

From the Editorial Board

Welcome to the twelfth volume of the *International Journal of Process Education*. In this issue, we present a collection of the collaborative research efforts of many Process Educators. Methodologies, frameworks growth and self-growth are discussed in this volume. From improving performance to increasing quality of life examining learning, growth, and self-growth will be explored in this issue.

In our first article, **Improving Performance Using the Performance Development Methodology**, Van Slyke, Utschig, and Apple discuss the steps for supporting learning and growth to develop performance capacity through a Performance Development Methodology. The methodology includes planning, performing, and then reviewing to generate performance improvement for the next opportunity. The performance development methodology plays a similar role for performance development as the learning performance methodology does for learning performance.

Learning to learn is the focus for Woodbridge, Ulbrich, Nelson, Apple, Ellis, Horton, and Leasure's article, **Conceptual Understanding Required to Implement a Learning to Learn Experience**. In this work, the authors clarify the key components of a learning to learn experience through an outline of the framework necessary for creating a successful learning to learn experience. Additionally, a concept map visually displays the interconnectedness of the key components.

The fifteen components that comprise growth capability are the focus of our third article **Modeling Growth Capability—What is it?** In this work, Hurd, Apple, Beyerlein, Ellis, Leasure, Leise, and Nelson provide an extensive discussion of these growth capability components along with related professional development activities.

The final three articles relate to self-growth. The 13 contributing components of self-growth capability that increase growth capability and raise self-growth consciousness is the focus of the multi-author paper, **Self-Growth Capability Components and Their Impact on Growth**. Apple, Leise, Ellis, Beyerlein, Leasure, Batchelor, Burke, Woodbridge, El-Sayed, Ulbrich, Duncan, Utschig, and Donald discuss the how these components elevate growth experiences into self-growth experiences, support the journey toward ideal self, and help individuals stay in their ideal zone of development. Dombi and Watts explore how self-growth process can be facilitated through a fuzzy cognitive map framework which models the relationship between these professional characteristics and risk factors in the article, **Modeling Self-Growth with Fuzzy Cognitive Maps**. Finally, King-Berry, Apple, Ellis and Leise outline a quality-of-life framework for self-growth through the identification of domains and dimensions in their article, **Developing a Quality of Life (QoL) Framework for Self-Growth**.

It is our hope that you will enjoy reading the contributions to our newest issue as much as we enjoyed working with the authors to bring the research to fruition. We look forward to receiving your feedback as well as your future research contributions.

Sincerely,

Kathleen Burke

Chief Editor, *International Journal of Process Education*

Improving Performance Using the Methodology for Developing Performance

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Abstract

This paper presents the Methodology for Developing Performance (MDP) for supporting learning and growth to develop performance capacity. The methodology includes planning (thinking of what one is going to do), performing (preparing, practicing, and performing) and then reviewing (receiving evaluation, assessment, and other feedback productively) to generate improvement in performance for the next performance. The MDP connects with many other critical areas of Process Education (PE) that educators use in their role as facilitators of learning and mentors of growth including the Theory of Performance, performance criteria, the Learning Process Methodology (LPM), growth-oriented skills from the Classification of Learning Skills, assessment, evaluation, performance mentoring, and summative reflection. The role of the MDP in developing performance is similar to the role of the LPM in improving learning performance. The MDP is a natural extension of the Learning by Performance (LxP) framework and adds to the understanding of growth as positive change resulting in increased capability to produce high quality performance in life contexts such as informal learning, educational settings, and the workplace.

Introduction

Process Education is a performance-based philosophy of education which integrates many different educational theories, processes, and tools in emphasizing the continuous development of learning skills through the use of assessment principles in order to produce learner self-development (Academy of Process Educators, n.d.). When activity occurs with the intention of producing a valued thing, we call it *performing*. A *performance* consists of the act of performing plus products of value: the preparation, people, feedback, and resources involved. As such, performance must have a public component that involves stakeholders beyond the performer who share in the value produced by the performance (Nelson et al., 2020). *Performance development*, then is the process of improving the effectiveness or quality of a performance and its results. Leasure et al. advanced the idea that learning by performing (as a form of doing) seems to be an intuitive form of learning that comes naturally (2020). We propose that the definition of performance as shared in the previous sentences constitutes a more complex and intentional form of “doing” and that the Methodology for Developing Performance (MDP; see Table 1) functions as a process to increase or grow capability for learning by performing.

In Process Education, performance development is applied to the context of learners who want to turn learning opportunities, both formal and informal, into performance and growth. As defined by the Academy of Process Educators, Process Educators want to see growth in others and strive to foster their own self-growth (2020). The MDP is what

elevates learning opportunities and performances to the level of growth opportunities.

Workplaces where ongoing improvement of performance is valued can benefit greatly from use of the MDP, regardless of whether that use is detailed (explicit use of all 20 steps) or more general (use of the seven stages). At General Electric, for example, a process called, “Plan, Do, Review” (PDR) has been implemented in order to improve the safety and quality of professional performance. While PDR maps neatly onto the MDP, there is great potential value in exploring more explicit use of some of the MDP steps and/or stages, especially Stage 7, “interpreting feedback”. The including of this as a part of PDR would help inform each new “Plan” with feedback, whether assessment- or evaluation-based, as gained from the previous “Review”.

This potential value holds true in more traditional PE contexts as well; any performance opportunity where the MDP is used brings the possibility of growth to the context and performance. The MDP could, for example, be used to explore ways to advance performance mentoring.

Literature Review

The seven process stages within the learning by performing (LxP) framework (Leasure et al., 2020) shown in Figure 1 match the seven stages of the MDP with the exception of Stage 0 in the MDP which can be understood as the context where the LxP is applied. While the stages in the MDP align with the LxP, it is the 20 steps in the MDP that truly make

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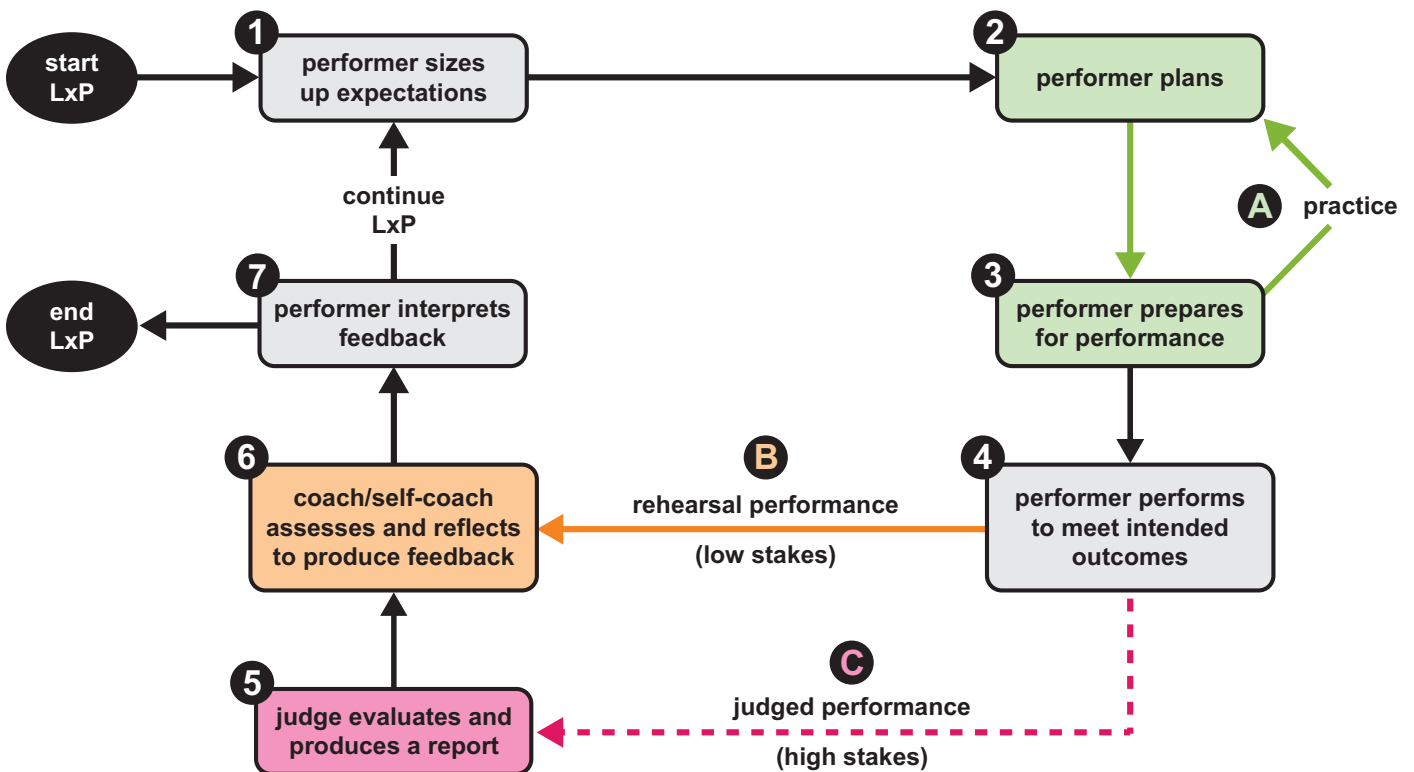
³ Pacific Crest

Table 1 Methodology for Developing Performance (an abbreviated version is available in Appendix A)

Stage/Step	Result	Short Description
STAGE 0 Performer explores opportunity		
Step 1: Choosing an Opportunity	Selected/Not Selected	Balance personal growth opportunity against a relationship with any sponsor and their desires.
STAGE 1 Performer sizes up expectations		
Step 2: Identify stakeholders	Stakeholder list	Who is involved? sponsors, coaches, judges, participants, audience, etc.?
Step 3: Clarify expectations	Intended outcomes	What does a successful outcome look like and how is it determined?
Step 4: Analyze performance context	Clarifies conditions	How do culture, physical environment, resources, and constraints impact performance?
Step 5: Analyze performer context	Identifies needs	How do current knowledge, skills, identity, and life situation address the needs for the performance?
Step 6: Write the performance criteria	Set of performance criteria	Draft a set of statements describing how to will develop and deliver a quality performance.
STAGE 2 Performer plans		
Step 7: Produce and implement learning plan	Working expertise	What gaps in knowledge must be filled for this performance to take place?
Step 8: Produce growth plan	Growth Plan	What performance skills and physical or psychological conditioning can be enhanced in practice/rehearsal?
Step 9: Produce performance plan	Performance Plan	Script, step by step, how quality will be manifested during performance and how/when feedback will be generated.
STAGE 3 Performer prepares		
Step 10: Practice	Increased performance capability	Execute a growth plan to improve fluency through iterative application of targeted performance elements.
Step 11: Performer readiness snapshot	Conditioning report	Capture the baseline physical and psychological state, level of expertise and skill, and identity as a performer.
Step 12: Rehearsal	Performance record	Simulate a full performance, producing a performance record to track progress and inform assessment.
STAGE 4 Performer performs		
Step 13: Perform	Performance record	Continually monitor/adjust while executing the performance plan to produce intended outcomes as much as possible.
STAGE 5 Judge evaluates		
Step 14: Evaluate	Evaluation report	A judge uses a performance scorecard to determine whether standards were met and at what level.

Stage/Step	Result	Short Description
STAGE 5 Judge evaluates (continued)		
Step 15: Suspend reaction	Positive openness to feedback	Take time to become more objective before reacting to judgement so that it can be converted to useful data to guide improvement.
STAGE 6 Coach and/or performer assesses		
Step 16: Assess practice, rehearsal, performance	Strengths, Areas for Improvement, and Insights (SII) Assessment on performance	Use performance criteria with a coach to analyze strengths, areas for improvement, and insights.
Step 17: Turn evaluation into assessment	Expanded SII	Interpret the judge's evaluation report, considering a personal/coach's assessments to add new value.
STAGE 7 Performer interprets feedback		
Step 18: Interpret feedback	Action plan	Choose which feedback to internalize the as most valuable and promising for improving future performance.
Step 19: Update plans	New plans	Integrate actions plans to emerge from this performance with plans for growth and performance (Stage 2 action plans) that still hold future value.
Step 20: Self-assess entire process	SII Assessment on use of the MDP process	Assess use of MDP for strengths, areas of improvement, and insights to guide more effective use in the future.

Figure 1 Process Stages from LxP Performance Improvement



the LxP operational. The MDP is designed to increase performance capability while at the same time contributing to expanded growth capability.

The *Faculty Guidebook* contains a Personal Development Methodology (Leise, 2007a) which captured a process similar to the Methodology for Developing Performance but has its general focus on developing individual growth capability which can then be applied to a variety of challenges. The operative difference is that the MDP focuses on performance as a path to growth while the PDM is focused on a general growth process that can be variously contextualized. The steps of the Personal Development Methodology are:

1. Recognize the need for change and growth.
2. Explore contextual issues.
3. Prioritize based on values.
4. State clear outcomes.
5. Develop a plan.
6. Perform to the plan as set.
7. Assess performance.
8. Adjust the plan.
9. Appreciate gains.
10. Reward achievement

While many of these are similar to stages or steps in the MDP, the focus of the PDM is clearly on growth rather than performance.

In the Theory of Performance module of the *Faculty Guidebook*, Elger (2007) defines the direction of improvement in performance and the attributes that are impacted by higher levels of performance (components and connections to the performer's mindset), as summarized in Figure 2. The Methodology for Developing Performance offers a complete tool a performer can use in order to achieve the higher levels of performance.

The Theory of Performance further lays out three practices that create optimal conditions for performance development (Elger, 2007):

1. Engage the performer in an optimal emotional state (performer's mindset). A performer's mindset is one of the aspects that is part of Step 11 of the MDP, the readiness check immediately before performing.
2. Immerse the performer in an enriching environment. This type of environment is created throughout the MDP, including the steps to analyze the relationship, roles of various stakeholders, and analysis of the performance context from these perspectives.

3. Engage the performer in reflective practice. Evaluation, assessment, reflection, and adjusting the plan are all part of the last three stages of the MDP. The addition of interpreting feedback strengthens this reflective practice.

The Methodology for Developing Performance

In presenting the explicit methodology, the authors have crafted explanations that assume a reader is a PE practitioner who has at least considered mentoring the development of their own performance. Table 2 describes each step of the MDP in detail, including the possible result of the step, a detailed description of the step, the relevant elements of the LxP framework, supporting growth skills that may be activated during each step, the impact on the performer's consciousness, and an example that should help readers to visualize each step in action. The flexibility in application of the MDP notwithstanding, it is perhaps most easily understood when framed in a relatively simple context. With that in mind, the stages and steps of the methodology are presented here in a familiar context: that of facilitating a workshop at an academic conference. Imagine that the "model performer" is an individual who is relatively new to PE, who used the MDP in facilitating a workshop on developing performance at a Process Education conference.

Raising Performer Consciousness

The MDP advances the framework of performance development, and as with all methodologies (Smith & Apple, 2007), it increases metacognition and consciousness of the specific process the methodology models. The MDP provides 20 critical steps in performance development that, if applied, can increase performance each time a mentee performs. For example, using Step 6 to reflect on performance criteria and then update these criteria before each performance will increase the performer's expectations and raise the bar of what one wants from the performance. Additionally, Steps 15 and 16 help the performer prepare for interpreting evaluation of their performance by first conducting an assessment prior to interpreting the evaluation. This is important so that the evaluation does not limit perspectives of the assessment and makes it easier to turn the evaluation into assessment (Watson, 2007). Much in the same way that the LPM (Watts, 2018) is valuable as a tool for engaging the relationship of the facilitator of learning (teacher) with the learner (student) to strengthen learning performance, the MDP can be similarly useful for strengthening the relationship between the mentor and the performer to help strengthen the performance being developed.

Methodology Stage 0

The reason for the methodology starting at Stage 0 “Performer Explores Opportunity” is to recognize that it is a prerequisite to beginning the process of performance development. The process of Learning by Performance (LxP) starts when the performance opportunity has already been chosen. However, Stage 0 is one of the most important stages as it is when the performer makes the decision to perform and determines a

performance opportunity that will challenge them and encourage learning/growth in an area that aligns with their growth plan. Without this stage, the performer may find themselves taking on more opportunities than is realistic or the performance might lack appropriate challenge, leading to the performer becoming complacent as a performer.

Figure 2 Attributes of Higher Levels of Performance

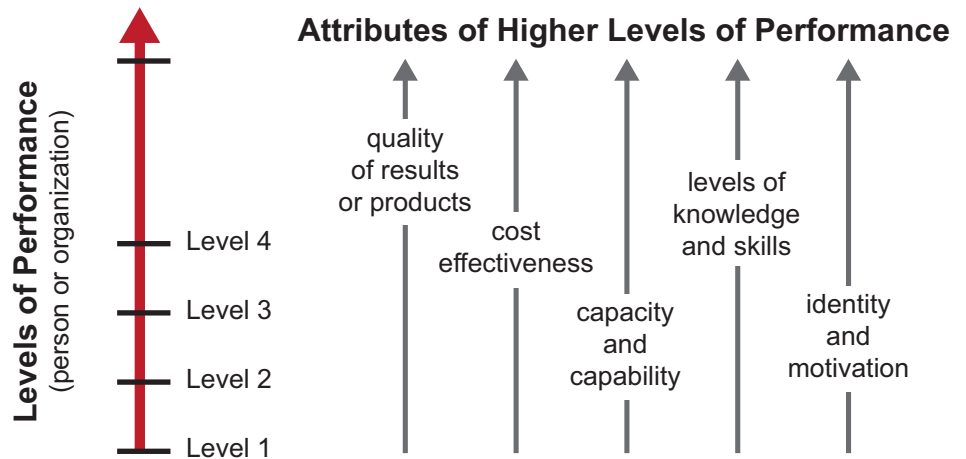


Table 2 Methodology for Developing Performance (Detailed and Expanded)

Stage 0: Performer Explores Opportunity	
Step 1	Choosing an Opportunity
Result	Selected/Not Selected
Description	Clarification of the opportunity for the specific performance and the sponsor’s motivation behind creating the opportunity. The motivation for a positive response depends on who is the sponsor, who is the performer, the relationship between the two, and opportunity to develop performance capability.
Elements of performance framework	<ul style="list-style-type: none"> • Opportunity for performance development • Performance goals • Growth opportunity • Learning opportunity • Incentives
Growth skills	Being true to self and updating life vision
Consciousness	Valuing an opportunity means it aligns with one’s personal values and goals and produces a sense of excitement. It also means being open to new opportunities, even as the challenge seems daunting, which may shift the course of life in positive directions (Leise, 2007b).
Example	The opportunity to facilitate a workshop at a conference would develop facilitation skills and knowledge of performance development, especially by working with a mentor.

