Functions of Learning to Learn and Performing

Burke et al. documented the early emphasis on improvement of learning and performance through assessment in PE theory and practice, as early as the 1990s (2009). When applied to the practice of learning through the LPM, learning became something that could be improved. Sharing the LPM with learners meant that they could become aware of their own learning processes; learning the LPM is literally learning (how) to learn. Or, more succinctly, learning to learn.

Recognizing that learning and learning to learn are areas of performance (Nelson et al., 2020) was the next step in the development of the PE framework. Learning to learn provides a steppingstone from learning applied to create knowledge by using the LPM to the use of growth skills

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to increase quality of performance (Leisure et al., 2020) by using the Methodology for Developing Performance (MDP) (Van Slyke et al., 2020). The performance model (Elger, 2007) identified six factors that characterize any performance: context, level of knowledge, levels of skills, level of identity, personal factors, and fixed factors. The first four are related to individual self-determination and self-regulation. Personal factors such as health, family environment, and culture may be impediments in some situations or positive and supportive influences in others. Fixed factors such as physical characteristics, and to a lesser but important extent, personality traits, are not alterable but individuals can make choices that optimize performance.

### Functions of Growing and Self-Growing

The attention on self-growth within the PE framework is an innovation that builds on Dweck's (2017) research on growth mindset. Growth capability (Hurd et al., 2021) makes it possible to improve life in ways that can lead to ever increasing life quality. Individuals who attain self-growth capability demonstrate the self-determination, enhanced self-regulation, and expansion of growth capabilities to optimize their ideal selves (Rogers, 1961). The factor of growth includes multiple dimensions that have been described by Hurd et al. (2021), including self-concept, personality, attitudes, and motivation. Growth can occur when one consciously recognizes how to match personal characteristics to valued growth opportunities and, equally importantly, how to avoid limiting characteristics. Other theorists with a developmental perspective have also recognized the importance of growth (Le Xuan & Loevinger, 1996; Baxter Magolda, 2009; Landau, et al., 2014; Lilgendahl & McAdams, 2011; Szu-Chi & Aaker 2019). While growth does not necessarily include the following, self-growth does: conscious integration of capabilities based on personal life (broad) criteria and development that motivates individuals to take initiative to actualize an envisioned ideal self.

Apple et al. (2021) describe 13 components of self-growth capability that also feature emphasis on consciousness of decision making across all six PE functions as they are needed for optimizing growth opportunities (Apple, Duncan, & Ellis, 2016). Maslow (1962, 1971) and Spady (2020) exemplify the general features and aim of the self-growth philosophy. As one makes decisions about how to respond to life's opportunities, desired outcomes include increased happiness, meaning, and psychological enrichment (Oishi, et al., 2020). The detailed modeling attained in the evolution of the PE framework increases the access to additional concepts and practices for daily living decisions that promote self-determination (Ryan & Deci, 2017) of one's life

journey by consciously attaining changes in capabilities that strengthen self-concept in alignment with self-growth aspirations.

### Need for the Six Functions

Everyone feels pressure from the challenges of living in an increasingly complex society (Lindsey, 2013) in which old ways and choices have been superseded by unexpected experiences such as the COVID-19 pandemic. Contemporary commentators (e.g., Brooks, 2019), have reported on these trends and recognized that personal change based on intrinsically motivated decisions and actions is essential for achieving lives of purpose, compassion, and meaning. These challenges put pressure on everyone, including educators, to adapt and change in creative ways just to maintain personal, family, and community well-being and status. Just as growth can take place when characteristics are matched to opportunities, so too can constraints such as those caused by increasing social complexity and unexpected negative experiences, be turned into opportunities for growth if responses are consistent with personal aspirations and ethical ideals that are aligned with the needs of others. Self-Growth, as a kind of capstone, is contingent upon an open mindset focused on self-determined decisions and responses for expanding capabilities for achieving QoL outcomes and enrichment of psychological experiences through the functions of knowing, learning, learning to learn, performing, and growing.