Stage 1: Performer Sizes Up Expectations

Step 2 Identify stakeholders

Result List of stakeholders

Description Identify the various roles, players, and relationships involved in the performance development process. This includes participants, coaches, judges, audience, sponsors, as well as the culture within which the performance resides.

Elements of performance framework

- Coach
- Judge
- Participants
- Audience
- Other stakeholders
- Culture

Growth skills Strengthening role identities and defining performance characteristics

Consciousness It is important to get buy in early on from everyone involved so they play their role not only to maximize the outcome of the performance but to foster growth (Apple et al., 2007).

Example Identified stakeholders include the cofacilitator of the workshop, the conference planning team, conference participants, workshop participants, and the editors of *International Journal of Process Education* (n.d.).

Step 3 Clarify expectations

Result Intended outcomes are determined

Description Identify what a success would look like (intended outcomes) by reviewing performance descriptions, demonstrations, or past performances; inventorying the qualitative expectations of the key sponsors; and validating that the description of success exceeds what they want. Additionally, find out who they will use as their evaluator and the scales, standards, and values for quality that will be applied to determine success.

Elements of performance framework

- Description/demonstration
- Stakeholder's expectations
- Scales/standards
- Scorecard: the official evaluation system
- Criteria
- Judge
- Accepted feedback
- Intended outcomes

Growth skills Motivating self and committing to success

Consciousness Generalizing knowledge from past performances with similar stakeholders helps one to visualize the performance and see what success looks like; this also makes it feel achievable for this set of stakeholders (Utschig, 2019).

Example Base expectations on past experiences of teaching, hosting, and attending workshops to meet the criteria of the conference planners and to see an improvement over past performance.

Step 4 Analyze performance context

Result Clarification of conditions

Description In addition to the culture and stakeholders, explore all the variables that will impact the quality of the performance. This includes the dynamics of the challenge, the physical and social environment (structures, layout, flexibility, aesthetics, and social dynamics), resources (tools, support staff, supplemental supplies, documents), and constraints (the absolute boundaries within which one must perform).

Elements of performance framework

- Environment
- Resources
- Constraints
- Process
- Critical decision data

Step 4 Analyze performance context (continued)

Growth skills Analyzing performance and valuing performance

Consciousness A performance description can be explored to tell a better story of how that context can be used to support success and where constraints could cause limitations in the quality of performance (Nygren, 2007).

Example Participants have strong Process Education expertise, they value performance, and many currently use performance criteria and assessment. There are likely to be between 20 and 50 participants in a Zoom room with screen sharing, chat, and the capability to create and use breakout rooms.

Step 5 Analyze performer context

Result Identification of needs

Description First and foremost, what are the performer's expectations, based upon life goals and values? Explore current performance capabilities that include expertise (current level of disciplinary and interdisciplinary knowledge and experience), level of performance skills, performance identity and mindset. Finally, explore the performer's life situation which includes life and personal conditions (physical and psychological) and fixed personal factors in relationship to performance goals.

- Elements of performance framework**
- Performer's expectations
 - Life goals and values
 - Expertise
 - Current performance skills
 - Identity and mindset
 - Life and personal conditions
 - Fixed personal factors

Growth skills Introspection and being self-aware

Consciousness Not only does the performer need to be mindful of how the performance will challenge them, but also what they bring to the performance to meet those challenges. The performer or performance mentor should check to make sure this aligns with the growth plan (Pacific Crest, 2009).

Example As someone relatively new to the PE community and how the Process Education conference workshops are run, they relied heavily on the experience of the cofacilitator. They did see the opportunity to receive input on effective use of the steps of the MDP for developing others after recently employing it as an instructor in a workplace setting.

Step 6 Write the performance criteria

Result Performance criteria statements

Description Visualize the performance that will be attempted and write down what the performance will look like as a description of the performance. Then, write down key statements illuminating the performance criteria that will guide performance development to be used by the performance mentor/coach (Utschig, 2007).

- Elements of performance framework**
- Improving performance description
 - Performance criteria

Growth skills Applying criteria and maintaining standards

Consciousness Formally writing out a description of how different aspects of the performance could play out to meet and exceed expectations, along with the performance criteria, will help identify knowledge, critical skills, and behaviors to pursue as a high-quality performer.

Example Both the description and the performance criteria of a professional development facilitator were challenging but embraced. These were based on the profile of a quality facilitator (Smith, 2007).

Stage 2: Performer Plans

Step 7 Produce and implement a learning plan **Result** Working expertise

Description Elevate expertise performance is possible. Identify the working expertise that is currently missing in one's repertoire and construct this knowledge before practice and rehearsal. Align the learning plan with the expertise needed for performance (Nygren, 2007).

Elements of performance framework

- Learning plan
- Interdisciplinary knowledge
- Disciplinary knowledge

Growth skills Being metacognitive and making meaning

Consciousness The previous stage should help put oneself in the shoes of a high-quality performer and describe the knowledge one must develop to maximize performance capability for the specific performance.

Example The individual developed a learning plan to attain the knowledge required for the upcoming performance by using the identified learning requirements and the LPM.

Step 8 Produce a growth plan **Result** A growth plan

Description In order to exceed the performance expectations, according to the performance criteria, improve performance capability by identifying the performance skills and psychological and physical conditioning that enhance the quality to be developed, and will themselves be assessed during practice and rehearsal (Hurd, 2007).

Elements of performance framework

- Growth plan
- Psychological conditioning
- Performance skills
- Physical conditioning

Growth skills Valuing growth and setting growth goals

Consciousness Using *The Professional's Guide to Self-Growth* (Apple et al., 2018), choose a direction for greater performance by identifying gaps (risk factors) in current performance and leveraging growth in key professional characteristics, learning skills (Leise et al., 2019), and capabilities to meet heightened expectations.

Example The individual strengthened the use of common facilitation tools such as assessing, use of team roles, skimming across teams, raising the bar, and use of real time reflection (Minderhout & Smith, 2007).

Step 9 Produce a performance plan **Result** Performance plan

Description Produce a script that accounts for the use of time within the flow of the performance that builds quality throughout the performance and leads to achieving the performance goals and exceeding expectations. A methodology for the performance process can help enhance this script. In addition, to support the performance plan, determine when and how the coach will assess performance and communicate feedback, for which practice(s), and after rehearsal(s). If there is no coach, determine when and how self-assessment of performance will be completed, in alignment with the performance plan.

Elements of performance framework

- Performance plan

Growth skills Believing in one's potential and being proactive

Step 9 Produce a performance plan (continued)

Consciousness Aligning the script for how to perform with the learning plan and growth plan will determine how much value and increased capability can be derived from practice to rehearsal and on through the performance, itself (Leasure et al., 2020).

Example The individual strengthened the use of a facilitation plan (Minderhout, 2007) to increase greater learning outcomes from the participants, meeting twice virtually with the coach/co-facilitator for feedback and improvement of the facilitation plan.

Stage 3: Performer Prepares

Step 10 Practice

Result Increased performance capability

Description The goal of practice is to implement parts of the growth plan and expand aspects of fluency using the future (targeted) performance as the challenge. During practice, the focus is on refining working expertise within the context of the performance plan, and through use of performance criteria, improve performance skills, physical conditioning, and psychological preparation. It is important to record specific aspects of the practice with performance measures to track growth over time by emulating the eventual performance record as much as possible (Pacific Crest, 2002).

- Elements of performance framework**
- Practice and rehearsal
 - Expertise
 - Skills and conditions
 - Fluency
 - Performance record (subsets)

Growth skills Being passionate and prioritizing

Consciousness Treat practice seriously by focusing on what matters most and prioritizing effort towards those areas of the performance first. Practice with intention, track it, and assess it to maximize value generated and enjoyment of the process (Ericsson, 2004).

Example The individual participated in the Self-Growth Institute, joined the Self-Growth Community, attended the preconference preparation workshops, and attended early workshops in the conference.

Step 11 Performer readiness snapshot

Result Conditioning report

Description The readiness snapshot should focus on capturing the baseline state of the performer's working expertise, performance skills, mindset, physical condition, psychological preparation, and identity.

- Elements of performance framework**
- Description
 - Performer's context

Growth skills Feeling empowered and maintaining balance

Consciousness Check that everything needed to succeed has been pulled together. This is a great time to bring in the performance mentor to help assess readiness and help balance the performer's priorities against the needs of the performance itself (Apple et al., 2013).

Example The individual felt some anxiety but was excited and confident because of the execution of prior steps of the MDP, the cofacilitator's skill set, and knowing the value the participants would receive from the workshop.

Step 12 Rehearsal**Result** Performance record**Description**

Use rehearsal to focus on mindset by integrating physical conditioning with psychological preparation to cultivate greater fluency through solidifying identity, enhancing real-time adaptation, and strengthening self-regulation (Hays, 2017). During rehearsal, a performance record is produced. The performance record is then used to track progress and inform assessment.

Elements of performance framework

- Practice and rehearsal
 - Expertise
 - Skills and conditions
 - Fluency
- Performance record

Growth skills

Focusing on self-improvement and seeing prompts

Consciousness

Because self-coaching is the only support during a performance, rehearsal should be carried out independent of a mentor. This sets up valuable reflection opportunities prior to the specific performance.

Example

During the Self-Growth Institute the week prior, the individual self-coached by practicing self-assessment during a performance in the role of a team mentor.

Stage 4: Performer Performs**Step 13** Perform**Result** Performance record**Description**

The performer follows the performance plan to their best current ability in order to meet the performance criteria and achieve the intended outcomes. The criteria and outcomes guide the performance as the performer continually checks and modifies their thoughts, actions, and interactions while regulating their feelings. A performance record is produced and can be analyzed by the coach and/or by the judge.

Elements of performance framework

- Improved performance capability
- Performance criteria and intended outcomes
- Performance record

Growth skills

Trusting self and committing to self

Consciousness

During the performance, remember that one's own intention has created this opportunity. One's values and actions, along with prior preparation, should produce the outcomes intended to benefit the stakeholders involved (Pacific Crest, 2019).

Example

The individual used the facilitation plan to collaborate with the cofacilitator in order to stay productive and conscious of their own performance. They used the performance criteria to make real time decisions to increase the quality and value produced during the workshop.

Stage 5: Judge Evaluates**Step 14** Evaluate**Result** Evaluation report**Description**

The judge determines the quality of the performance by using the performance scorecard to measure the performance record. The judge compares the quality level to a set of standards in the scorecard to determine whether and which have been met to determine if any incentive should be awarded. The judge then produces an evaluation report.

Step 14	<i>Evaluate (continued)</i>	
Elements of performance framework	<ul style="list-style-type: none"> • Performance scorecard • Performance record 	<ul style="list-style-type: none"> • Evaluation report
Growth skills	Critiquing and toughening self-esteem	
Consciousness	All forms of feedback should be valued for their potential, even if the delivery is not constructive in tone, intent, or format (Jensen, 2007a).	
Example	The individual felt pleased by the everyone's reactions and was looking forward to reviewing the participants evaluations to gain greater insight about the workshop.	

Step 15	Suspend reaction	Result	Openness to feedback and to the next performance challenge
Description	After every performance, there is a need to give time and space before deciding what to do with feedback in order to improve future performance. It is critical, therefore, to suspend emotional reaction to all judgmental feedback until it can be treated and mined as assessment feedback. This not only helps with the current performance context, but also when other performances are coming up which require a performer's full commitment.		
Elements of performance framework	<ul style="list-style-type: none"> • Evaluation report • Performance 	<ul style="list-style-type: none"> • Performance record 	
Growth skills	Changing reactions and accepting consequences		
Consciousness	While many want affirming feedback from a performance, the purpose of feedback is performance improvement and not affirmation of past performance (Armstrong, 2007). Participants should just breathe, take some time, and realize that it may take a lot longer to emotionally disengage after some performances. Performers should also try taking a perspective outside of one's own emotional state by taking on the perspectives of different stakeholders.		
Example	The individual gained emotional distance from the performance by waiting a couple days before reading the participant assessments.		

Stage 6: Coach and/or Performer Assesses

Step 16	Assess practice, rehearsal, performance	Result	SII Assessment of performance
Description	After each practice or rehearsal, and after the performance itself, formalize use of the performance criteria within the Strengths, areas for Improvements and Insights (SII) assessment feedback format (Wasserman & Beyerlein, 2007) to provide specific guidance for the performer on how to improve quality. Collaborate with the coach to fully understand the performance assessment.		
Elements of performance framework	<ul style="list-style-type: none"> • Performance scorecard • Performance record 	<ul style="list-style-type: none"> • Assessment of the coach (even if it is a case of self-coaching) • Feedback 	
Growth skills	Seeking feedback and accepting feedback		
Consciousness	Whether an evaluation is part of the performance feedback or not, all forms of feedback from the various stakeholders of the performance should be sought and the rationale behind the feedback interpreted to extract what is most valuable for the performer's growth and development (Jensen, 2007b).		
Example	The individual reviewed all assessment feedback with the cofacilitator to deepen understanding by using the performance criteria.		

Step 17 Turn evaluation into assessment**Result** Expanded SII Assessment**Description**

After the performance is evaluated, interpret the evaluation feedback to identify how the assessment can be expanded by also turning the evaluation feedback into assessment feedback (Watson, 2007).

Elements of performance framework

- Performance scorecard
- Performance record
- Assessment of the coach
- Feedback

Growth skills

Having an assessment mindset and identifying SII opportunities

Consciousness

Once emotional distance is gained after the performance but still while it is fresh in the mind, start to turn the evaluative feedback into assessment by identifying which feedback will be most valuable in generating opportunity for future improvement by taking on the perspective of the evaluator.

Example

Not knowing the evaluators, the individual could only compare the evaluative feedback to their own expectation, specifically, the low scores for expectations met by the participants were surprising and, upon further discussion, the individual realized the participants wanted more tips in applying what they learned in the workshop to their own contexts.

Stage 7: Performer Interprets Feedback**Step 18** Interpret feedback**Result** Action plan**Description**

Once the assessment feedback is fully understood, the performer determines exactly what feedback they are going to accept for use in improving future performance.

Elements of performance framework

- Interpret feedback
- Accepted feedback

Growth skills

Interpreting feedback and listening to self

Consciousness

Compare the assessment to the growth plan. What were the core issues behind the words used to deliver the feedback? What was a surprise? What aligned with expectations (Apple, 2019)?

Example

The individual realized that this type of performance opportunity provided growth but not in the direction needed to align with their growth plan, which was mentoring trainers in the integration of performance development.

Step 19 Update plans**Result** New plans**Description**

Using the accepted feedback, modify the plans identified in Stage 2 to include any additional preparation needed and insights gained to further increase quality.

Elements of performance framework

- Learning plan
- Growth plan
- Performance plan

Growth skills

Persisting and changing behaviors

Consciousness

Maintain the momentum by revisiting the learning plan, growth plan, and performance plan with an open mind in order to innovate better preparation for future performances (Jain et al., 2020).

Example

The individual made notes in the facilitation plan to use as a model for the next, similar opportunity.

Description	Bring closure to this performance development exercise by assessing, with or without a coach, the development of performance to determine strengths, opportunities to improve performance development and capture important insights about what has been learned regarding performance development (i.e., perform an SII assessment).
Elements of performance framework	<ul style="list-style-type: none"> • End LxP
Growth skills	Practicing reflection and using summative assessment
Consciousness	Take time to reflect not just on how the performance can be better but how insights on performance development and be gained with regard to new understanding about the performer themselves, the role of a performance mentor, the use of the MDP, and the dynamics among the three (Leasure et al., 2020).
Example	After this chance to utilize the MDP, the individual came up with several new ideas related to how helpful this process would be to all contexts of workers at GE, beyond themselves and their trainers.

Future Research

A key question is, “Does the use of the MDP expedite performance improvement for a performer over improvement without it or from using other approaches?” In an attempt to answer this, the authors recommend that the MDP be used in a study to link the methodology with a specific theory in applied science and collect data before and after the training experience to establish evidence that supports the technique with randomized control process. For example, in multiple sessions of a freshman learning to learn course, a Performance Development Institute could be held for half of the instructors. Then, analysis of the learning outcomes of the course would be conducted to determine if there is a significant difference in the key learner characteristics between the treatment group and the non-treatment group. This question could also be answered based on a particular measure or set of measures employed as part of the assessment system applied to the performance. Examples might include how to filter opportunities using broad criteria, writing performance criteria with the examples of Academy of Process Educators board member roles, utilizing facilitation plans as performance plans, and incorporating growth plan components into a performance.

Another research opportunity would be to explore how the importance of Stage 0 can increase by explicitly connecting the MDP to self-growth for the performer. This would involve comparing the performance opportunity against their growth plan, self-growth plan, life plan, and broad criteria. A criterion for selecting the right performance opportunity simply based on who is involved and what the motivations are might also be developed. Assuming the

performer already has a growth plan, they could determine if the areas they need to improve could be developed as part of a particular performance opportunity before even agreeing to the performance. Knowing what kind of performance opportunity to look for in the future could also be a part of Stage 7, thus closing the cycle of the MDP.

Another area of future research could be to study the use of the MDP in other contexts including both informal and formal educational settings as well as workplace performances. It would be helpful to use contexts that everyone can relate to such as a sales pitch, responding to a car accident, or preparing for a sporting event. Enhancing the MDP to include these new varieties of stakeholders may bring new feedback opportunities or resources to light.

Investigating connections to several other areas of Process Education is also warranted. For example, one could explore the major impediments to self-growth and improve the Methodology for Developing Performance by adding strategies to avoid those impediments. One could then turn around and look for risk factors identified by following the MDP and adding those risk factors for self-growth. Finally, the MDP could be utilized to enhance the three stages of the LPM (e.g., in preparing to learn, the MDP Stages 0-3 break preparing down into 12 steps). One could also use the MDP to gap check other processes that include a performance.

Conclusion: Critical Questions

We close with a few thoughts emerging from a set of critical thinking questions which may inspire additional learning or insight related to the MDP.

1. What is the role of performance criteria in the Methodology for Developing Performance?

Performance criteria are connected to the MDP at the very outset, when the opportunity for performance is explored. This exploration imagines aspirational possibilities not yet achieved by the performer and which can be formalized and made more explicit by writing the performance criteria in Step 6. They are then utilized in Steps 8, 10, 13, and 16.

2. What role does feedback play in developing performance to improve capability?

Feedback provided by stakeholders (judges, performance mentors, audience, etc.) is the raw material that gets turned into assessment by the performer and/or their performance mentor. This assessment is, in turn, the engine that drives improvement in future performance, or improved capability. Feedback is generated in the preparation for performance when clarifying expectations (Step 3), during practice (Step 10) and after the performance as part of the final evaluation (Step 15).