## Discussion

### Interactions Among the Six Function Levels

As the PE framework developed, the buildup of resources and methods to support each of the functions has resulted in insights about the theoretical focus on learning and performing as well as potential application within curriculum design, facilitation, and mentoring (Apple et al., 2016). An important development, discovered from years of exploration of the learning process is the current emphasis on growth and self-growth as constructs that best characterize the optimization of PE practices. Jain et al. (2020) proposed the PE theory of self-growth as well as a methodology for following through its development. Supporting the import of this characterization, Spady (2020) and Brophy (2015) call for movement from a knowledge transmission mindset to one that attends to the needs of whole individuals as they deal with the complexities of life. The theory and resources generated in the past few years within the PE framework provide detailed modeling of self-growth as a practical endeavor for any individual.

Table 1 summarizes the relationships among the six functions from an assessment perspective. The labels in column 1 identify three levels of assessment focus: *determining*,

*strengthening, and enhancing.* The development of the three basic function levels of knowing, learning, and learning to learn, described in column 2, have been thoroughly explored in PE scholarship and summarized in Apple et al. (2016). Column 3 represents the relationships among performing, growing, and self-growing, which have been emphasized in PE scholarship since 2016. An important segue from learning to learn (cell 3) to performing (cell 4) is realization that an alternate label for learning to learn is *learning as performance* (Leasure et al., 2020), i.e., learning as a performance capability. Higher-quality performance capabilities are the foundation for strengthening of growth capability that have the further potential to use performances to produce greater QoL in self-selected areas. As growth itself becomes a consciously strengthened capability through actualization of growth action plans, it becomes the basis for self-growth, i.e., conscious self-direction of one's life.

### Categories Used to Describe Functions

The relationship of the six functions to other aspects of the PE framework can be analyzed by considering how conceptual distinctions and applied strategies augment the efficacy of the first three functions—knowing, learning, and learning to learn—and integrate these as sources that support capabilities possible through the more complex functions of performing, growing, and self-growing. The functions are the most essential sources of capability development but can be optimized only if relevant meaning and supporting resources are brought into play in effective ways to generate desired outcomes from opportunities. Each of the following seven categories provides a source of richness and insights about how to amplify the role, features, and associated methods that empower the use of each function.

- 1. Key Characteristics:** The PE framework has benefited from discoveries about the multiple factors that characterize the fullest actualization possible for each function. The factors, steps, or components of each function have been documented by Bobrows-

ki (2007), Watts (2018), Apple & Ellis (2015), Van Slyke et al. (2021), Hurd et al. (2021), and Apple et al. (2021). Being aware of the implications of the factors, steps, or components supports the potential for further expansion within each function.

- 2. Performance Descriptions:** The added value of clarifying performance descriptions and labels for concepts and processes within the PE framework is threefold (Nelson et al., 2020). First, providing differentially specific operational details clarifies the intended nature, purpose, and role of what is described—and often represented with labels. Second, performance descriptions address the general nature of the elements and steps needed for observable (assessable) effectiveness and success. Third, they are an overview that directs attention to potentially useful PE resources such as learning skills, processes, and profiles. These resources may be directly identified but often must be inferred through reflection. Gaining insights from descriptions increases the potential to strengthen and enhance expectations, planning, and preparation for the demands of situations or contexts related to the functions described in this paper.
- 3. Consciousness:** Consciousness of the differences in the functions must include insight about appropriate assessment and reflection methods. Reflection about the significance and value of specific use of a function can enhance awareness of how, why, and when specific preparation, steps, and decisions have potential significance in some situations but are likely to be of low value in others (Woolley et al., 2022). Meaningful reflection must delve into deeper or more generalizable insights that arise from more extensive experiences in using a function. Deeper reflection can significantly increase awareness of the dynamics of situations, especially regarding relationship factors, that require self-regulatory responses in real time (Csikszentmihalyi, 1993).

**Table 1** Summary of Interactions Among the Six PE Functions

Levels of Assessment Insight	Basic PE Framework	Advanced PE Framework
Determining what is:	(1) <i>Knowing</i> : Being the evaluator of the quality of one's knowledge	(4) <i>Performing</i> : Being metacognitive while performing to improve performance
Strengthening what is:	(2) <i>Learning</i> (Enhancing knowledge): Being metacognitive when constructing your knowledge	(5) <i>Growing</i> (Improving future performances): Consciously integrating action plans to elevate capabilities
Enhancing the strengthening process:	(3) <i>Learning to Learn</i> (Enhancing Learning): Being the self-assessor of learning performance	(6) <i>Self-Growing</i> (Increasing Growth Capability): Consciously directing one's life by self-regulating intentionality

4. **Mindsets:** Beliefs and assumptions are important characteristics associated with how a mindset alters how an individual consciously attempts to apply any of the six PE functions in practical situations. Mindsets that are “fixed” (Dweck, 2017) create a sense of being “stuck” as an individual struggles without success to use a function for attaining a significant outcome—or fails to recognize when a different function is the key to forward movement. Having awareness of one’s mindsets allows attention to be focused and refocused quickly and with a feeling of assurance or conviction about how to respond to situations (Dweck & Yeager, 2019).
5. **Role of Assessment:** The first goal of assessment related to uses of the six functions is validation that a consciously chosen function is suitable for meeting criteria set for the goal at hand. A second goal is assessing the quality of function use, including ability to self-regulate as conditions change from moment to moment. A third purpose of assessment is to test insights developed from reflection about how to optimize present use and further development in preparation for challenges to be expected as future opportunities arise. All three purposes can be efficiently met through qualitative assessments, such as the SII method of assessment (Wasserman & Beyerlein, 2007), but measures from external research can be incorporated to fit specific needs and criteria.
6. **Methodologies:** PE methodologies are expert models created and experientially tested that can support users across the six functions. Many methodologies that are available in PE publications and in faculty development offerings match well with specific frames of reference of each of the six functions (Apple et al., 2016). For example, the LPM provides steps in the process for creating valid knowledge and assessment can be done for enhancing progress and quality for each of the 13 LPM steps or for the summative results of a knowledge creation experience.
7. **Learning Skills:** The Classification of Learning Skills (Leise et al., 2019; hereafter “CLS 2019”) includes many potential response alternatives at varied levels of complexity. This resource assists users in the goal of flexibly selecting and strengthening key skills to improve the quality of responses at any function level from something as straightforward as learning to prepare for an exam to something as complex as combining or integrating multiple functions during the phases of an artistic creation or a scientific investigation.

## Analysis of The Six PE Functions

The nature of each function is linked to insights about these categories: key characteristics, a differential description, focus of consciousness, key mindsets, assessment and reflection strategies, associated methodologies, and sample learning skills. The focus of the PE framework is on creating not only the key concepts but also the tools and resources for using these functions to plan and actuate decisions which have the potential to increase value and quality for supporting the aspirations of individuals, groups, and organizations. Self-Growth plays an organizing role in the PE system approach, but it is important to emphasize the hierarchy of PE functions because higher-level decisions and actions require capabilities and achievements from the supporting lower-level functions. The capabilities from knowing, learning, and learning to learn are essential to mastery of capabilities at the performing, growing, and self-growing levels. The characteristics and mindsets of a self-grower are broader and more complex in scope than those of growing, performing, learning to learn, learning, and knowing.

### Knowing

#### Key Characteristics:

Knowing is foundational to the other five PE functions because it is the memory resource that makes all the other functions possible (Tulving, 2005; Olney, 1998; Østby & Østby, 2018). Learning isn’t possible without content (knowledge), performing requires working expertise, and a self-growth system is based upon extensive knowledge about growing and self-growing.

#### Performance Description:

What knowledge to acquire is a matter of choice but it must be learned deeply enough to support the development of capabilities at a required level. In other words, knowledge must be effective when applied within contexts involving the other functions. Knowledge has many dimensions including levels (Bloom, 1956), and various forms (Quarless, 2007) as well as dimensions of clarity and reliability in specific contexts. Information has become increasingly easy to obtain, a fact which can entice learners to stop short of creating knowledge that will serve their purposes beyond answering an immediate question. Self-knowledge must be learned through insights from personal experiences that clarify the differences between subjective knowledge (personal meaning) and more objective knowledge (validated from multiple perspectives). Self-knowledge is important not only for understanding oneself but for increased consciousness of personally meaningful and important learning arising

from other individuals and experiences. Many learning skills (Leise et al., 2019) require significant background knowledge in order to optimize their value and to avoid biases and impediments due to misunderstanding or misjudging in unfamiliar situations or when faced with greater challenges (i.e., not relying on guessing/predicting but having the required knowledge). Thus, having more and varied knowledge increases the potential for insights about significant learning details that make a difference in the attitudes, intentions, preparation, strategies, and goals associated with learning situations, performances, and experiences.