3. What role does evaluation play in the MDP?

When the lights are the brightest, as they say, one is challenged the most. Energy from anxiety becomes focused when new breakthroughs in performance are possible. Further, after overcoming the emotional reaction arising in the context of a challenging performance, evaluation can be treated as another source of feedback that can be turned into assessment for the purpose of improving performance. This occurs in Steps 14-17. It is possible that evaluation feedback may also lead to decisions about whether future performance opportunities may be possible.

4. Which stages (or major steps) of the MDP have the greatest potential to increase learning, growth, and self-growth?

While existing learning and growth skills come into play at every step of the MDP, new learning and growth are each targeted at three key moments in the MDP.

The MDP first involves learning in Stage 0 when the learner identifies the learning opportunity within a performance. After accepting the performance opportunity, the performer will analyze the performance context (contextual knowledge) and the performer's context (self-knowledge) in Stage 1. The performer then directly conducts a learning process in Stage 2, Step 7, when they create and carry out the learning plan in preparing to perform. However, one might argue the most important learning phase may be in Stage 7, or Step 19, when reviewing the

accepted feedback from the performance. At this stage the performer has placed completed learning into their overall review to make it meaningful in terms of how it affected their performance goals. The performer also takes what was learned during the performance itself and attaches plans for use of that learning to elevate future performance.

Growth operates much like learning within the MDP, but also appears explicitly during practice (Stage 3). Like learning, growth appears in Stage 0 as one identifies the opportunity for growth within a performance. Next, the MDP explicitly contains a growth plan, identified in Stage 2 at Step 8. Again, as with learning, when reviewing the performance feedback in Step 19, growth during the performance is included along with identifying opportunities for future growth. However, growth also occurs through practice. It is the practice stage where growth can be explicitly targeted for development while leading into the performance itself.

The MDP targets growth rather than self-growth. However, while self-growth is not explicitly addressed in the MDP, it can be developed if one applies the Self-Growth Methodology (SGM) to their self-coaching and self-assessment plans and performance. Thus, self-growth plans and the SGM can be used on top of the MDP to increase capacity for rate of growth beyond what the MDP achieves on its own, especially if one acts as their own mentor (self-mentoring).

5. Which steps contribute directly to enhancing performance itself?

While performance is targeted in every step of the MDP and is mentioned explicitly in every step except Step 7 (creating a learning plan), it is Step 9 (performance plan) and Step 10 (practice) where performance quality is iterated upon to produce direct enhancement of performance capability prior to the performance itself. Plans to enhance future performance are then made through performance assessment in Steps 16 (to produce an SII of this particular performance), 18 (to produce a future action plan generalized to performance in this area), and 20 (to produce an SII assessment on how use of the MDP affected performance so growth in use of the MDP can occur).

6. Which steps support the process of writing performance criteria and how do they support this process?

Performance criteria are written to describe the process of enacting a performance. However, each individual performance is conducted with its own set of

expectations due to the unique context in which the performance occurs. As such, the entirety of Stage 1, where the performer sizes up expectations before writing the performance criteria themselves in Step 6, is important in supporting the writing of performance criteria because it sets the stage upon which the performance criteria must act. Understanding the perspectives of different stakeholders and their expectations, the conditions under which the performance will occur, and what values, skills, and mindset the performer has regarding the performance are all important factors in guiding the writing and use of the performance criteria, optimizing their impact on the particular performance challenge the performer is attempting to achieve.

7. Who should design and own the plans to improve performance capability? Would this be a mentor, client school or boss, or the performer? Think about a school and a work context.

The MDP is written from the perspective of the performer as the agent of their own performance development. While maintaining agency is critical to meaningful learning and growth, there is also potential for substantive roles on the part of coaches within the MDP. Coaches possess invaluable expertise and skills related to the performance development goals that can be infused throughout the MDP. However, one should be careful to maintain the agency of the performer as central to the process. A teacher in a school, a supervisor in the workplace, or a coach may provide resources supporting the performer in completing the steps in the MDP (for example in Stage 1 they provide stakeholder information, criteria upon which the performance will

be judged, common elements of plans for learning and growth that will be beneficial, and provide feedback on practice and rehearsal in Stage 3 along with assessment feedback in Stage 6), yet the performer needs to be the actor who conducts the work of completing the steps in the MDP. Clients would typically play a much less prominent role in the MDP. Clients may provide information about stakeholders or intended outcomes in Stage 1 and may be involved in judging the outcomes of the performance in Stage 5.

8. What role can/should the performance mentor play during each step of the MDP?

A performance mentor's role could be thought of as an operator on effective utilization of the MDP itself. They might provide feedback on any step of the performer's use of the MDP in order to improve the performer's performance development capability. Access or proximity to the performer's actions, written information, or other observable evidence produced as they execute each step is essential if a performance mentor is to be able to provide valuable feedback. Thus, the more explicit the use of the MDP, the more effective a performance mentor will be. Thinking through a step individually (for example Step 5 when the performer analyzes their own context in relation to the performance) will be less useful than documenting those thoughts or making them visible in some concrete, observable form. Therefore, keys to effective mentoring relationships such as trust, transparency, and empowerment of the mentee driving the relationship are essential for successful support of performance development. This is true even when the performer is self-mentoring.

References

- Academy of Process Educators. (n.d.). *Academy of Process Educators*. <http://www.processeducation.org/>
- Apple, D. (2019, June 24). Implementing assessment feedback: Missing component interpretation of feedback [Research workshop]. Process Education/CoTL Conference, Mobile, AL.
- Apple, D. K., Beyerlein, S. W., & Parmley, K. (2007). Defining a program. In S. W. Beyerlein, C. Holmes, & D. K. Apple, (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Apple, D. K., Ellis, W., & Hintze, D. (2016). 25 years of Process Education. *International Journal of Process Education*, 8(1). <http://www.ijpe.online/2016/color033116sm.pdf>
- Apple, D. K., Ellis, W., & Leasure, D. (2018). *The professional's guide to self-growth*. Hampton, NH: Pacific Crest.
- Apple, D. K., Leasure, D. E., Nelson, T., Ulbrich, I. M., & Woodbridge, C. M. (2020). How the learning to learn experiences model the seven universal and perennial principles of student learning and persistence. *International Journal of Process Education*, 11(1), 31-40. <http://www.ijpe.online/2020/descriptions.pdf>
- Apple, D. K., Morgan, J., & Hintze, D. (2013). *Learning to learn: Becoming a self-grower*. Hampton, NH: Pacific Crest.

- Armstrong, R. C. (2007). Midterm-assessment. In S. W. Beyerlein, C. Holmes, & D. K. Apple, (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Elger, D. (2007). Theory of performance. In S. W. Beyerlein, C. Holmes, & D. K. Apple, (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Ericsson, K. A. (2004). Deliberate practice and the acquisition and maintenance of expert performance in medicine and related domains. *Academic medicine*, 79(10), 70-81.
- Hays, K. (2017). Performance psychology with performing artists. *Oxford Research Encyclopedias: Psychology*. <https://doi.org/10.1093/acrefore/9780190236557.013.191>
- Hurd, B. (2007). Self-growth plans for faculty members. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Hurd, B. (2020, June). Modeling growth capability [Paper presentation]. Process Education Conference 2020, online.
- International Journal of Process Education. (n.d.). *International Journal of Process Education*. <http://www.ijpe.online>
- Jain, C., Apple, D. K., Ellis, W., Leise, C., & Leasure, D. (2020). Bringing self-growth theory to practice using the self-growth methodology. *International Journal of Process Education*, 11(1), 73-100. <http://www.ijpe.online/2020/sgmethodology.pdf>
- Jensen, S. (2007a). Mindset for assessment. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Jensen, S. (2007b). Mindset for evaluation. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Leasure, D., Apple, D., Beyerlein, S., Ellis, W., & Utschig, T. (2020). A system for learning by performance (LxP). *International Journal of Process Education*, 11(1), 101-128. <http://www.ijpe.online/2020/lxp.pdf>
- Leise, C. (2007a). Personal development methodology. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Leise, C. (2007b). Becoming a self-grower. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Leise, C., Litynski, D., Woodbridge, C., Ulbrich, I., Jain, C., Leasure, D., Horton, J., Hintze, D., El-Sayed, M., Ellis, W., Beyerlein, S., & Apple, D. (2019). Classifying learning skills for educational enrichment. *International Journal of Process Education*, 10(1), 57-104. http://www.ijpe.online/2019/cls_full1.pdf
- Minderhout, V. (2007). Creating a facilitation plan. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Minderhout, V., & Smith, P. (2007). Facilitation tools. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Nelson, T., Apple, D., K., Ellis, W., Leasure, D., & King-Berry, A. (2020). Performance descriptions: A major tool for performance development. *International Journal of Process Education*, 11(1), 129-151. <http://www.ijpe.online/2020/universal.pdf>
- Nygren, K. (2007). Elevating knowledge from level 1 to level 3. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Pacific Crest (2002). *Designing and implementing performance measures handbook*. Lisle, IL: Pacific Crest.
- Pacific Crest (2009). *Mentoring institute handbook*. Lisle, IL: Pacific Crest.
- Pacific Crest (2019). *Self-growth institute final report: Results and implications*. Hampton, NH: Pacific Crest

- Smith, P. (2007). Profile of a quality facilitator. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Smith, P., & Apple, D. K. (2007). Methodology for creating methodologies. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Utschig, T. (2007). Writing performance criteria for individuals and teams. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Utschig, T. (2019, June 24). Teaching students to generalize knowledge. Process Education/CoTL Conference, Mobile, AL, June 2019.
- Wasserman, J., & Beyerlein, S. (2007). SII method for assessment reporting. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Watson, Y. (2007). Turning evaluation into assessment. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.

Appendix A Methodology for Developing Performance (abbreviated version)

Stages and Steps	Results
STAGE 0 Performer explores opportunity	
Step 1: Choosing an opportunity	<i>Selected/Not selected</i>
STAGE 1 Performer sizes up expectations	
Step 2: Identify stakeholders	<i>Stakeholder list</i>
Step 3: Clarify expectations	<i>Intended outcomes</i>
Step 4: Analyze performance context	<i>Clarifies conditions</i>
Step 5: Analyze performer context	<i>Identifies needs</i>
Step 6: Write performance criteria	<i>Set of performance criteria</i>
STAGE 2 Performer plans	
Step 7: Produce and implement a learning plan	<i>Working expertise</i>
Step 8: Produce a growth plan	<i>Growth plan</i>
Step 9: Produce a performance plan	<i>Performance plan</i>
STAGE 3 Performer prepares	
Step 10: Practice	<i>Increased performance capability</i>
Step 11: Performer readiness snapshot	<i>Conditioning report</i>
Step 12: Rehearse	<i>Performance record</i>
STAGE 4 Performer performs	
Step 13: Perform	<i>Performance record</i>
STAGE 5 Judge evaluates	
Step 14: Evaluate	<i>Evaluation report</i>
Step 15: Suspend reaction	<i>Positive openness to feedback</i>
STAGE 6 Coach and/or performer assesses	
Step 16: Assess practice, rehearsal, and performance	<i>SII assessment on performance</i>
Step 17: Turn evaluation into assessment	<i>Expanded SII</i>
STAGE 7 Performer interprets feedback	
Step 18: Interpret feedback	<i>Action plan</i>
Step 19: Update plans	<i>New plans</i>
Step 20: Assess the entire process	<i>SII assessment on LxP process</i>

Conceptual Understanding Required to Implement a Learning to Learn Experience

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Abstract

A Learning to Learn (L2L) experience has the greatest impact on learners when it integrates a set of Process Education (PE) practices and principles into its design. The key components of a L2L experience are clarified in this work and an outline of the framework necessary for creating a successful L2L experience is discussed. A concept map depicts the interrelatedness of the components emphasizing that a successful L2L experience will integrate these components through effective planning and strong facilitation. Within the discussion of each of key component is a description of why it is important to the success of a L2L experience, resources to explore the component further, the impact the component has on student learning and the synergy between it and the other key components.

Introduction

Even for experienced Process Educators, designing an effective Learning to Learn (L2L) experience is challenging. The *content* of an L2L event is comprised of a set of 15 experiences (Apple et al., 2013) targeted to improve learning skills and shift students into a growth mindset. The *format* of an L2L event can vary both in the duration of the event and its purpose. L2L experiences have been integrated into a chemistry course (CHEM1212K: Principles of Chemistry II, Georgia Gwinnett College), an intensive 1-week camp (Apple et al., 2016b), or a month-long 3-credit course (Pacific Crest, 2017). These experiences can be delivered in a face-to-face classroom or online. Further, there are many possible purposes for the L2L experience. For example, the experience could be a bridge program (Wenner, 2019) or for re-admission (Apple et al., 2016b; Pacific Crest, 2017). The latter is the purpose of one of the longer-running L2L Camps that takes place at Hinds Community College where nursing students who failed out of the program can complete the L2L camp to gain readmission. Further purposes of an L2L experience are detailed in the history of L2L camps by Apple, Ellis, and Hintze (2015).

The format and purpose alone do not make an L2L experience. There are many components, each of which contributes to a successful outcome. Students have been conditioned by many years of traditional education (Apple, Jain, et al., 2018) leading to various academic and professional risk factors (Horton, 2015; Apple, Ellis, & Leasure, 2018) that need to be taken into consideration in the design of an L2L experience. There has been substantial progress in understanding how to mitigate these challenges based on 25 years of implementing L2L Camps (Apple et al., 2016b).

Knowing the characteristics that make academic or professional learners successful (Apple, Duncan, & Ellis, 2016) a facilitator uses the L2L curriculum to address a set of issues, barriers, and cultural shifts to produce transformational learning and growth in the learners (Apple et al., 2020).

Creating a successful L2L experience is analogous to making stone soup. In the folktale, The Stone Soup, a traveler comes to a village and asks for food. The villagers refuse to share so the traveler sets about making stone soup and offers to share this with the villagers. Each villager is enticed by the traveler to add just a little something to the pot, and at the end of the process, a wonderful soup has been produced. An L2L experience is quite like this in that only having a strong facilitator or just an excellently designed experience, on its own, is not capable of achieving the desired successful end state. But, once all the ingredients are properly combined, success becomes achievable. The key is to have a strong, competent facilitator as well as all the key components integrated in a well-designed system to meet the student learning goals.

The remainder of the paper is organized around the explication of these critical ingredients creating a successful L2L experience. First, as an overview, a concept map depicting the relationship between the significant inputs of a successful L2L experience is presented and discussed. Next, each of the key components within the map are discussed to understand why each component is important, resources to explore it further, the impact the component has on student learning and the synergy between the components. Finally, overall conclusions and directions for future research exploring the relationships and measurement of the components is presented.

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Key Components of an L2L Experience

To begin the discussion of the L2L stone soup, the soup's ingredients, the components of an L2L experience, are displayed in the concept map in Figure 1. A successful L2L experience, will integrate these components through effective planning and strong facilitation. The concept map is not intended to be explored linearly. As in stone soup, there is some directionality, but it does not matter whether you add the carrots or the potatoes first. For ease of exposition however, we have numbered each of the components in the concept map. The *facilitation* (1) of the L2L experience mitigates a *learner's risk factors* (2) by strengthening the *collegiate learner's characteristics* (3). The facilitator must develop a green *Transformation of Education* environment (5/4) for the L2L experience by employing *PE philosophy and practices* (4/5) and *standard L2L practices* (12/6) to drive positive evaluations and future learner success. This

success is dependent upon framing the *design of the L2L experience* (6/7). This design comprises the outline of the standard *L2L curriculum* (7/8) which includes both a *syllabus* (8/9) and *schedule* (9/10) as well as an *assessment* (10/11) and an *evaluation system* (11/12).

The remainder of this article explains each of these critical ingredients to the L2L experience in further detail. The discussion highlights the links between these key ideas as well as to learning resources and literature that supports and provides key guidance for developing the area further.

Facilitation (1)

In any L2L experience, the facilitator is the primary factor determining the success of the experience (Smith, 2007). The facilitator is akin to the traveler who comes to a village and assembles the stone soup. Like the traveler, an effective facilitator helps students grow in the

Figure 1 Concept Map of Critical Inputs Associated with an L2L Experience

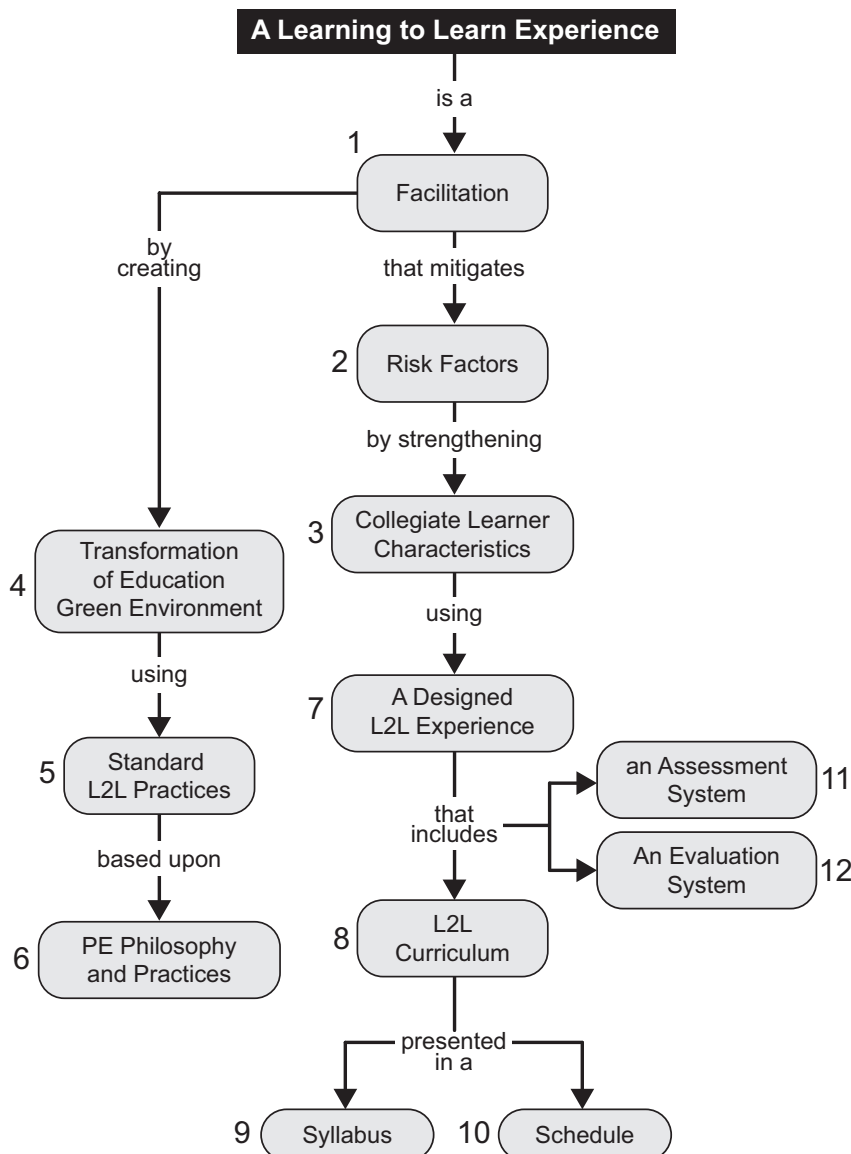
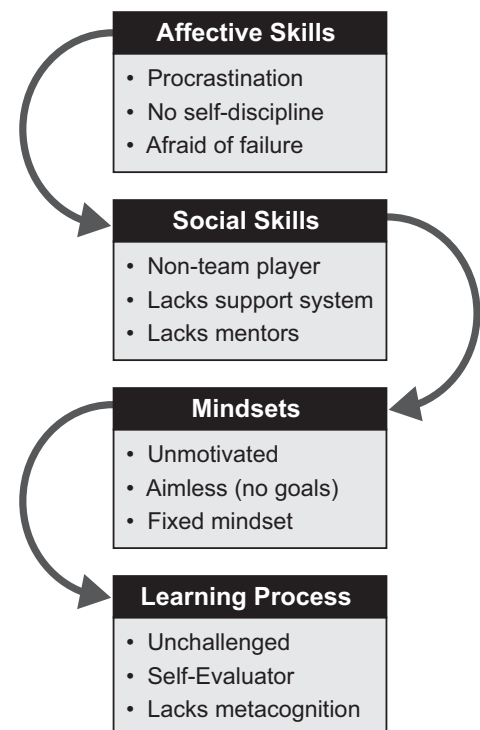


Figure 2 Key Risk Factors Limiting Collegiate Success (Horton, 2015)



areas necessary to have a successful experience. The facilitator in *The Stone Soup* fable seeks to assemble a delicious meal for the villagers. The students in the L2L experience are like the villagers—they are wary of the traveler and doubt they have enough food to share with them. Students come to the L2L experience closed, and wary. An effective facilitator entices each to share what foodstuffs they have and add it to the soup.

The first key to implementing a successful L2L experience is for the lead facilitator and all other team facilitators to ensure that the focus is on student learning. Transitioning educators from their traditional roles of “sage on the stage” to a facilitator of learning is one of the core principles of PE. This type of facilitation empowers students to take control of their own learning which is essential to their success in the L2L experience.

Second, all L2L facilitators should be exemplars of quality facilitation. Facilitators can successfully utilize the key facilitation skills described by Smith (2007) and the Facilitation Methodology (Smith & Apple, 2007). To develop facilitation expertise needed for an L2L experience, potential facilitators should start by using facilitation plans provided within the L2L curriculum. As they become comfortable with facilitating in this environment, the facilitator can begin adapting these existing plans to their style, and finally, creating their own plans. Well-crafted facilitation plans will lead to meeting clearly articulated outcomes for the experience. Experienced facilitators will be able to adjust plans on the fly in order to better meet student needs. Throughout this developmental process, facilitators should assess their performance and seek feedback on their performance from a mentor.

Moreover, facilitators need to know how to intervene on the process rather than content, turn over ownership and control to the learners, create a culture of success, and have a holistic view of the process. Besides facilitating student learning, facilitators may be responsible for being a mentor or coach for the faculty who are coaching student teams. Tips and tools can be found in the listicle created by Sweeny et al. (2018).

A key strategy every facilitator must employ is to meet every learner where they are and allow them to progress in the manner that works for them, i.e., differentiated instruction (Apple et al., 2016a). Allowing students to progress in their own manner is similar to the Keller Plan of Instruction (Keller Plan Definition and Meaning, n.d.), in which students progress at their own pace. In an L2L experience, the expectation for pacing is ambitious and the length of the experience

determines summative deadlines. Having students decide how to do the assigned work to meet the pace of the course is a first step in shifting ownership of learning into the hands of the students.

Facilitators need to be personable and dynamic to entice students to join in the learning process. They need a strong toolset to respond to students as individuals, to small groups, and to the larger community. Facilitators are the main people who address and mitigate student risk factors. It is the role of the facilitator to encourage students to share their challenges (risk factors) so the facilitator can help the learner reduce barriers for the issues needing to be addressed.

Risk Factors (2)

In order for the facilitator to mitigate student risk factors it is necessary that they understand those factors and their effects. Students involved in L2L experiences are frequently labeled at-risk and exhibit a variety of risk factors that place them at a disadvantage in the learning process. These students have a higher than average probability of failing to achieve their educational goals (Horton, 2015). Many have multiple risk factors that affect persistence and learning that are recognized as early as high school (Horn, 1997; Hammond et al., 2007; Guzman & Pohlmeier, 2014; Babineau, 2018). These students have a higher probability of dropping out or failing, particularly during the first two years of college. In addition to preexisting at-risk behaviors, students often have to adjust to an institutional environment that is new and not welcoming.

Traditional instructional design does not consider the diverse perspectives and challenges that these students face. It is important to identify students who are at-risk quickly so that resources and structures can be provided to address their barriers to learning and retention (Campus Intelligence, 2016). A transformative approach is needed to teach students how to change their overlapping risk factors from barriers to resolvable issues (Apple, Jain, et al., 2018). Process Educators create L2L experiences that can facilitate this change. Facilitators understand that students enter college with multiple, overlapping risk factors that impede learning. While all students exhibit risky behaviors, some risk factors are more prevalent (Horton, 2015; Apple & Leasure, 2018; Apple, Jain, et al., 2018). These key risk factors, delineated in Figure 2, fall into four key areas: affective, social, mindset-related, and learning-oriented (Horton, 2015). Effective facilitators, like the traveler in *The Stone Soup*, are able to convince the villagers (students) to overcome their hesitancy and share ingredients (perceived weaknesses, risky

behaviors, insecurities, etc.) to make a delicious soup. In L2L experiences, facilitators engage students in learning experiences that ameliorate risky behaviors or characteristics, develop academic mindset, and grow learning skills as collegiate learners.

The facilitator must understand the critical risk factors that have the highest impact on student success, as well as the techniques to mitigate it. These risk factors come from three specific areas; the student's individual characteristics, their background, and the environment. Lack of self-confidence, lack of self-discipline, low self-esteem, and a fear of failure arise from the students individual characteristics (Guzman & Pohlmeier, 2014). The students background adds risk factors including a lack of academic preparation. Additionally, their background can add factors such as the problems associated with being a first-generation student, socioeconomic status, and technology limitations (Bulgar & Watson, 2006). Finally, the macroenvironment further contributes to the list of risk factors. Examples of environmental factors include college cultural bias, lack of advisor support, and cost. In addition, adult students often encounter organizational, instructional, or interpersonal barriers within the college environment (Quinnan, 1997).

Although colleges are concerned about student retention, learning, and performance, the traditional educational culture does not facilitate change in at-risk behaviors. Many educators do not recognize these factors or understand their impact on teaching and learning. To maximize effectiveness, educators must be knowledgeable about these student behaviors and how these behaviors create barriers for the student in order to design successful learning experiences that ameliorate these factors. Horton (2015) identified the top twenty at-risk factors and grouped them into four categories: perseverance, academic mindset, learning skills, and social skills. Some of the risk factors overlap with those identified previously, such as fear of failure and lack of mentors. Horton's (2015) work on critical risk factors is a key resource for educators to use in instructional planning and delivery.

In short, implementation of an L2L experience requires a deep understanding of risk factors, their causes, how they affect the creation and implementation of L2L experiences, and how to best mitigate them so that the experience can be successful.

Collegiate Learner's Characteristics (3)

An additional key ingredient for the soup is the learner's characteristics. In order to mitigate student

risk factors, a facilitator needs to have an understanding of the type of learner the L2L experience is trying to produce, and quickly measure each student at the outset of the course to find ways and means of persuading the students to contribute to the stone soup. Apple, Duncan, and Ellis (2016) performed a meta-analysis of student success literature and collected fifty key learner characteristics that increase academic success of college students. These learner characteristics are often the inverse of a risk factor. They used a modified framework (Farrington et al., 2012) to integrate cognitive and non-cognitive success factors into a profile of a quality collegiate learner. The key learner characteristics are separated into 7 categories: growth mindset, academic mindset, learning processes, learning strategies, social skills, affective skills, and productive academic behaviors. These categories have become the standard learning outcomes of an L2L experience (Pacific Crest, 2017).

Analyzing these outcomes from different perspectives enriches the understanding of the role each learner characteristic contributes to collegiate and life successes (Apple, Ellis, & Leasure, 2018). The L2L experience is focused on shifting mindsets. The 50 learner characteristics described by Apple, Jain, et al. (2018) all involve changing student mindsets. For example, the first learning outcome, growth mindset, is not commonly held by most students as most enter an L2L experience with a fixed mindset (Dweck, 2006). In contrast, a growth mindset can be achieved when "a person believes, at an emotional level, that unlimited potential puts everything into play (no constraints) and then can strengthen their capabilities to improve their own quality of life" (Leise et al., 2021). A growth mindset is supported with a future-oriented mindset, positive mindset, performance mindset, social mindset, and an assessment mindset.

L2L experiences help students develop a growth mindset such that even in areas of greatest perceived liability or limitation, they can achieve unlimited improvement. This growth mindset is supported by a mindset in which the quality of life is significantly greater in the community (social mindset). In other words, greater quality can be produced when you are not just living your life for yourself. Other mindsets that positively affect growth are mindsets involving quality, ethics, respect, and decision-making (Ellis et al., 2019)

A mindset shift occurs when students transition from doing only what is expected of them, or what they have been directed to do, to an academic mindset where they are pursuing learning by using strong, independent

learning processes. To achieve high levels of knowledge, students understand that it is necessary to demonstrate what they have learned in challenging academic situations. The L2L experience helps students and facilitators improve all their various mindsets to realize their maximum potential (Ellis et al., 2019).

Thirty of the 50 learner characteristics have been previously discussed within the Classification of Learning Skills (Leise et al., 2019) and are associated with four domains: cognitive, affective, social, and assessing/evaluating quality. These 30 learning skills help improve learning performance (Apple & Ellis, 2015) and have been identified because these specific skills help mitigate the risk factors previously described. Over time, explicit performance measures have been developed for some of these learning skills to assist in their measurement, assessment, and development (Redfield & Lawrence, 2008).

The remaining 20 learner characteristics, which include information processing, critical thinking, generalizing, problem solving, and metacognitive reasoning, are performance-based and their descriptions can be found in Nelson et al. (2020). These learner characteristics and performances are multidimensional with supporting learning skills that are developed when students repeat performances in new contexts.

A L2L facilitator can strengthen these learner characteristics when they understand the connections to performance and learning skills, mindsets, and risk factors. To assist in developing this understanding Table 1 was developed by combining the Profile of a

Quality Collegiate Learner (Apple, Duncan, & Ellis, 2016) in column 1 and 2, the Classification of Learning Skills (Leise et al., 2019) and performance descriptions (Nelson et al., 2020) to create column 3. The alignment of the appropriate mindset being developed to the learner characteristic is represented in column 4 and column 5 was generated using the risk factors (Horton, 2015) and links between these risk factors and learner characteristics (Apple, Ellis, & Leasure, 2018). While the learner characteristics in the growth mindset category are depicted in Table 1. To view all categories of learner characteristics see Table 2 in Appendix A.

Transformation of Education (Red to Green) Environment (4)

The transformation of education (ToFE) is an expansive research area associated with changing the higher education culture (Hintze et al., 2011). Within a traditional educational culture, a *red* educational environment, control of course content and design are firmly in the hands of the faculty and, therefore, students take little ownership over producing work and are unwilling to take risks when activities are not well-defined. We, as faculty, would like to have students who are independent and lifelong learners, but, generally, our classroom culture does not promote this. The creation of a *green* educational environment where students do take control of their learning is a key component of L2L experiences.

Comparison of the traditional (red) environment versus the transformational (green) environment has been well-studied. Apple, Jain, Beyerlein, and Ellis (2018) identify how both the red and green aspects

Table 1 Mapping of Learner Characteristic to Performance Skills, Learning Skills, Supporting Mindset, and Risk Factor it Helps Mitigate

Learner Characteristic	Category	Performance or Learning Skill	Mindset it Supports	Risk Factor it Mitigates
Self-Grower	Growth Mindset	Performance	Growth mindset	Fixed mindset
Committed to success		Learning skill	Positive mindset	Uncommitted
Self-Assesses		Performance	Assessment mindset	Self-Evaluator
Positive		Learning skill	Positive mindset	Negative attitude
Self-Starter		Learning skill	Performance mindset	Procrastinates
Open to feedback		Learning skill	Assessment mindset	Not open to feedback
Open-Minded		Learning skill	Positive mindset	Fixed mindset
Self-Challenge		Learning skill	Growth mindset	Coasting/unchallenged

Table 2 Transformation of Risk Factors to Success Factors Based on the TofE

TofE Aspect	Incoming Behaviors (Risk Factors)	Transformed Learner Behaviors	Practices by a Facilitator in a Green Environment
Challenge	Procrastinator Unchallenged	Self-Reliant Risk-Taker Resilient Self-Motivated	<ul style="list-style-type: none"> • Do not do for students what they can learn to do for themselves • Setting high expectations • Challenging—raise the bar • Holding students accountable • Time-pressured learning
Cognitive Complexity	Memorizer Underprepared	Prepared Reader Writing to think Generalizer	<ul style="list-style-type: none"> • Reading Methodology • Use of reading logs • Critical Thinking Questions—guided design • Generalizing to hardest problem • Problem Solving Methodology

of educational culture impact student mindsets and success. Apple, Ellis, & Hintze (2016c) outline how to create a culture of success. An L2L experience will not lead to not lead to transformative outcomes, if the facilitator does not create a green educational environment to enable the transformation of risk factors. For example, as depicted in Table 2, the practices that are utilized in a green educational environment that will help to transform behaviors from red to green are delineated for two aspects of the TofE.

Because the practices associated with a transformational culture for faculty (facilitators) may not be their current practices, effective facilitation of an L2L experience requires the facilitator to step outside their comfort zone. For example, effective facilitators do not do things for students what they can do for themselves (enabling), but it is easy to fall into this trap when one is busy or not fully engaged in PE practices.

PE Philosophy and Practices (5)

Process Education (PE) is based on the idea that learning is a process and individuals can improve their learning process regardless of their current level within the learning process. This idea was adapted from Total Quality Management as developed by W. Edwards Deming (American Society for Quality, n.d.). The philosophy and practices of PE are embedded in every aspect of the L2L experiences. The principles of PE clarify various aspects of L2L. For example, the use of the LPM is emphasized in the design, facilitation, assessment, and learning activities.

The framing of PE is continually evolving (Ellis, 2020). PE is currently defined as an applied philosophy, founded on performance theory, united with a belief in unlimited growth and informed by a framework for producing self-growers by developing learning skills in a challenging assessment culture. This definition represents the iteration of learning with self-growth as well as the relationship between the two.

There are eight key PE philosophies behind L2L. First, the ability to improve learning is unlimited (Beyerlein et al., 2007). This is foundational to L2L experiences where every hour spent in learning performance is intended to improve learning and students' ability to learn. The design of an L2L experience, its facilitation, its documentation in a syllabus, evaluation, and assessment are all focused on how each hour improves learning performance.

Second, increasing learning performance improves learning. As an individual strengthens the 13 components of learning performance, their ability to elevate the depth and breadth of learning increases as their learning performance skills increase (Apple & Ellis, 2015).

Closely related to this is the idea that strengthening learning skills improves learning performance. The 473 skills in the Classification of Learning Skills (Leise et al., 2019) support the learning process and its associated processes, e.g., reading for learning. As learning skills improve the quality and efficiency of learning also improves.

Fourth, learning performance improves with deliberate practice and assessment. Growth occurs through performance development (Utschig, 2019) and requires learners to repeat and elevate performances in a new context. Assessment feedback needs to be provided prior to each new performance in order to maximize growth.

Fifth, metacognition increases command of performance improvement (Apple & Ellis, 2015). As individuals learn to understand the meaning behind actions and behaviors, they are in more control of changing their reactions and behaviors in a positive manner so that learners can improve in ways that they desire.

Sixth, individuals determine their own quality of life. Self-determination is fundamental to L2L and includes increasing ownership, building self-concept and identity, and the ability to envision a future ideal self that is the basis for life planning (Apple, Ellis, & Leasure, 2018).

Seventh, individuals determine where to invest in their own growth. Growth is owned and developed by each person. Individuals must believe in their own unlimited potential and raise their expectations. Individuals must identify where to invest their most valuable resource—time—to decide where and how they will invest in growth (Ellis et al., 2019; Leise et al., 2021).

Finally, self-growers create their own growable moments. In each moment, growth capability can be applied and developed if a person creates growth opportunity within the moment or else time flies by without growth (Leise et al., 2021).

Standard L2L Practices (6)

As discussed, learning to learn is derived from PE philosophy. Further, within an L2L experience, there are 100 critical PE practices supporting facilitation, student learning, and the engagement between the facilitator and the student (Sweeny et al., 2018). A set of those practices, deemed critical to creating effective L2L experiences and italicized in this text, are described here. These practices are the “glue” that hold any L2L experience together. With respect to our stone soup analogy, these tips represent the water and the stone.

Six of the critical tools for creating an L2L experience are discussed elsewhere in this paper: the *belief in learners’ unlimited potential* (PE Philosophy and Practices, 5), *learning as a performance* for developing learning skills (PE Philosophy and Practices, 5), *assessment by self* and by *others* (Assessment System, 11) with

assessment of those assessments (Assessment System, 11) and a *positive evaluation system* (12) for accumulating points.

The L2L system design must have *learning outcomes* at all stages of the course. These learning outcomes make explicit for learners what they can seek from the course, each experience, and each activity. The power of learning outcomes is increased when paired with *explicit performance criteria* so that learners can determine their performance level for themselves (Wicks, 2007).

Facilitators must truly believe and embody three of the principles of PE. First, they *focus on growth mindset* to develop it in every learner. Second, they *intervene on process not content* by recognizing the growth moment for learners and teams, *challenging students to leave their comfort zones*, and *empowering students with personal factors*. Finally, they *do not do for students what they can learn to do for themselves*, providing opportunities for students to choose growth moments and accept external and self-challenge.