**Consciousness:**

At the level of knowing, consciousness is focused on ensuring that retrieval of relevant information is quick and accurate to support integration of desired skills and capabilities. Motivation to gain needed knowledge arises from consciousness that one lacks essential information needed for success. Additionally, beyond knowing what one does and doesn't know, consciousness of knowledge is being aware of one's bias, subjectivity, and fragility when using knowledge.

**A Knowledge Mindset is Based On:**

- Curiosity: Feeling motivated to pursue new kinds of knowledge because of the potential value
- Knowing you know: Staying with knowledge-seeking processes until confident that the results are what are needed
- Discipline expertise: Knowing that one can meet their own and others' expectations for the knowledge possessed in that discipline

**Role of Assessment:**

The criteria for knowledge focus on reliability, consistency, validity, and truth of what one knows. The assessment perspectives from the other functions often clarify the critical limits or boundaries of the knowledge required in activities, projects, or experiences that make up the varying degrees of complexity. Completeness of knowledge for a purpose often overrides evaluation of the reliability and validity of the same knowledge for alternative purposes.

**Representative Methodologies:**

Reading Methodology, Writing to Think, Problem Solving

**Associated Learning Skills:**

Checking perceptions, Recalling, Categorizing, Systematizing, Tagging, Archiving, Being curious

**Key Characteristics:**

Learning is the process of building knowledge structures that will address learning goals (McDaniel, 2022). The stages of this process for knowledge construction are consistent with varying knowledge and are supported by using learning skills (Leise et al., 2019) relevant to each stage.

**Performance Description:**

The role of learning is to produce valued knowledge from general or experiential information with the purpose of advancing one's success in specific contexts, including academic and life roles. Engaged and active learning (Nancarrow, 2007) is further enhanced through use of the Learning Process Methodology (LPM) (Watts, 2018) to guide conscious use of learning strategies for creating and assessing knowledge that will address purposes as intended within learning activities. Many skills from the 2019 CLS can be strengthened through use of the LPM's steps. The addition of new learning to one's knowing includes a metacognitive characterization of the depth and breadth of this knowledge including its level achieved, reliability and validity. Learners who become self-efficacious about the benefits of using critical thinking and other strategies designed into facilitated learning activities will advance faster and create greater meaning for life purposes (Soto et al., 2021).

**Consciousness:**

Learners build on their knowing by recognizing when new knowledge is needed. Intentional strategies are put into action to construct knowledge that is coherent with one's objectives and is complete and well-constructed. Awareness of the learning process allows self-assessment of both the new knowledge and the reliability of the process of its construction.

**A Learning Mindset is Based On:**

- Questioning: Continuously formulating questions that need to be answered through inquiry
- Seeking insight: Recognizing that each answer leads to new questions which can elevate meaning

**Assessment and Reflection Perspective:**

The criteria for learning are embedded in resources such as the LPM that provide steps for creating the knowledge one needs. Learning improves by assessing each step's contribution to meeting the learning goal. A summative assessment focuses on whether the learning goal itself has been achieved or the complete and valid

knowledge attained for a specific purpose using tools like a learning journal (Carroll et al., 1997). Assessment of learning from teachers, experts, peers, and self are all important for reliability and validation of learning outcomes.

### Representative Methodologies:

Learning Process Methodology, Methodology for Generalizing Knowledge

### Associated Learning Skills:

Redirecting focus, Defining characteristics, Validating completeness, Being open-minded, Inquiring

## Learning to Learn

### Key Characteristics:

Learning to learn results from increasing ownership, metacognition, and self-regulation of the learning process (Dunlosky & Metcalfe, 2009). The focus on certain groupings of learning skills to support advancements in learning performance during different steps in the learning process enhances learning capabilities.

### Performance Description:

Learning to learn involves real-time self-regulation of choices and behaviors to improve learning efficiency, effectiveness, and productivity in optimizing knowledge from specific contexts to a wider range of conditions deemed important. Facility with metacognitive skills is needed to connect the learning principles and levels of knowledge (Bloom, 1956; Bobrowski, 2007) with the steps of the LPM and the learning skills (CLS, 2019) relevant to each step. This yields awareness of learning at its most basic but comprehensive. The 13 components of learning performance (Apple & Ellis, 2015) are relevant to learning to learn when we understand that learning to learn as equivalent to carrying out learning as a performance. Various tools, such as performance criteria and learning profiles (e.g., Profile of a Quality Collegiate Learner) then become resources for consciously assessing and reflecting on the learning to learn function (Apple et al., 2013; Apple, et al., 2016). A learning to learn mindset optimizes patterns of learning by integrating new techniques into analogous contexts so they can effectively transfer learning capabilities to more challenging and complex situations. There are many performance areas that align to and support learning performance (such as reading for learning, problem solving, preparing, generalizing, and self-assessing); using their performance descriptions provides richness to learning performances (Nelson et al., 2020).