These practices and others are part of the Methodology for Creating a Quality Learning Environment (Apple et al., 2016d) that *sets high expectations* and shares control by *letting students take ownership of their learning* through *giving students choices* and *responding to learner needs*. It creates a safe place to *let students fail*, and *holds students accountable* for their decisions and their performance. Because this environment, so far on the green end of the Transformation of Education spectrum, may be very different from students’ experiences where instructors direct learners and enable them when they struggle, facilitators must *get students’ buy-in* at the start of the L2L experience (Burke, 2007).

The L2L experience is framed by *learners setting learning and growth goals* at the beginning of the experience as well as reflecting on their growth in a summative *self-growth paper* (Ellis et al., 2019). Throughout the experience, learners contribute to a *life vision* through a series of reflective writings about their past, present, and future (Apple & Leasure, 2018). These writings are part of *reflection time* that helps learners explore and grow their understanding of self.

The L2L experience is developed through *classroom activities using the Learning Process Methodology (LPM)*, in which learners acquire knowledge about the course content and simultaneously improve learning performance. It is important that learners do *validation of learning* to confirm for themselves what they are learning and to elevate their learning so that it is generalized and transferable to future contexts. In addition

to the LPM, other critical methodologies include the *Reading for Learning Methodology* and the *Assessment Methodology*. Using the *Facilitation Methodology*, facilitators provide effective sessions that help learners meet their goals.

Designed L2L Experience (7)

To make stone soup, a large cauldron is needed. In the L2L experience, the design is this central piece of the process. The design must answer the three essential questions. What is the timeframe for the experience (e.g., week, month, semester)? Will the experience be held face-to-face or in an online environment? Finally, for what purpose is the experience being designed (e.g., re-admission, seminar, academic preparation, content-based)? Once these questions have been answered, the L2L experience can be designed to achieve the student learning outcomes accordingly.

The design of the L2L experience will vary depending on the answers to these three questions. To assist in understanding the key differences will discuss an online, month-long re-admission course (Pacific Crest, 2017)

and an experience delivered at Western Governors University (WGU) (Pacific Crest, 2017). These two examples, taken together, can give guidance on, and assist in the conceptual understanding required to create and implement new L2L experiences.

The design document for the online, month-long re-admission course includes a profile of a model learner, a set of learning outcomes captured by 23 detailed performance descriptions, critical themes of learning performance, growth capability, and an identified set of learning skills. The design document also identifies the performance criteria, performance tasks, assessment system, and grading system. Within each learning activity, students were encouraged to spend approximately four to six hours completing seven tasks: a discovery activity, reading with a follow-up quiz, Exploration Questions, a team-based assignment, Critical Thinking Questions (CTQ), application to their life in the form of a challenge or problem to be solved, and a Life Vision Portfolio (LVP) entry. The time required to complete an experience does not change but, for the students, completing this work over a month or within a week is a vastly different situation.

Table 3 Required L2L Curriculum with Associated Learning Outcomes

Activity	Outcome 1	Outcome 2	Outcome 3
Chapter 1: Performing Like a Star	Set expectations of unlimited growth	Identify growth goals	Build self-belief of future success
Chapter 2: Becoming a Master Learner	Provide a model of learning	Analyze past learning performances	Strengthen metacognition of learning process
Chapter 3: Your Past Doesn't Define Your Future	Believing in self	Strengthen identity	Address personal factors
Chapter 4: Self-Assessment: The Engine of Self-Growth	Differentiate from self-evaluation	Validate strengths	Focus on areas for improvement
Chapter 5: Time, Planning, and Productivity	Value time as being precious	Think and plan before doing	Prioritize what by when
Chapter 6: Methodologies: Unlocking Process Knowledge	See process through a methodology	Teach problem solving	Strengthen ability to solve personal problems
Chapter 7: Visioning Your Future	Analyze the past for leverage	Self-analysis of who you are	Project where you want to be in life
Chapter 8: Performing in Teams and Within A Community	Playing a role effectively	How roles support each other	Using supporting reflection forms
Chapter 9: Performing When Being Evaluated	Appreciate being challenged	Learn and grow from evaluation	Elevate performance through being prepared
Chapter 10: Reading for Learning	Learn to ask inquiry questions	Connect reading with learning	Elevate level of learning from reading

The design document for the second L2L experience describes the experience delivered at Western Governors University (WGU). It exemplifies the design process as documented in a report describing concept, design, implementation, results, and recommendations (Pacific Crest, 2017). Like other L2L experiences, the WGU course creates learning experiences through construction of useful artifacts, conscious development of capabilities for future success, and analysis of experiences. The design of an L2L course calls for students to produce over 80 to 100 pages of written self-assessments, self-reflections, a life vision portfolio, and a success plan. Through these crucial reflections, students discover strengths they did not know they had, and develop essential capabilities they can use to address their particular situations.

L2L Curriculum (8), Syllabus (9), and Schedule (10)

The L2L curriculum, syllabus and schedule elements are essential ingredients for our L2L stone soup as they are the critical components guiding the L2L experience for student transformation. The current L2L curriculum (Pacific Crest, 2017) has been continuously upgraded and expanded. The curriculum is flexible so it can meet the course design specification of how the L2L will be delivered (e.g., online, face-to-face, or in a hybrid class). There are ten content areas, delineated in Table 3, that are present in the curriculum of all L2L experiences. Included in this curriculum are an assessment journal, a life vision plan, and a self-growth paper, which are key learning activities and experiences that produce the learning outcomes specified within the Course Design (7). The rest of the curriculum for the experience can be tailored to meet the design specifications for the experience by incorporating other activities to achieve the learning outcomes. A complete list of potential activities to include in the curriculum for an L2L experience with their associated outcomes are presented in Appendix B.

Apple, Ellis, and Hintze (2015) discuss the history of the L2L Camps from inception until 2014 summarizing various implementations of L2L experiences. For example, content like algebra or chemistry, can be easily incorporated into the curriculum. Ulbrich (2017) described adding chemistry content using ALEKS™ (an adaptive online learning tool primarily for Math and Chemistry) where students earned points for doing content-based chemistry work. Flexibility is one of the strengths of the L2L experiences.

Once the curriculum is established, the syllabus for the L2L experience can be designed. This syllabus will become the fundamental tool for students to clarify

expectations and make decisions about how to be successful. The syllabus must contain clear performance criteria, scoring mechanisms, detailed product descriptions, resources to assist in meeting performance criteria, and the description of the process and culture students will be experiencing. For example, participation in the activities accounts for a significant number of points in their overall score for the experience. Viewing this total helps students see that coming to class and completing work essential to their success. An example syllabus can be viewed in can be found in Pacific Crest (n.d.1).

In addition to outlining student responsibilities, the syllabus also specifies what students can expect from the facilitator, which is unusual in college courses. This addition shows students that the facilitator is invested in helping them achieve success. One key element in the L2L syllabus is that the course schedule needs to indicate a greater challenge than any other course in which a student has ever participated. Thus, students will doubt they can be successful in the course. Thus, when students succeed in the course, it is transformational.

Examples of the schedule for an L2L experience can be found in Pacific Crest (n.d.2) and Apple, Ellis, and Hintze (2015). Whether the L2L experience is delivered in a one-week face-to-face experience, as the sample schedules show, or a one-month online experience similar to those at Western Governors University, the schedule is ambitious. At first glance, students react to the one-week schedule with disbelief claiming, "Surely, we aren't really expected to be in class from 8:00 am until 10:00 pm? Isn't that a typo?". At the end of the first day, students may be despairing, "There aren't enough hours in the day to get this done!". But a gradual transformation occurs around the third day where students know that things will be difficult and they will have to work hard, but completing the course is possible and earning high marks is likely. One significant component in the schedule is the student council meeting held each day just before dinner. The facilitator meets with a student representative from each team and asks for an assessment of strengths, improvements, and insights of the course so far. At the next opportunity, the facilitator will announce changes to be implemented based on student input. This demonstrates to students that there is flexibility in the syllabus and the facilitator is, in fact, committed to student success.

To implement an L2L experience it is important to understand that the curriculum, syllabus, and schedule are part of the course. All three together are the

design of the content of the experience. Key aspects of these pieces have bidirectional clarity (what facilitator expects, what student can expect) and a high level of perceived difficulty. Without the difficulty the experience will have very little likelihood of being transformational. Without the clarity students are likely to be overwhelmed with the perceived difficulty.

Assessment (11) and Evaluation (12) Systems

Finally, the L2L experience must combine carefully designed and implemented assessment and evaluation systems (Armstrong et al., 2007). The assessment system helps learners improve their performance during the course, creating growth toward their final performances (Utschig & Apple, 2009). The evaluation system has two main purposes: to motivate learners to complete coursework and to quantify student performance (Armstrong et al., 2007). Thus, the assessment and evaluation systems become the final ingredients in the stone soup, helping the traveler and the villagers come to common expectation about the sharing of the soup they are creating together.

Assessment

The L2L process and culture are developed through the assessment system. Through assessment, learners create and receive nonjudgmental feedback focused on their improvement and growth. By engaging in assessment, learners come to believe in the PE principles outlined in the PE Philosophy and Practices (5) section. In particular, the idea that their ability to improve their learning is unlimited and that increasing learning performance improves learning. By adopting this assessment mindset, risk factors are mitigated, and characteristics of quality learners are strengthened (Horton, 2015).

Components of the assessment system include an assessment journal, feedback from facilitators and coaches, and assessment of the learner's self-assessments. In the assessment journal, the student produces over 25 different reflections and assessments to improve learning performance. They also get between 10 and 25 feedback sessions on individual, team, and the collective work of the learning community. The most important feedback, though, continues to be the assessment of their assessment which strengthens the students' assessment skills.

Evaluation

In contrast to the assessment system, the evaluation system awards points for learner performance. There

is need for a positive point-driven system where students earn rather than lose points. Thus, learners seek to continually accumulate points during the experience. The accumulation of points also helps shift away from self-evaluation and the idea that faculty/facilitators will punish poor performance. Every performance adds points to the total score, and nothing is deficit focused. Because it is not possible to lose points already accumulated, every performance is an opportunity to improve and earn more points. Additionally, the target number of points is so far away that students need to constantly perform to earn them all.

The beginning of the experience relies mainly on effort-based points and increasingly shifts toward performance points as the experience progresses (Armstrong et al., 2007). The evaluation system builds engagement, a sense of progress, and a can-do attitude. Many of the performance points, based on illustrating many of the key learner characteristics, occurs at the end of the experience.

The L2L evaluation system also contributes to shifting learners from the ToFE red mindset to the green mindset. In the red mindset, students perceive points as a measure of their engagement and participation. As learners sense they are making progress and develop a can-do attitude, points shift toward measuring performance. To support this progress, the L2L experience is framed around levels of performance that the student can achieve termed College Student, Honors Student, and Star Performer. These levels become motivational for learners so they can demonstrate to themselves and others the learning capability they have and can continue to grow. Thus, there is a need to measure performances, through points, that distinguish these levels. Thus, bonus points can be sprinkled in to recognize and reward behaviors and patterns that meet the expectations and model of a Star Performer. An exciting use of bonus points is to award them in an equity-based manner customized to the growth needs of individual participants. For example, when highly deferential students assert themselves, a few bonus points announced publicly as "5 points to Pat for challenging a teammate" reinforces that the facilitator values the behavior, highlights to all that this is a desired behavior, and elevates the learner's awareness of their behaviors and their impacts.

As previously indicated, the L2L evaluation system is heavily weighted toward final performances. In a face-to-face experience, the last day includes multiple performances that were developed during the experience

so that learners can show themselves and others what they can do. This creates a shift from deliberate practice during the activities and assessment to performance, i.e., being judged and evaluated. The evaluation system is so heavily weighted toward final activities that most students will not have earned enough points to confirm that they have reached their desired performance level prior to the last day. Thus, these performances still count significantly, and the highest possible level of performance is desired by the learner to meet their goal. Even on this last day, a few points are awarded just for participation, but big points are possible for placing in competitions. Only the top performances can earn points, so high performance is still motivational.

The complementary roles of assessment and evaluation are important to understand. Regular assessment enables learners to improve performances while mitigating their risk factor. Evaluation, and the reality of impending evaluation focus the learner, creating a high-level performance. Further, the evaluations, when taken together, will shed some light on the overall effectiveness of the L2L experience.

Conclusions and Future Directions

Combining all these ingredients and following the recipe will yield a successful L2L stone soup. The 12 key components to create a successful L2L experience have been explicated in this manuscript for others to understand why each component is important, resources to explore it further, the impact the component has on student learning and the synergy between the components. Further, the framework presented here will assist new practitioners in their understanding of what components will be necessary to establish an L2L experience to achieve the goals within their specific environment.

While the literature has repeatedly demonstrated that L2L experiences are effective anecdotally, future work must

focus on evidence-based research to verify what has already been concluded observationally. Mechanisms and tools to measure the significance and impact of L2L experiences as well as detail the importance of the TofE green environment, the actual designed L2L experience, the L2L curriculum, the syllabus and schedule, the assessment and evaluation systems, and the role of standard L2L practices need to be developed.

The relationships connecting components with the concept map prompts many research questions and measurement issues to be explored. For example, how does reducing risk factors under the performer's control lead to greater learning success? How much strengthening of a collegiate learner's characteristics is necessary to lead to a reduction in their risk factors? Which collegiate learner's characteristics have the strongest impact on L2L success? Or are the characteristics of the experience itself, as described in the concept map, more important to L2L success? Can the learning performance measures used in L2L experiences provide instrument reliability for all learner characteristics? What are valid and reliable measures for the Transformation of Education (TofE)? What are the characteristics of assessment culture and its practices that create the most effective facilitators? How does assessment differentially assist facilitation of learner characteristics? How does the skill level of assessors impact learners' growth curves? To what degree does implementing an assessment culture enhance the TofE culture within the students and faculty who participate in the experience? To what degree does a TofE culture enhance learning characteristics?

Conducting the research to answer these questions will validate the effectiveness of the L2L experience in promoting student learning as well as reinforce and quantify the interrelatedness of the key components of a successful L2L experience.

References

- Apple, D., Duncan, W., & Ellis, W. (2016). Key learner characteristics for academic success. *International Journal of Process Education*, 8(2), 61-82. https://www.ijpe.online/2016_2/2016_success2.pdf
- Apple, D. K., & Ellis, W. (2015). Learning how to learn: Improving the performance of learning. *International Journal of Process Education*, 7(1), 21-28. <https://www.ijpe.online/2015/learning.pdf>
- Apple, D., Ellis, W., & Hintze, D. (2015). Learning to learn camps: Their history and development. *International Journal of Process Education*, 7(1), 63-74. <https://www.ijpe.online/2015/camps.pdf>
- Apple, D., Ellis, W., & Hintze, D. (2016a). 25 Years of Process Education. *International Journal of Process Education*, 8(1), 87-92. <http://www.ijpe.online/25/image/sections/facilitation.pdf>
- Apple, D., Ellis, W., & Hintze, D. (2016b). 25 Years of Process Education. *International Journal of Process Education*, 8(1), 25-28. <http://www.ijpe.online/25/image/sections/llc.pdf>

- Apple, D., Ellis, W., & Hintze, D. (2016c). 25 Years of Process Education. *International Journal of Process Education*, 8(1), 49-52. <http://www.ijpe.online/25/image/sections/success.pdf>
- Apple, D., Ellis, W., & Hintze, D. (2016d). 25 Years of Process Education. *International Journal of Process Education*, 8(1), 45-48. <http://www.ijpe.online/25/image/sections/QL.E.pdf>
- Apple, D. K., Ellis, W., & Leasure, D. (2018). *A professional's guide to self-growth*. Hampton, NH: Pacific Crest.
- Apple, D., Ellis, W., Nelson, T., Ulbrich, I. M., & Woodbridge, C. M. (2020). Barriers in implementing a successful learning to learn experience. *International Journal of Process Education*, 11(1), 3-30. <http://www.ijpe.online/2020/barriers.pdf>
- Apple, D., Jain, C., Beyerlein, S., & Ellis, W. (2018). Impact of higher education culture on student mindset and success. *International Journal of Process Education*, 9(1), 59-98. <https://www.ijpe.online/2018/culture.pdf>
- Apple, D., & Leasure, D. (2018). How raising the bar helps re-entry students succeed. Four Part Series March 2018. Evollution. <https://evollution.com/attracting-students/retention/how-raising-the-bar-helps-re-entry-students-succeed-part-1/>
- Apple, D. K., Morgan, J., & Hintze, D. (2013). *Learning to learn: Becoming a self-grower*. Hampton, NH: Pacific Crest.
- Apple, D. K., & Smith, P. (2007). Methodology for creating a quality learning environment. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Apple, D., Ulbrich, I. M., & Woodbridge C. M. (2021). *Facilitating learning to learn*. [Unpublished manuscript].
- Armstrong, R. C., Anderson, K., & Nancarrow, C. (2007). Learning-to-learn camps. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Babineau, K. (2018). *Closing the gap: An overview of the literature on college persistence and underrepresented populations*. New York: Cowen Institute.
- Beyerlein, S. W., Schlesinger, M., & Apple, D. K. (2007). Introduction to Process Education. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Bulgar, S., & Watson, D. (2006). *Broadening the definition of at-risk students*. *Community College Enterprise*, 12(2), 23-32.
- Burke, K. (2007). Getting student buy-in. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Campus Intelligence (2016). Seven data-driven ways to identify at-risk students. Retrieved from <https://www.anthology.com/blog/seven-ways-to-identify-at-risk-students>
- Desjarlais, M., & Smith, P. (2011). A comparative analysis of reflection and self-assessment. *International Journal of Process Education*, 3(1), 3-18. <http://www.ijpe.online/2011/reflectionh.pdf>
- Deming, W. E. (2018). *The new economics for industry, government, education* (2nd edition). MIT Press; Cambridge, MA.
- Dweck, C. S. (2006). *Mindset: How you can fulfill your potential*. New York: Random House.
- Ellis, W. (2020, June 25). Evolving framework of Process Education [Paper presentation]. Process Education Conference 2020, online.
- Ellis, W., Apple, D., Leasure, D., Perkins, W., & Watts, M. (2019). Self-growth paper: An assessment and research tool to analyze growth outcomes. *International Journal of Process Education*, 10(1), 35-56. <https://www.ijpe.online/2019/selfgrowth.pdf>

- Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J. Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2012). *Teaching adolescents to become learners. The role of noncognitive factors in shaping school performance. A critical literature review*. Chicago: University of Chicago Consortium on Chicago School Research.
- Guzman, M. R. T., & Pohlmeier, L. A. (2014). *High-risk behaviors in youth*. University of Nebraska. Retrieved from <https://extensionpublications.unl.edu/assets/pdf/g1715.pdf>
- Hammond, C., Linton, D., Smink, J., & Drew, S. (2007). *Dropout risk factors and exemplary programs: A technical report*. Clemson, NC: National Dropout Prevention Center.
- Hintze, D., Beyerlein, S., Apple, D., & Holmes, C. (2011). The transformation of education: 14 aspects. *International Journal of Process Education*, 3(1), 73-92. <http://www.ijpe.online/2011/transformationh.pdf>
- Horn, L. J. (1997). *Confronting the odds: Students at risk and the pipeline to higher education*. Washington, DC: National Center for Education Statistics.
- Horton, J. (2015). Identifying at-risk factors that affect college student success. *International Journal of Process Education*, 7(1), 83-102. <https://www.ijpe.online/2015/risk.pdf>
- Keller Plan Definition and Meaning. (n.d.) *Market Business News*. Retrieved from: <https://marketbusinessnews.com/financial-glossary/keller-plan/>
- Leise, C., & Beyerlein, S. W. (2007). Learning processes through the use of methodologies. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Leise, C., Litynski, D., Woodbridge, C., Ulbrich, I., Jain, C., Leasure, D., Horton, J., Hintze, D., El- Sayed, M., Ellis, W., Beyerlein, S., & Apple, D. (2019). Classifying learning skills for educational enrichment. *International Journal of Process Education*, 10(1), 57-104. http://www.ijpe.online/2019/cls_full1.pdf
- Leise, C., Apple, D., Ellis, W., Beyerlein, S., Leasure, D., & Batchelor, G. (2021) *Differentiating growth from self-growth capability*. [Manuscript submitted for publication.]
- Nelson, T., Apple, D., Ellis, W., Leasure, D., & King-Berry, A. (2020). Performance descriptions: A major tool for performance development. *International Journal of Process Education*, 10(1), 129-151. <http://www.ijpe.online/2020/descriptions.pdf>
- Quinnan, T. W. (1997). *Adult students at-risk: Culture bias in higher education*. Westport, CT: Bergin & Garvey.
- Pacific Crest (n.d.1) Academic recovery course sample syllabi. <https://www.pcrest.com/recovery/syllabus.html>
- Pacific Crest (n.d.2) Academic recovery course sample agenda. <https://www.pcrest.com/recovery/agenda.html>
- Pacific Crest. (2017). *The Psychology of Learning and Success—An Academic Recovery Course Implementation Project for Western Governors University*. http://www.psychologyoflearningandsuccess.com/recovery_general.pdf
- Redfield, K. A., & Lawrence, B. H. (2008). *Foundations of learning*. Lisle, IL: Pacific Crest.
- Smith, P. (2007). Overview of facilitation. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th Ed.). Lisle, IL: Pacific Crest.
- Smith, P., & Apple, D. (2007). Facilitation methodology. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th Ed.). Lisle, IL: Pacific Crest.
- Sweeny, C., Apple, D., & Ulbrich, I. (2018). 100 best practices for teaching learning to learn and self-growth. *International Journal of Process Education*, 9(1), 99-114. <https://www.ijpe.online/2018/100.pdf>
- Ulbrich, I. M. (2017, June). Implementing a disciplinary recovery course [Paper presentation]. Process Education Conference 2017, California Health Sciences University, Clovis CA.

- Utschig, T., & Apple, D. (2009). Keys to improving academic assessment. *International Journal of Process Education*, 1(1), 43-52. http://www.ijpe.online/2009/keys_assessmenth.pdf
- Utschig, T. T. (2019, October). Learning by performing (LXP) – A practical framework for authentic learning [Presentation]/ International Society for the Scholarship of Teaching and Learning (ISSOTL) Annual Conference 2019, Atlanta, GA. <https://guidebook.com/guide/164974/event/23969697/>
- American Society for Quality. (n.d.). W. Edwards Deming's 14 Points for Total Quality Management. <https://asq.org/quality-resources/total-quality-management/deming-points>
- Watts, M. (2018). The learning process methodology: A universal model of the learning process and activity design. *International Journal of Process Education*, 9(1), 41-58. <https://www.ijpe.online/2018/lpm.pdf>
- Wenner, W., Soman, S., Stevenson, R., & Apple, D. (2019). Building institutional support for a recovery course for academically dismissed students. *International Journal of Process Education*, 10(1), 3-14. <http://www.ijpe.online/2019/recovery.pdf>
- Wicks, M. A. (2007). Creating meaningful assessment and documentation systems. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.

Appendix A Profile of a Quality Collegiate Learner

Learner characteristic	Category	Performance / Learning skill	Mindset it supports	Risk factor it mitigates
Self-Grower	Growth Mindset	Performance	Growth mindset	Fixed mindset
Committed to Success		Learning skill	Positive mindset	Uncommitted
Self-Assesses		Performance	Assessment mindset	Self-Evaluator
Positive		Learning skill	Positive mindset	Negative attitude
Self-Starter		Learning skill	Performance mindset	Procrastinates
Open to feedback		Learning skill	Assessment mindset	Not open to feedback
Open-Minded		Learning skill	Positive mindset	Fixed mindset
Self-Challenge		Learning skill	Growth mindset	Coasting/unchallenged
Clarifies expectations	Academic mindset	Learning skill	Academic mindset	Wings everything
Inquisitive		Learning skill	Academic mindset	Ineffective reader
Self-Efficacious		Learning skill	Positive mindset	No sense of self-efficacy
Self-Motivating		Learning skill	Academic mindset	Unmotivated
Self-Confident		Learning skill	Academic mindset	Needs affirmation
Creates a life vision		Learning skill	Quality mindset	No life vision
Master learner	Learning processes	Performance	Academic mindset	Lifelong learning not a priority
Reads		Performance	Academic mindset	Ineffective reader
Writes		Performance	Academic mindset	Ineffective writer
Thinks critically		Performance	Academic mindset	Self-Limited thinking
Solves problems		Performance	Professional mindset	Ineffective problem solver
Processes information		Performance	Academic mindset	Ineffective reader
Reflects		Performance	Assessment mindset	Minimal meta-cognition
Sets goals	Learning strategies	Learning skill	Academic mindset	Minimalist
Has learner ownership		Learning skill	Academic mindset	Differential
Use resources effectively		Learning skill	Academic mindset	Financial constraints
Validates		Learning skill	Quality mindset	Needs affirmation
Metacognition		Performance	Self-growth mindset	Minimal metacognition
Works hard		Learning skill	Professional mindset	Coasts/unchallenged
Plans		Performance	Future oriented mindset	Unorganized
Persists	Affective learning skills	Learning skill	Positive mindset	Anxious
Manages frustration		Learning skill	Positive mindset	Frustrated
Manages time		Learning skill	Decision mindset	Lacks time management
Prioritizes		Learning skill	Decision mindset	Lacks discipline
Disciplined		Learning skill	Decision mindset	Lacks discipline
Takes risks		Learning skill	Positive mindset	Afraid of failure

Learner characteristic	Category	Performance / Learning skill	Mindset it supports	Risk factor it mitigates
Leverages failures	Affective learning skills (con't)	Learning skill	Positive mindset	Personal factors
Asks for help		Learning skill	Decision mindset	Lacks mentors
Is well		Learning skill	Decision mindset	Anxious
Adapts		Learning skill	Performance mindset	Anxious
Team player	Social learning skills	Performance	Social mindset	Non-Team player
Collaborative		Learning skill	Social mindset	Isolated from others
Responsible		Learning skill	Performance mindset	Irresponsible
Assertive		Learning skill	Social mindset	Yes-Person
Connected		Learning skill	Sharing mindset	Lacks support system
Communicator		Learning skill	Social mindset	Non-Team player
Seeks diversity		Learning skill	Respecting mindset	Isolated from others
Speaks publicly		Learning skill	Performance mindset	Ineffective public speaker
Engaged		Productive academic behaviors	Learning skill	Performance mindset
Focused	Learning skill		Performance mindset	Lacks discipline
Prepared	Learning skill		Performance mindset	Wings everything
Organized	Learning skill		Performance mindset	Unorganized

Appendix B L2L Full Curriculum

Activity		Outcome 1	Outcome 2	Outcome 3
Orientation to the L2L Course		Institutional commitment to student success	Profile of Collegiate Learner	Impact on student success
Analyzing the Course Syllabus (<i>Student Success Tool Box</i>)		Clarify expectations	Start define work plan	Understand the why behind the course
Repeated Reading Quizzes		Improve learning from reading	Meaning of being prepared for class	Improve test-taking skills
Ch 1	Performing Like a Star	Set expectations of unlimited growth	Identify growth goals	Build self-belief of future success
	<i>Performance Analysis of an Honor Student</i>	Theory of Performance	Analyze performance	Expectations of collegiate learner
Ch 2	Becoming a Master Learner	Provide a model of learning	Analyze past learning performances	Strengthen metacognition of learning process
Ch 3	Your Past Doesn't Define Your Future	Believing in self	Strengthen identity	Address personal factors
	<i>My Past: Strengths and Opportunities</i>	Clarify past issues	Identify growth goals	Leverage the past
Ch 4	Self-Assessment: The Engine of Self-Growth	Differentiate from self-evaluation	Validate strengths	Focus on areas for improvement
Ch 5	Time, Planning, and Productivity	Value time as being precious	Think and plan before doing	Prioritize what by when
	<i>Develop a Plan for Course</i>	Academic plan for success in a course	Connect performance expectations with plan	Produce a task list for working through
Ch 6	Methodologies: Unlocking Process Knowledge	See process through a methodology	Teach problem solving	Strengthen ability to solve personal problems
	<i>Developing a Solution for First Term Success</i>	Transfer this thinking to each course	Understanding an evaluation system	Developing a plan for an "A" student
Ch 7	Visioning Your Future	Analyze the past for leverage	Self-analysis of who you are	Project where you want to be in life
	<i>Maximize Campus Resources</i>	Seek out timely help	Better connect with campus	Utilize resources to improve performance
	<i>Interview a Faculty Member or Coach</i>	Get to know faculty as people	See how others plan their lives	Excitement about life possibilities
Ch 8	Performing in Teams and Within A Community	Playing a role effectively	How roles support each other	Using supporting reflection forms
Ch 9	Performing When Being Evaluated	Appreciate being challenged	Learn and grow from evaluation	Elevate performance through being prepared
Ch 10	Reading for Learning	Learn to ask inquiry questions	Connect reading with learning	Elevate level of learning from reading

Activity		Outcome 1	Outcome 2	Outcome 3
Ch 11	Metacognition: Thinking about My Thinking	Think about thinking	Stepping back from doing	Listening to your inner compass
Ch 12	Using Failure As Stepping Stone for Success	Embrace failure	Learn to assess and not evaluate failures	Grow from failures
	<i>Interview a Faculty Member about Failure</i>	Learn that faculty have failed	Learn how others value failure	Lessen the impact of current failures
Ch 13	Choosing and Using Mentors Effectively	Being proactive	Asking for help	Understanding mentoring process
Ch 14	My Turn to Shine	Value all feedback	Focus on improvement	Use assessment vs. evaluation
Ch 15	Shifting from Extrinsic to Intrinsic Motivation	Ownership of life	Being responsible	Growth-Oriented
<i>Supplemental Activity 1: Wellness</i>		Maintain balance	Letting things go	Diet and exercise
<i>Supplemental Activity 2: Financial Planning</i>		Developing resources for college	Determining a financial plan	Living to your plan
<i>Reflective Practices</i>		Why these forms	Role of reflection	Assessment of forms
<i>What is Self-Growth (Paper)</i>		Stepping back to see the journey	Understand self-growth	Role of Collegiate Learner
<i>Writing Contest</i>		Capture the self-growth papers in class	Reduce Thursday workload	See what can happen with writing in 45 min
<i>Problem Solving Contest</i>		Final team performance challenge	Have fun and integrate skills	
<i>Speech Contest</i>		Get over the hurdle of public speaking	Build confidence	Share what's happened with the community
<i>Award Ceremony</i>		Let students know their grades	Experience what hard work produces	Acknowledge everyone

Modeling Growth Capability—What is it?

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Abstract

Growth mindset includes the belief that one can improve life by responding with openness and creativity to opportunities as they arise. Growth capability is generated from increases in the effectiveness of responses to opportunities that expand and enrich one's quality of life. Growth development is the process of increasing transferable learning skills to enhance quality of life by increasing the value of all experiences, especially performances, which are related to one's individual quality of life. Growth capability is composed of 15 components that are the focus of this paper. Each component plays a distinctive role with respect to understanding growth capability as a construct and provides a foundation for assessment and reflection practices known to be essential for building capabilities. Underlying the 15 components are a set of 40 growth skills which are enumerated in the Appendix. For conceptual convenience, these 15 components are organized into four categories: self-concept, life planning, taking actions to pursue growth, and performance improvement. An expanded discussion of each of the 15 components focuses on three questions: What elements, processes, and opportunities are distinctive to the component? What roles do the concepts, insights, and practices related to the component play in improving quality of life? How can one validate the personal impact of pursuing the life changes suggested by the component? Examples of professional development activities centered on each component are also inventoried. Finally, methods are suggested for incorporating insights about each component into planning for daily growth.

Introduction

Growth capability is the ability to improve in each aspect of life, which leads to a greater life quality. For example, many of the activities in life are performances that one elects to undertake. Life activities can range from deliberate practice (such as trying to improve in an area like playing the piano), productive work (managing a project or writing a research paper), experiences (watching a Broadway play), or self-care time (meditation). Life activities can be used as opportunities for self-improvement to increase life quality through the intentional development of growth capability. In this way, every moment can be thought of as an opportunity to systematically increase the quality of one's life. As the complexity of life seems to increase, so is it critical that a person's growth capability accelerates as well. If this is done, the individual will be more able to process life moments to get out of life what one wants. If this is not done, life's challenges may lead to decisions and circumstances that decrease the quality of life.

Throughout this paper, the use of the word *capability* rather than *capacity*, is intentional. According to *Webster's Dictionary*, *capability* is the "power or ability to do something". Alternatively, *capacity* is the "maximum amount that something can contain". The approach this paper takes and the conclusions it draws are predicated on the idea of

a growth mindset that assumes the components of growth can be deliberately expanded through individual decisions and actions, often in response to suggestions from mentors.

Envisioning one's ideal self is an important tool for increasing growth capability and thus quality of life (QoL). Articulating one's current self-concept and focusing on personal development along a path toward one's ideal self is an effective strategy for elucidating growth aims. The construct of growth itself can be understood more fully by delineating and describing 15 components of growth that synergistically increase potential for increasing growth capability. The description of each component addresses three questions:

1. What elements, processes, and opportunities are distinctive to the component?
2. What roles do the concepts, insights, and practices related to the component play in improving quality of life?
3. How can one validate the personal impact of pursuing the life changes suggested by the component?

Another goal of the descriptions of components is to make clear how and why a component differs from others by bringing to light distinctive concepts, processes, insights, and opportunities for practice. An assumption underlying

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the analysis of growth components is that each adds substantively to a fuller conceptualization of growth defined as movement toward an ideal self. Vygotsky (1978) initiated the concept of “zone of proximal development”, which emphasizes the importance of the timing of experiences and interventions for actualizing the developmental potential of a child. Similarly, expansion of growth capability requires that one operate in a kind of “ideal zone of development” characterized by optimal challenge conditions that are consciously selected. Staying within one’s ideal zone requires self-regulation of thinking and behavior in the face of new opportunities. Improvement is likely to be limited if passivity rather than decisiveness characterizes the use of opportunities. The descriptions of the growth components provide windows into the many ways to gain awareness and conscious control of growth as a generalized capability for increasing quality of life. While each component can be considered by itself, insights from the interdependencies among them will clarify and strengthen how an ideal self can be envisioned that defines identity and aspirations beyond oneself.

Literature Review

Growth involves new knowledge, skills and experiences. Attention to self-concept and self-identity are critical to growth because these are motivators for personal transformation. Although these terms are frequently used, both in popular language and in scholarship, their meaning varies considerably. The *Cambridge Dictionary of Psychology* (Matsumoto, 2009) defines *identity* somewhat differently across social science disciplines but with a focus on how individuals understand themselves and are recognized by others. *Self-Concept* is one’s holistic idea about all of who one wants to be (ideal self-concept) and who one is now including roles, relationships, and values. *Self* is usually considered central to personal identity and changes over

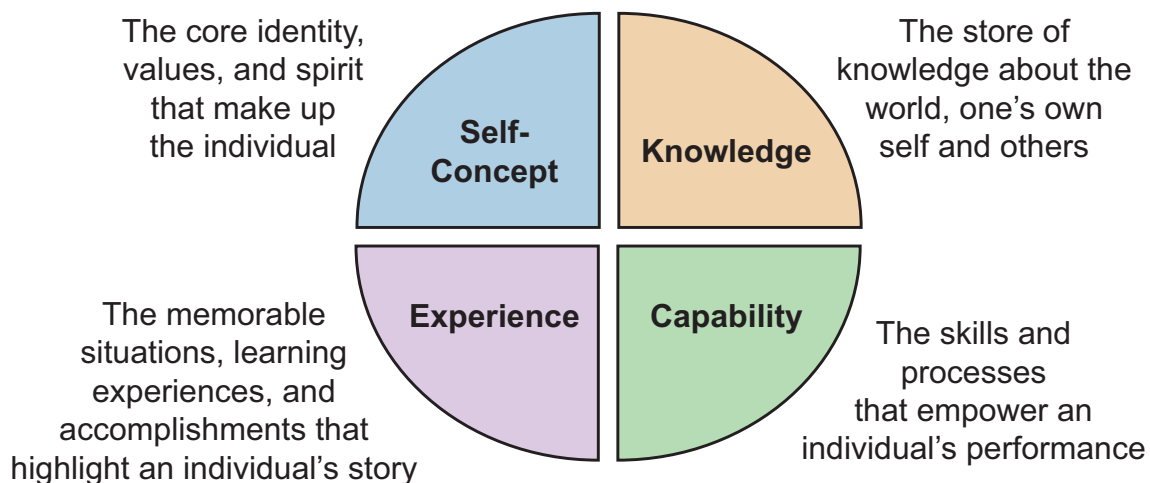
time. *Self* is defined more broadly to include all physical, emotional, and mental processes and activities as well as personal identity.

Composition of Self

The exploration of self involves multiple perspectives related to the questions “Who am I?” and “Who can I be-come?” In general, *self* is a comprehensive concept that incorporates identity and self-concept, both of which are a person’s experiential point of reference in each situation and over time. The *Cambridge Dictionary of Psychology* (Matsumoto, 2009) defines *idealized (ideal) self* as one’s beliefs or impressions about the way one would like to be, with the implication of a motive to improve one’s present self. One’s self-concept is well-founded to the extent that it is supported by corresponding knowledge, skills, and attitudes. When seen as a journey, life involves the continual evolution of one’s real self.

The **current real self** is who one is now. The **next self** is the vision of the real self in the next time period. The **ideal self** is the vision of one’s ideal future self which directs efforts over the long-term. These three views are in competition with a fourth view which is the **ought self**. The ought self consists of alternative challenging visions of one’s next self (Apple & Ellis, 2015), defined by strong social influences, including those who care about the individual. Many situations provide opportunities for self-growth, but a person must own the experiences and independently develop their individual self. The normal challenges of life, including conflicting emotions (i.e., cognitive dissonance), motivate growers and self-growers to place value on the accuracy of assessment feedback. Although the aim is always to create meaning for oneself that is as

Figure 1 Aspects of Self (Real and Ideal)



“objective” as possible, it is equally important that one accept the inescapable subjectivity of personal perspective that characterizes the nature of meaning for each unique life.

The model of self that is assumed throughout this article is illustrated in Figure 1. It includes self-concept, knowledge, capabilities, and experience. *Self-concept* encompasses values, identity, self-image, needs, and views of what constitutes quality of life. *Knowledge* is the collective working expertise brought to each and every situation. *Capability* consists of learning skills brought to each and every life challenge or situation. *Experiences* consist of the collection of life moments that may be leveraged for present and future situations. Realizing that one’s current self-concept is subjectively created adds to one’s motivation to discover more about what is possible for becoming one’s ideal self. Critical to Figure 1 is the differentiation of knowledge from capability. Knowledge is content and context-focused, whereas capability is process focused and applicable to a broader range of life situations. Accordingly, capability is associated with maturation in use of elements in the Classification of Learning Skills (CLS) (Leise et al., 2019). Self-growth skills are explored in what can be considered a companion article, Self-Growth Capability Components and Their Impact on Growth (Apple et al., 2021).

Evolution of Self

Carl Rogers (1951) contributed terminology to the development of the self. He called the real self the self that one becomes when one is actualizing, receives positive regard and self-regard, and has one’s needs met.

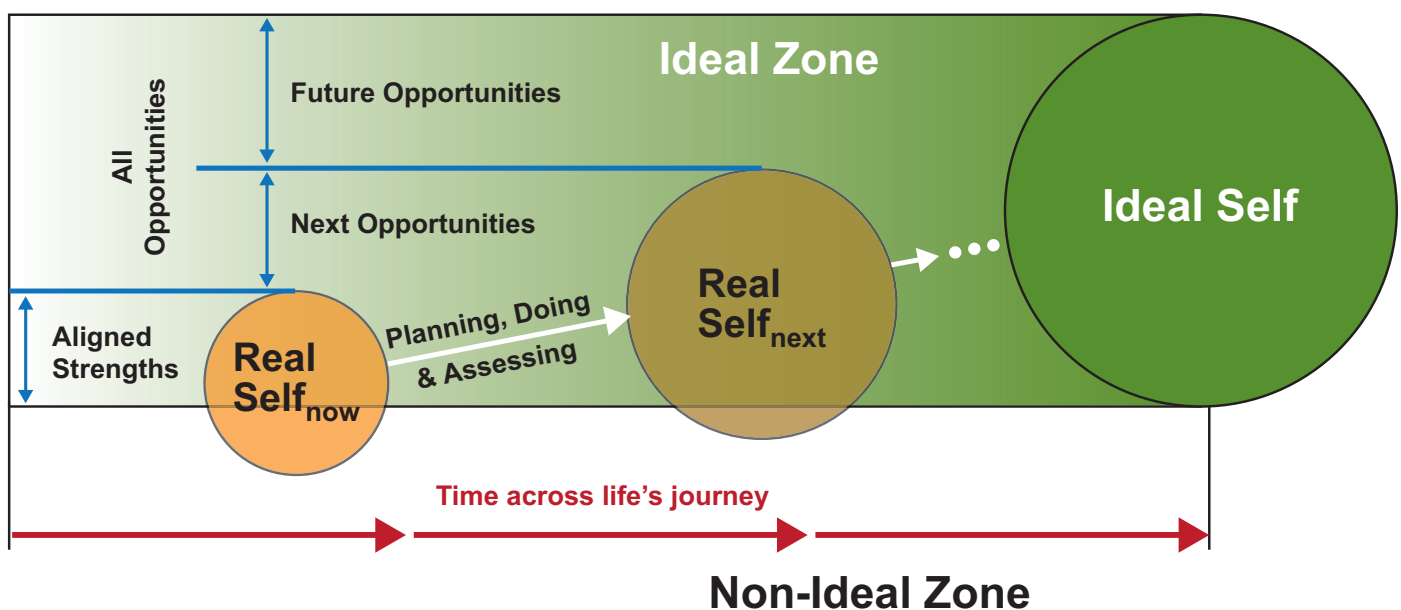
He portrayed the ideal self as the one that develops in response to societal and others’ pressure on the individual who is unable to assert one’s real self. In contrast, this paper uses the terms as defined by Boyatzis and Akrivou: the real self refers to one’s self-concept at prior, current, and future times. The ideal self is an imagined self-concept that one wants to accurately develop (2006). Roger’s ideal-self is what Boyatzis and Akrivou refer to as the “ought self” (2006).

Figure 2 charts the change of self over time. Across life’s journey one’s real self is optimally aligned more and more with one’s ideal self. Growth and mentoring skills underlie the planning, doing, and assessing line segment between the current self and next self. The strengths of the current real self are used to realize the next opportunities, leading to the next real self. The optimal growth plan increases the time one (as their real self) spends inside their ideal zone of development (IZD). As a result, one minimizes that portion of time (aspects of real self) that one spends in the non-ideal zone of development (NIZD). Time spent in the NIZD impedes progress towards one’s ideal self. In summary, optimal growth is the maximal adoption of new strengths and the minimal loss of old strengths in parallel with maximal loss of old inhibitors and minimal adoption of new inhibitors. As the real self evolves, so is the vision of the ideal self updated.

Components of Growth Capability

This article posits 15 components of growth capability, grouped into four categories. Each category is discussed briefly here, then more fully after Table 1. Category

Figure 2 Incremental Growth and Self-Growth during a Life Journey



1, self-concept, is the set of beliefs about oneself, essentially one's answer to "Who am I now?" and "Who do I wish to be?". Understanding oneself at present and one's desired future state is helpful in progressing towards that future state, the ideal self. It has three components, self-awareness, envisioning of the ideal self, and clarifying life quality. Category 2, planning one's life, is the articulation of the intended journey from the present self to the ideal self, and is comprised of a life plan, life goals/milestones, and broad criteria. Category 3, growth, is the life process of intentionally building and strengthening the capabilities that enable movement towards one's ideal self. It is comprised of growth mindset, growth skills, classification of learning skills, and growth plan. Finally, Category 4, improving performance, is the act of developing one's knowledge, skills, and abilities so that they come to reflect the ideal self-one is working towards. It is comprised of the Methodology for Developing Performance, methodologies, the systematic use of assessment, professional characteristics, and quality decision-making. Table 1 delineates these four categories, and identifies the components of each.

In the subsections which follow, each component of growth capability is defined, the impact on growth capability (individually and in concert with the other growth capability components) is described, and its significance is validated.

Category 1 Self-Concept

Self-Awareness

The individual's ability to know who they and who they want to become is the basis of their growth and self-growth. Self-awareness can be developed and expanded in practice to strengthen self-knowledge.

Self-awareness can be divided into internal and external self-awareness, according to Eurich (2018). Internal

self-awareness is what one believes about oneself. It is formed from processing one's experiences into explicit awareness. It includes the narratives that one tells about oneself as well as the judgements about one's capabilities and traits. Self-awareness includes the values that one recognizes in oneself and awareness of one's desires. One's external self-awareness concerns are what one believes others believe about oneself. External self-awareness includes beliefs about relationships, others' appraisals, and social or group identities.

Quality of life, just like any area of quality, is subjectively defined. The definition and meaning of life come from the awareness of what life offers. The more self-aware one is, the more meaning and value they can experience in life and, with an appreciation of the quality of life, increase that quality in the areas that have the most meaning.

Eurich (2018) warns that not validating one's internal and external self-awareness can lead to ineffective or slow growth and less-than-satisfying or even dysfunctional relationships. A person must develop and apply their skills to validate self-awareness, including critical self-reflection, external assessments, experimentation, and validation from others. Experimentation includes purposefully seeking growth experiences, social or otherwise, that help one develop self-concept and validate or repudiate one's self-awareness.

Envisioning One's Ideal Self

Self-awareness includes one's desires for oneself and one's conditions. The real self, as defined by one's validated self-awareness, can be transformed into one's ideal self, an imagined real self in a desirable future that one wants to achieve. Boyatzis and Akrivou describe the ideal self as comprising the desired future, hope (including self-efficacy and optimism), and a

Table 1 Categories and Components of Growth Capability

Category 1	Category 2	Category 3	Category 4
Self-Concept	Planning One's Life	Growth	Improving Performance
Self-Awareness	Life Goals / Milestones	Growth Mindset	Methodology for Developing Performance
Envisioning Ideal Self	Life Plan	Growth Skills	Methodologies
Clarifying Life Quality	Broad Criteria	Classification of Learning Skills	Systematic use of Assessment
		Growth Plan	Professional Characteristics
			Quality Decision-Making

self-awareness of one's core identity, which includes values, strengths, traits, and dispositions (2006).

Boyatzis and Akrivou further describe the difficulties of achieving one's ideal self without sufficient motivation and hope (2006). The strength of the imagined ideal self therefore needs to go beyond traits and other attributes and include a comprehensive imagining of the future and all its benefits, including emotions, relationships, health, accomplishments, and other desirable conditions.

For hope to be sustainable, one must experience progress, and have a strong growth mindset and the resilience to recast failures and difficulties as surmountable obstacles that help one develop. A focus on developing needed capabilities can better prepare one for hope-sustaining successes. In designing one's ideal self, one determines the working expertise needed, and the educational plan supporting its development and continual expansion through lifelong learning. Part of envisioning one's ideal self is determining the growth capability one desires to carry out their life plan. As part of envisioning, one makes life choices aligned with one's life plan—its past, present, and future experiences that increase QoL.

Oettingen cautions that only envisioning the ideal self can cause one to consider it accomplished and therefore undermine the commitment to realizing it (2015). She recommends also identifying the obstacles to fulfillment to ensure that one understands the journey and what hardships will be faced. In Oettingen's approach, these predicted obstacles become growth opportunities. She refers to the underlying principles of mental contrasting with declared intention, and provides the mnemonic WOOP: Wish, Outcome, Obstacle, Plan (2015). The approach aligns with the growth process and reinforces the need to validate progress and identify growth opportunities aligned with the ideal self.

The movement from real self to the next real self must illustrate through reflection that one's next real self is closer to one's ideal self than one's current real self. Then the calculation can be made as to how much movement has occurred for the growth investment and time expended to determine if the progress was sufficient to get closer to one's ideal self. Finally, one can ascertain the expansion that one's next real self would desire in one's next version of one's ideal self.

Clarifying Life Quality

In each of their approaches to development of self-concept, Rogers (1951), Erikson (1968), Loevinger and Wessler (1970), and Kegan and Lahey (2001) all

argue for a continuing evolution of self-concept that leads from a self-focus and limited understanding of others to a more fulfilling, integrated, and actualized life. With sufficient independence and self/other awareness, what one desires most from life is determined individually.

It is up to the individual who wants to develop to identify life's qualities and determine their relative importance. A compelling vision is necessary that is both holistic and definable in terms of goals. Developing personalized scales and weightings for each dimension's significance will allow an individual to track their own growth development and improvement in QoL, which will reinforce motivation and sustain hope.

Clarifying quality of life (perhaps by creating a Quality of Life Index) helps one align each activity and decision so that the outcome leads directly or indirectly to a greater QoL. Due to evolving consciousness that comes from self-concept development, one's vision of life quality may evolve. The degree that one's values, skills, dispositions, and desires will evolve depends on an individual's development and the individual overcoming immunity to change (Kegan & Lahey, 2009).

One can compare a holistic evaluation of QoL change (e.g., was this a better year than last year, and if so, why?) with items from the QoL Index to verify that the movement is consistent with one's QoL. Exploring gaps in QoL and developing a growth plan to address these gaps should produce the movement in the dimension of QoL that is consistent with the targeted efforts.

Category 2 Planning One's Life

Life Goals and Milestones

To create greater life meaning, life goals should align with life purpose and scope (recognized in one's ideal self) to direct time, energy and resources to expand meaning as well as accomplishments. Milestones measure progress toward one's life goals. This component aligns with Covey's habit of "beginning with the end in mind" (1989).

Life goals and milestones apply across a wide range of venues and circumstances. They should produce a significant increase in one's quality of life and benefit one's community. These goals should be SMART (S-specific, M-measurable, A-achievable, R-realistic, and T-time bound) with a few refinements. *Specific* refers to what the individual wants to realize. *Measurable* refers to how one will monitor their progress toward reaching this realization. *Achievable* refers to something that is possible with a growth mindset and use of

growth capability. *Realistic* refers to a logical growth plan for each goal that is well-conceived. *Time-bound* refers to when the individual wants to accomplish it. However, they should also be SMARTER goals, with E for exciting and R for recorded (Taylor, 2017). *Exciting* refers to energy and engagement surrounding one's chosen pursuit. *Recorded* refers to writing down one's goals for ongoing reference rather than just thinking about them. Targeted milestones allow the individual to establish annual benchmarks in the pursuit of their life goals.

Life goals and milestones also give coherence to one's life experiences and focus one's attention as well as energy on activities that are meaningful. Life goals and milestones act as gauges to help measure the quality of life that one is seeking. They provide qualitative observations about one's progress and need for modification in life direction. Life goals also help in composing a life plan and broad criteria. Interaction between life goals and milestones with a life plan and broad criteria builds quality into the life journey itself, strengthening actions to realize one's ideal self.

Life goals and milestones provide scaffolding for writing an annual growth report that documents new knowledge, skills, and perspectives along with new performance capabilities. (Hurd, 2007). Successfully attaining these also helps celebrate achievements aligned with one's life vision and take stock of progress on one's life journey. Making progress in attaining life goals and milestones must provide evidence of an improved quality of life.

Life Plan

The strategic plan of how to live one's life is the key to staying within the individual's ideal zone of development in one's life journey. The individual's life plan is the glue that connects many of the growth capability components. A life plan is an individualized tool to optimize the overall quality of life.

A strategic life plan has key elements including educational plans and advancements in life-long professional development, career choices, place to live, who to share life with, and the role of family, friends, and community. Additional elements of a life plan include tradeoffs that one is willing to make, passions to pursue, and adventures to explore. This component aligns with Covey's habit of "putting first things first" (1989). The life plan identifies characteristics and behaviors that can help address life's challenges and opportunities. It should include analysis of risk factors that could impede your progress (Horton, 2015) as well as performance characteristics (Apple et al., 2018) that

one wants to emulate. The life plan should be synergistic with the individual's life vision, broad criteria, life goals, and milestones, helping operationalize these in day to day activities.

The life plan is at a macro level and this informs the micro operational plan that allows one to live in the moment as well as the quality of life that the moment provides. It allows one to make quality of life decisions more efficiently and effectively, especially when to say yes and no to numerous life opportunities. The life plan suggests ways of being, scripts, and contingencies to constructively and positively address life challenges. It supports one's life vision by contextualizing broad criteria and life goals/milestones, highlighting key performance areas aligned with one's life goals and suggests developmental areas to strengthen daily decisions. It is a general facilitation plan for maximizing one's quality of life through application of a growth mindset.

The extent to which the life plan is regularly revisited and reflected upon is a measure of its internalization as a compass for self-direction and personal growth. An analysis of annual time spent on different activities, efficiency in realizing milestones, and how performance capabilities are elevated will illustrate how effectively one's life plan is adopted as well as what changes are needed for future cycles of growth/personal development. When reflecting on the change in quality of life, contributions can be directly connected with specific sections of the life plan.

Broad Criteria

The complexity of life causes many to be lost in the forest among the trees—the opportunities and challenges of daily living (the trees) mask any alignment of life mission to life vision (the forest). It is here that broad criteria are most helpful, as they concisely integrate one's values, needs, and life qualities to provide performance criteria for living one's life (Utschig et al., 2019). This component is a distillation of expectations for one's life. These are succinct performance criteria for operationalizing one's life plan. It is much more uplifting to frame these criteria in terms of virtues that bring happiness rather than avoiding competing vices. Seligman's PERMA model provides a good recipe for broad criteria. They should reflect Positive emotion, Engagement, Relationships, Meaning, and Achievement (2011). Knowing one's broad criteria and using these criteria as a beacon for making life's decisions is a key part of sustaining personal growth. As such, this component of growth capability aligns with Covey's habit of "being proactive" (1989).

Broad criteria are the basis for synergizing key values, needs, and life qualities. They ensure integrity in the moment, cut through daily confusion, and collapse dozens of dimensions of QoL into a manageable set of decision rules. These criteria are a compass for sensing when you are in your ideal zone of development. Beginning each day with the intention of seeking out growable experiences and opportunities to practice specific behaviors that are congruent with your ideal self means that you will be better prepared to see situations where these can be deployed. Ending each day with the individual assessing how they applied their broad criteria can provide insights about responding to future situations that will leverage desired growth as well as unproductive behaviors to be addressed/avoided.

Broad criteria help the individual to maintain their essence (integrity), no matter the situation, by giving guidance on walking the walk of their values and helping them move in a direction that leads to greater Quality of Life. They also serve as a qualitative measure for short-term and long-term movement toward or away from the ideal self.

Category 3 Growth

Growth Mindset

Growth mindset includes the belief that one can successfully discover and use strategies for improving and succeeding—and includes the belief that this takes substantive effort. Consciousness of growth potential can often be expanded with experiences and the positive presumption that the individual is not as limited as they may have assumed.

Yeager and Dweck summarize the theory development and application research for the distinction between fixed and growth mindsets (2012). An individual with a fixed mindset believes that personal attributes such as intelligence or personality are stable—they cannot be changed. Hong et al. (1999) and Blackwell et al. (2007) document how carefully designed interventions that helped students switch to a growth mindset resulted in outcomes such as better persistence under challenge conditions. Some critics (e.g., Burgoyne et al., 2020), have questioned the robustness of growth mindset because statistical effect size for brief interventions is relatively small. However, the fuller interventions reported earlier by Dweck and Leggett (1988) and also those used by contemporary process educators (Apple et al., 2018) do serve to reliably and substantially change mindsets.