### Consciousness:

Learning-to-learn is conscious modeling of recently acquired skills for learning to improve its fit to both present and future contexts. Accurately capturing and interpreting what happened in specific situations yields practical cues and nuances that clarify effective approaches in different contexts and provide insights into how to flexibly integrate learning into performing (Leasure et al., 2020).

### A Learning to Learn Mindset is Based On:

- Self-efficacy: Believing that one can achieve learning goals in challenging situations
- Productivity: Putting emphasis on timely outcomes that will have enduring value

### Role of Assessment:

The criteria for assessment of learning to learn (learning as performance) are focused on how well the conscious use of learning skills enhances or accelerates the use of models or patterns of learning that will meet much greater challenges than one has met in the past. Self-Assessment of learning to learn is attuned to personal efficacy in increasing productivity and meeting new challenges in the future through developing clear action plans.

### Representative Methodologies:

Elevating Critical Thinking Methodology, Creating Insights Methodology

### Associated Learning Skills:

Transferring, Clarifying conditions, Strategizing, Identifying factors, Following principles, Capturing value, Ensuring fitness

## Performing

### Key Characteristics:

Performing is the integration of identity, working expertise, personal capabilities, and experiences within a defined context that meets the quality defined by a set of performance criteria. It is characterized by successful, self-regulated, real-time achievement of outcomes valued by the stakeholders of the performance.

### Performance Description:

Performing is the transfer of patterns of action across real-time situations often represented by a performance description. To perform well requires integrated and deeply processed capabilities from the supporting levels of knowing, learning, and learning-to-learn (Leasure et al., 2020). The Methodology for Developing Performance (MDP) includes seven stages (20 steps) that aid in the cycle of planning, preparing, performing, assessing, and debriefing that supports continuous im-

provement of quality in performance, especially when a performance mentor is used. Performing with quality depends upon setting high expectations that are reliably achieved through conscious self-regulation and enhanced through assessment and reflection. Performance in this respect holds the potential for improvement in QoL for individuals.

**Consciousness:**

Performers focus on the fit of their actions in a performance context with the intended result made explicit through performance criteria. Past experiences, including those of unsatisfactory quality, keeps attention on performance criteria for self-assessing to improve through applied action plans that support generalizations of capabilities useful for achievements in future contexts. Learning skills that lend themselves to growth (Van Slyke, 2021) have been identified. Once these are elevated, a performer experiences much greater ownership over and efficacy in changing and transforming capabilities for new and varied performance purposes.

**A Performance Mindset is Based On:**

- Performance: Improving oneself through planning, performance, and assessment that supports the movement toward becoming a top performer in new contexts
- Self-Regulation: Improving performance by using assessment feedback to make corrective actions that will result in a more reliable process for achieving desired outcomes
- Impact: Extending performance improvements to make even greater differences (such as in QoL for self and others)
- Assessment: Focusing energy and efforts on improving future performances, instead of criticism of past performances, to move forward more directly and quickly in attaining higher quality in performance processes and outcomes (Jensen, 2007).

**Role of Assessment:**

The criteria for performing are focused on self-regulatory responses in real time to heighten quality defined by the performance criteria. The goal is to attain control of significant performance factors (i.e., the theory of performance) that could influence success in multiple future areas of performance and life roles by using performance measures, learning skills, growth skills, and performance mentors.

**Representative Methodologies:**

Methodology for Developing Performance, Self-Assessment Methodology, Teaming Methodology,

Preparation Methodology, Mentoring Methodology, Communication Methodology

**Associated Learning Skills:**

Describing performance, Defining performance characteristics, Capturing evidence, Owning performance, Managing frustration, Analyzing performance

**Growing**

**Key Characteristics:**

Growth is characterized by expansion of the range and quality of the components of growth capability, including those supporting and strengthening self-concept, planning one’s life, intensifying growth efforts, and enhancing performance improvement.

**Performance Description:**

Growth is consciously strengthening self-regulated use of expertise within new and challenging contexts in areas of performance important to one’s envisioned life journey and QoL (Hurd et al., 2021). A grower must be open to consciously changing priorities to fit broad personal criteria important to one’s life. Significantly improved QoL requires performance enhancements that can be generalized across performance areas through pivotal opportunities and by strengthening of a wide array of learning skills. Extensive research has resulted in a guide (Apple et al., 2018) for identifying and self-regulating professional characteristics to mitigate risk factors, thus making growth sustainable. An individualized QoL index is used for estimating and self-assessing growth in the most valued areas of life (King-Berry et al., 2021). Fifteen components of growth (Hurd et al., 2021) form a basis for conscious improvement of one’s annual growth plan as well as for the more detailed work on more frequent opportunities that are needed for continuity of growth over time. As one broadens horizons of self-determined choices, weekly and daily self-regulation of actions must support this intentionality.

**Consciousness:**

Growers mentally explore opportunities, select activities, and continually assess the present so the future value of critical areas of performance improve QoL.

**A Growth Mindset is Based On:**

- Being future-oriented: Envisioning growth potential that will move one toward an ideal self through autonomous and conscious self-development
- Being positive: Imagining the potential of opportunities for improving the future builds confidence that one’s growth will exceed the increase in life’s complexity

- Acting strategically: Recognizing the potential value of focusing on new and effective approaches to important performance issues that encourage emphasis on exceeding current capability

**Role of Assessment:**

Assessing growth requires focusing on self-empowerment within and after moments of performance to actualize improvement in performance that can be transferred to future opportunities. The criteria and standards are used to energize efforts so that growth is stimulated for the current context which leads to greater performance in future contexts that integrates the future-oriented, positive, and strategic mindsets.

**Representative Methodologies:**

Methodology for Creating Action Plans, Methodology for Improving Quality of Life, Reflection Methodology

**Associated Learning Skills:**

Testing robustness, Optimizing a solution, Challenging assumptions, Changing behaviors, Applying criteria

**Self-Growing**

**Key Characteristics:**

Self-Growth is characterized by the continuity and synergy of life plans, shared life plans, and self-growth plans across time and situations to create a seamless pattern of movement toward an ideal self (Apple et al., 2021). Capabilities to support this movement include reflection, self-mentoring, use of mentoring skills, and the learning skills. This movement is enhanced through designing assessment, developing a self-growth plan, use of self-growth coaching, and integration of active growth plans.

**Performance Description:**

Self-Growth capabilities are developed with the purpose of gaining a more universal perspective than offered by the performance emphasis of growth capabilities. Kitayama et al. (2020) explored cross-cultural patterns of self-development with the conclusion that all cultures have analogous ideals of personal growth even though the self-growth process may be experienced in differing ways across cultures. Increased quality of outcomes and richness of relationships is correlated with expansion of one's consciousness of an ideal self as an aspirational expectation during one's life journey (Apple, et al., 2021; Jain et al., 2020). Self-Growers transcend present levels of purpose and quality in areas of life judged most valuable and give conscious attention to the potential for growth in each moment (Heath & Heath, 2017). Life experiences afford many opportunities that require the rais-

ing of expectations to motivate increased productivity. Self-Growth uses each other function in specific ways to orchestrate the strategies to support mindful growth in new capabilities for QoL, in the moment. To expand and deepen this mindful growth, self-growers use a variety of PE resources (Apple, et al., 2019) and tools including the Profile of a Self-Grower, performance measures for mentoring skills, and, most critically, the Self-Growth Methodology (Jain et al., 2020), which provides 26 steps in six stages for structuring a self-growth journey. Analysis of professional characteristics and risk factors (Apple et al., 2018), and structuring the ongoing implementation of weekly active growth plans provide the details of how the self-growth process is implemented. The self-growth function is the conscious synthesized use of the other five functions during each day's moments by reflecting on one's personal experiences and then planning growth for upcoming opportunities (Leise, 2022).

**Consciousness:**

By focusing on how to exceed current growth capabilities, self-growing is the intentional seeking, creation, and selection of opportunities with potential to improve QoL by strengthening one's growth capability. The aim is to increase happiness/satisfaction, expand one's life meaning, and make psychologically enriching outcomes more prominent.

**A Self-Growth Mindset is Based On:**

- Sharing: Enjoying the synergy that produces a greater QoL than that of two individuals living life separately
- Being quality-oriented: Seeking to improve upon current quality by increasing future quality in each activity, personal action, process, and life system
- Behaving ethically: Having a compassionate understanding (Nhât Hahn, 2014) by using an ethical system to move toward an ideal self, such as through commitment to universal principles of justice (Kohlberg, 1976)
- Being respectful: Believing that each person has unlimited potential and that it is the responsibility of a self-grower to interact with others in such a way that it leaves the other stronger and more capable of their own self-growth (Hintze et al., 2015)

**Role of Assessment:**

Insightfulness produced from reflection and self-assessment is most critical for validating that self-determined growth is optimal for one's life journey. The framework for self-growth assessment is broad (life) criteria that define one's most universal values and support the self-growth mindsets and daily decisions.



## Representative Methodologies:

Self-Growth Methodology, Weekly Reflection Methodology, Weekly Scripting Methodology, Methodology for Creating an Active Growth Plan

## Associated Learning Skills:

Being independent, Forecasting needs, Self-Mentoring, Being philosophical, Being compassionate, Establishing standards, Getting unstuck, Being metacognitive, Determining unmet needs

## Conclusion

As new theory and practice insights emerged during the past 30 years to expand and integrate the elements and dimensions of the PE framework, six central PE functions evolved. The traditional emphasis of educators on disciplinary knowledge remains important but fails to recognize the problems that are often impediments for students who don't appreciate how their own affective and reflective skills are limiting their raising of the bar on their achievements. Learning through problem solving is an effective remedy for putting knowledge to practical use. However, even greater outcomes are possible if students learn how to learn by applying and strengthening growth learning skills from the CLS 2019, such as being persistent and setting priorities that match the aims in a situation. Learning as performance requires reflection to optimize conscious choices for producing increased quality in future performances.

Growth is a popular psychological construct that has been empirically validated in many studies since the late 1980s. However, it became clear from PE Learning to Learn Camps and college recovery courses that growth often is not part of students' mindsets even when their self-efficacy and productivity have increased. Even students who become conscious of how to learn within a specific context may not connect their new skills to changing how they choose to perform. Growth occurs from consciously strengthening performance quality in life roles (identities) and valued areas of performance with the goal of producing increased QoL. The mindsets associated with growth require greater awareness of future value of how increasing expertise in selected growth learning skills has the potential, by applying self-regulatory processes, for more generalized capability development. Although growth is necessary for self-growth, it is a more limited perspective. Self-Growth requires consciousness, in each moment, about how responding to growth opportunities that offer the greatest potential can lead to new and meaningful ways of attaining life aspirations. It requires courageous self-determination when decisions that can change the trajectory of one's life journey become possible in a situation. It leads

to making opportunities happen that are needed to follow through in the direction of one's life plan for moving toward an ideal self.

Future investigation of the uses and implications of the six functions will be focused on how individuals use conscious self-determination and self-regulation to optimize their productivity. Self-Growth is now considered the organizing construct for the PE framework, which means that the other functions must be consciously used to develop and integrate the many capabilities relevant to living a satisfying life enriched with meaning. Each of the functions plays a distinctive role in each experience. As individuals consciously gain competencies by using the functions, they can increase the speed with which the lower functions are managed as parts of an integrated whole at higher functions.

As consciousness of function application is strengthened, it becomes important to seek new psychological insights from observations and measurements of how, and how well, PE practitioners self-regulate their commitments to actualize new capabilities as articulated in growth plans. Important lines of inquiry include: Do expressed intentions correlate with the production of desired achievements and life outcomes? Is reflection about observations powerful enough to generate empowering insights for directing future decisions and responses? Can opportunities be generated for expanding growth and self-growth patterns that have been established and for creating new and more enriching patterns? Can the opportunities and impediments related to interpersonal dynamics be self-managed while remaining an equitable actor in situations involving any of the six PE functions? Can the varied interpersonal and cross-situational meaning of actions and situative conditions be analyzed together to achieve a greater degree of objectivity? PE has expanded to include not only the expert design and facilitation of educational activities to produce "learning moments", but also the expectation that everyone must become aware of how intentions, insights, and interpersonal variables dynamically shape decisions, responses, and even motivation to actively create a life journey that has meaning for oneself while also increasing the well-being of others and the wider world.

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