Mindsets vary because of the multiple experiential inputs that form or channel development and personal

learning. Dweck (2017) presents a motivational model to explain mindset development in terms of needs and related goals that emerge and become patterns over time. Individuals are continually motivated to balance attainment of goals to meet varied needs such as trust, control, self-esteem, and self-coherence. Dweck draws upon contemporary cognitive science to propose that patterns of goal-relevant beliefs, emotions, and action tendencies (BEATs) explain why individuals have varied goals, even in similar situations. This same cognitive science also proposed that personality traits emerge and become powerful elements in habits and mindsets because repetitive choices become correlated with traits. These personality correlates can be positive (e.g., being conscientious may improve planning and preparation for performances) but they also can be negative (e.g., being introverted may lead to a belief that one is a poor public speaker). One reason Dweck argues that beliefs are the most important part of BEAT representations is that two dimensions of the world, goodness/badness and controllable/uncontrollable, focus attention throughout developmental experiences. Someone who comes to believe that the world is difficult to control may not take action even with competencies already available, which is the definition of a fixed mindset. Another reason why beliefs are important is that they mentally represent a large array of life choices and goals. Clearly, gaining a growth mindset has significant implications because becoming a grower includes conscious awareness and openness to many new ways of increasing QoL that become possible when beliefs, emotions, and action tendencies (BEATs) are validly interpreted for their implications for creating rather than impeding the development of new capabilities (Dweck, 2017).

The growth mindset component develops congruently with many of the other 14 components of growth capability that have been identified in PE scholarship and practice (Apple et al., 2016; Leise, 2020). Additional mindsets such as being future-oriented, positive, performance-oriented, and assessment-oriented are aligned with a growth mindset and are consistent with the understanding of growth as a complex process. Increasing growth mindset increases one's efficacy in performing, growing from experiences, meeting psychological needs, and achieving goals in an open, future-directed manner that will increase the quality of life. Growth mindset is validated when one recognizes growth opportunities and reflects on past experiences to articulate how growth occurred and how it was consciously experienced. Responding to life's growth opportunities requires continual expansion of one's growth consciousness, capabilities, as well as minimizing time

in the non-ideal zone of development. When one is stuck it is critical not to allow growth mindset to stay in relaxation mode; instead, such times are exactly when it is essential to bring to bear relevant capabilities such as changing one's reaction to the moment. This can be done by, for example, stepping back to patiently develop an action plan with smaller but realistic steps for moving ahead.

Classification of Learning Skills

The Classification of Learning Skills (CLS; Leise et al., 2019) is a rich resource of 509 learning skills that must be developed and improved through experiences that include assessment of the quality of their use in specific situations. Strengthening the skill of prioritizing, for example, can lead to improvements in the consideration of about what is most valuable to work on immediately for meeting one's present goals.

Each learning skill is described as a positive capability that can be strengthened without limit and can be selectively applied to amplify four critical processes: knowledge creation, learning to learn (L2L), performance development (growth), and self-growth. Each learning skill is classified into domains (cognitive, social, affective, and assessment/evaluation of quality), process levels, and clusters that make the organization manageable and more useful (Academy of Process Educators, 2019).

Knowledge creation (learning) is the process of establishing one's knowledge, in an academic discipline, for example, and raising the level of use of the knowledge, such as described by Bloom's Taxonomy of Cognitive Objectives (Bobrowski, 2007). Learning to learn (L2L) is the capability to self-regulate learning in order to mitigate risk factors that impede learning (Horton, 2015) and to strengthen positive and professional characteristics (Apple et al., 2018). Growth occurs as individuals master a set of 40 growth-oriented learning skills that were identified through research on how to effectively facilitate Learning to Learn Camps (LLC) and college success courses (Apple et al., 2015). As one strengthens working expertise and learning skills, knowledge and capability can be applied to every area of life to increase its richness and quality.

Progress with learning skills is optimized through use of a performance mentor who can recognize and facilitate performance development by helping an individual increase those capabilities most relevant to QoL. Many of these learning skills have correlated performance measures or scales (Apple et al., 2018) that can help an individual recognize increases in capability with that learning skill. With reflection and self-assessment, the

measurement and impact of improved learning skill usage on quality of performance and its QoL can be determined after each life experience.

Growth Skills

Not all learning skills are equally powerful; some are focused exclusively on learning. A subset is more strongly aligned with boosting growth capability that has a direct connection with improving the quality of life. These are inventoried in Appendix A. Another subset is associated with mentoring and self-mentoring that, in turn, activate and strengthen specific growth skills. These are the subject of a companion article on self-growth capability.

Having an identified set of 40 growth skills is a benefit for educational practice because the skills can be embedded into curriculum, facilitation, and assessment—as modeled by Process Education Learning to Learn Camps and academic recovery courses (Apple et al., 2020). These growth skills were selected because they meet a majority of the following criteria:

- They are used in following the Methodology for Developing Performance
- They are often cited in personal growth plans
- They stimulate development of other learning skills
- They positively impact quality of life
- They play a role in enhancing a growth mindset
- They are often exercised in conducting assessments
- They are commonly used in making decisions based on preplanned criteria

Strengthening of a growth skill occurs when growth opportunities and experiences provide an opening for real-time development of new capabilities related to one or more of the growth skills. These increased capabilities, in turn increase quality of life. Performance mentoring is often a key resource needed to increase the individual's awareness and readiness to assertively move forward in building growth capabilities.

Learners must become aware also of the differences between their subjective perceptions and the potential for more objective insights if they seek accurate assessment and evaluation. Performance mentors can use the Methodology for Developing Performance to guide their interactions with learners and mentees as they work together on developing new growth capabilities that will have present and future impact on QoL.

Growth Plan

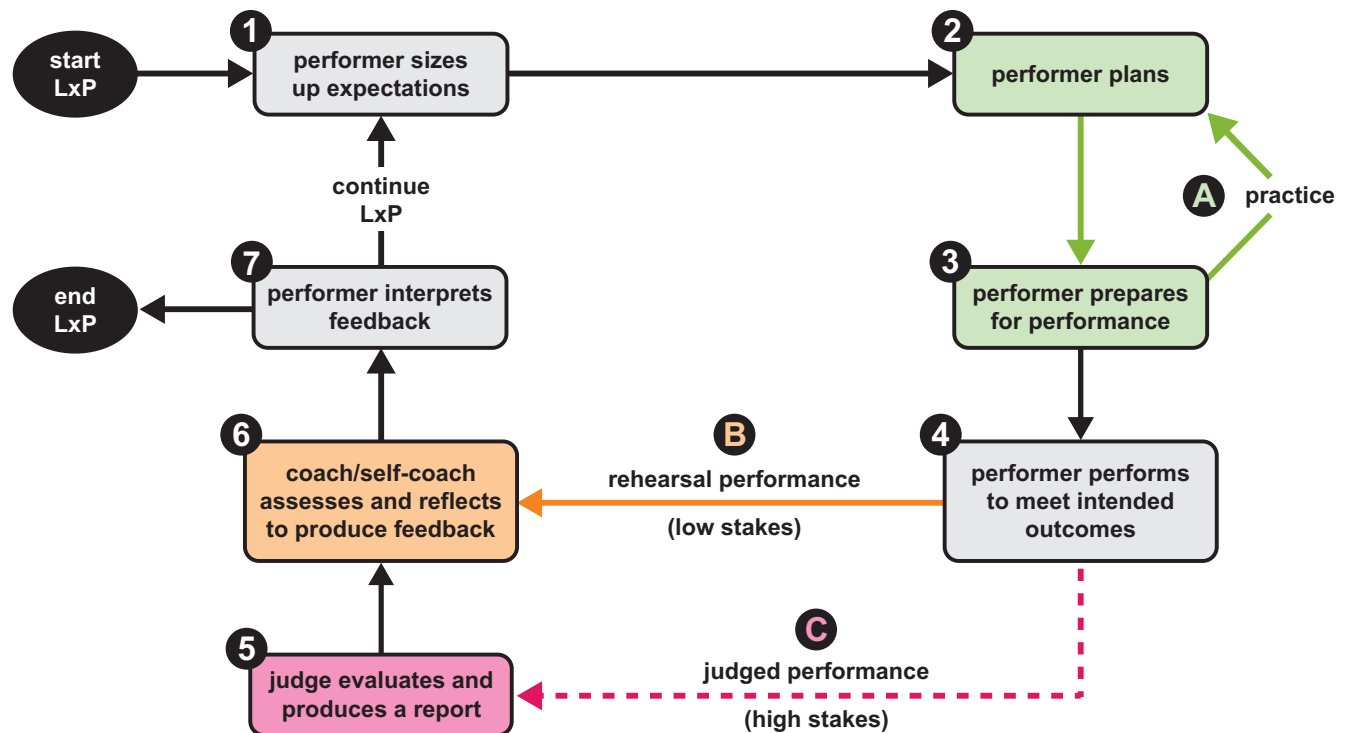
Individualized planning, such as the life vision and growth plans used in Process Education practice, will have higher quality to the extent that logical patterns similar to those used for scientific ends are applied by specifying outcomes along with strategies, criteria, and measures relevant to personal QoL. The purpose of planning is to project actions into the future in order to attain hoped for outcomes. Dewey comments that preparation for "...possible action in situations not as yet existent in actuality is an essential condition of, and factor in, all intelligent behavior" (1938). Although Dewey uses philosophical language to establish meaning as he intends, his analysis contrasts scientific with individual life planning. Scientific ends must be planned according to research logic by carefully aligning language and operations so anyone with research expertise can attain the same outcomes.

Successful planning requires effective alignment of the conditions, strategies, resources (especially capabilities), and timelines with the intended goal or outcome. In life planning, the criteria for favorable outcomes are related to a longer-term horizon and are validated against broad criteria (see the discussion in category two) based on attitudes, values, and the personal meaning of life. The scheduling of time is a critical factor because progress is unlikely without the accountability required in meeting deadlines or specific dates. An assessment system is also an essential ingredient in

accountability because level of quality of performance must be matched to one's QoL aims. Growth planning is a subset of life planning with an intermediate time-frame; the goal is to systematically increase the growth capabilities (represented by the set of 40 growth learning skills) judged to be of import for predictable increases in immediate QoL, (e.g., gaining expertise with a new educational practice). Growth planning will be more effective if aligned with a life plan that articulates longer-term intentions such as milestones of personal development and career success.

Clearly, the quality of any plan depends upon thoughtful preparation, including reflection on growth moments and experiences. The immediate purpose of growth planning is to increase and motivate progress with the set of growth skills. Growth skill development must include acquiring knowledge about how each skill can increase the capabilities that are in one's plan. L2L is also essential because it is the process that leads to reduction of risks and impediments, increase of professional characteristics, and strengthening of performance quality (Apple et al., 2018). Growth occurs when capabilities produce the desired QoL outcomes. Becoming more conscious of how growth capability development has occurred from one's growth moments and experiences is attained through careful reflection that includes elaborated insights about how to improve not just a single performance but the planning of methods, strategies, and quality of assessment

Figure 3 Learning by Performance Model (LxP) (Leasure et al, 2020)



for future growth experiences. Even though the growth capability of discernment of previously unrecognized obstacles and interpreting them correctly may not be developed as fully as one wishes at any point in time, it is a path to truth about oneself and about the validity of how one has chosen to plan growth that will improve and expand QoL.

Category 4 Improving Performance

Methodology for Developing Performance (MDP)

Life is a set of performances (Nelson et al., 2020). We choose what performances matter in our life and their quality (Jain et al., 2020). As one's performance improves in life, for example, basketball players who play professionally or as an avocation will describe with passion how, at critical times in their lives, their QoL improved as their game improved. The MDP effectively integrates the performance mentor into performance development and strengthens the performer's process for self-development.

Performance improvement starts with developing a systematic process. The Methodology for Developing Performance was created from Leasure's LxP model of Learning by Performance (Leasure et al., 2020). The seven stages of the LxP model are shown in Figure 3. The methodology has seven stages and 20 steps that support the performance mentor's efforts as well as the performer's efforts in self-mentoring. The stages include the decision of whether to take on an opportunity, clarifying the stakeholder's expectations, planning and preparing for the performance, performing, being evaluated, assessing the performance and integrating feedback for future performance. Growth skills given in the Appendix are organized according to these seven stages.

The way to enhance QoL through performance improvement is through effective use of the MDP, as the life journey is supported as a synergy among the life plan, the growth plan, and the MDP. The movement between one's real self towards one's next real self is strengthened in the targeted life performance areas. The performance areas of passion where performance improvement is the most exciting are signs that the individual is in their ideal zone of development, especially when practice is very enjoyable and adds to QoL.

When one discovers that they are no longer valuing performance improvement in a specific area, it is a sign that too much time is being spent outside their ideal zone of development. A performance mentor relationship provides an excellent perception check of performance improvement with the assessments they provide. A second check is the use of the developed

performance criteria (Utschig, 2020), Step 6, throughout the rest of the methodology to review the effectiveness of each step. A third means is an effective assessment of each step after its execution using these performance criteria.

Systematic Use of Assessment

Evaluation is detrimental to improvement and growth. If a shift from evaluation to assessment is not made, growth and its impact on QoL is very limited. Therefore, shifting an evaluation mindset and practices to an assessment mindset and practices is how this impediment can be addressed (Utschig & Apple, 2009). By transforming evaluation situations into assessment opportunities, one creates more growable moments by changing their approach to these opportunities (Pacific Crest, 2020).

During each day, an individual can assess products produced, performances (one's own and others), processes and systems, teamwork, culture, plans, and general efforts. A description of assessment performance allows one to understand the underlying assessment process (Nelson et al., 2020), the mindset, supporting learning skills, and situations that best fit assessment, self-assessment, and team assessment. The key areas to help people increase assessment include improving criteria, being objective in observation and capturing data, providing analysis to increase meaning and valuing all components equally (Baehr & Beyerlein, 2007).

A common tool for assessment is assessing for Strengths, Improvements, and Insights, often called SII assessment (Wasserman & Beyerlein, 2007). This type of assessment practice includes statements about the strengths of a performance and why they are strengths, areas that could be improved and how they could be improved, and insights about interesting aspects of the performance that can improve the understanding of the performance area. As each area of life improves, so does QoL. Each time strengths are used in new situations, the QoL has increased. Every time a QoL area can be improved, QoL improves. Each new insight brings about greater growth consciousness that can be used throughout life activities.

The key to supporting growth is to make assessment a way of life. For example, assessment is used to improve the use of the methodologies, quality of life decision-making, and the use of the MDP. Individuals can seek feedback from others, assess their own performance, and provide feedback to others to improve and grow. By improving assessment skills, the power of this component's contribution grows and one of the

common techniques is to assess the assessments of others. With the improvements in growth skills, the quality of assessment will improve. The greater the quantity and quality of assessment, the more improved and enriched the QoL becomes. Effective assessment can be used to keep the focus on one's real self and how to improve it within the ideal zone of development (Desjarlais & Smith, 2011). One grows this component by realizing how important quality is and how assessment is a way of continuously focusing on quality.

Methodologies

A methodology is a model of the abstract generalization of a specific process created by an expert to assist novices on their way to becoming experts in the performance of that process (Apple et al., 2016). Almost every performance has an underlying process that can be modeled by a methodology (Nelson et al., 2020). The stronger the process framework of a performance, the stronger the performance can become. A methodology is a great tool for aligning specific learning skills to steps in the methodology, for assessing performance, building meta-cognition of the performance, and for performance development and self-mentoring of performance improvement (Leasure et al., 2020). As the processes used in life performances are improved, so is the QoL because the individual becomes more adept at working through the performances that use these processes. This growth component can be enhanced by expanding the range of methodologies that are used and connecting the learning skills that are most prevalent across methodologies to focus on those skills.

Methodologies can contribute to one's life journey by providing step by step ways of improving processes used in developing performances, the learning process, and a growth plan (Apple et al., 2016; Jain et al., 2020). As methodologies for these processes are used, the ability to describe the real self and to move toward the ideal self in the ideal zone of development increases (Apple et al., 2020).

While there is no methodology for determining when one is in or out of the ideal zone of development, there are many methodologies that can assist in making that determination. Examples include methodologies for planning, preparation, performance development, self-assessing, and reflecting. The Methodology for Developing Methodologies can be used to create new methodologies (Smith & Apple, 2007). There are techniques for learning and internalizing methodologies as well as rubrics to measure effective use of methodologies (Leise & Beyerlein, 2007). To learn a new methodology,

seek out an example of its use, analyze how it was used, apply it in a similar context, and use the description of each step to apply the methodology. When completed, assess performance after each cycle of the use of the methodology to improve use of the methodology.

Professional Characteristics (PC)

There are common characteristics that offer value to every professional because they help to mitigate a set of common risk factors (Apple et al., 2018). These characteristics, found in *The Professional's Guide to Self-Growth* (PGSG), are universal and are the target for continuous improvement within growth plans directed towards specific performance areas. These professional characteristics are derived from the work on key learner characteristics that transform students into quality collegiate learners (Apple et al., 2016). Risk factors are a major impediment to growth development; self-limiting thinking, for example, could hold back growth significantly but by improving professional characteristics in thinking critically, contextualizing, generalizing, being inquisitive and metacognition one may begin to address the limitations of one's thinking.

The 50 professional characteristics are organized into sets of five in the following ten categories:

- Life-Long Learning
- Learning Processes
- Self-Growth Mindset
- Professional Mindset
- Professional Strategies
- Productivity
- Getting Outside One's Comfort Zone
- Grit
- Interpersonal Skills
- Professionalism

Many of these characteristics appear in job advertisements, performance appraisals, daily expectations of peers, and are widely known as characteristics of success in any profession. The Big-Five personality model research supports that these characteristics contribute to professional and life success (Barrick & Mount, 1991; Komarraju et al., 2011). *The Professional's Guide to Self-Growth* provides 52 case studies of how individuals addressed specific risk factors with the development of specific professional characteristics. This led to a mapping presented in PGSG of which professional characteristics would enhance growth through the mitigation of inhibiting risk factors.

The component of growth capability plays a critical role in the Self-Growth Methodology during Stage 5 as it becomes the focus of which professional characteristic will be developed to enhance the selected performance by mitigating the most significant risk factor limiting current performance. This is especially important during performance development and a significant contribution to overall growth capability. This framework is universal in that anyone can use these 50 characteristics and their development as the basis for a journey of growth. These 50 characteristics support almost every other growth capability component's development, progresses a person's self-concept and self-knowledge, and help to determine whether a person is in their ideal zone of development or not.

Each of these characteristics is an identified outcome of the Self-Growth Institute which has demonstrated that, with the help of *The Professional's Guide to Self-Growth*, these characteristics can be systematically developed and prioritized by their impact on the risk factors. For students, the Psychology of Learning and Success (Apple & Leasure, 2018) and *Learning to Learn: Becoming a Self-Grower* (Apple et al., 2013) are two curricula designed to build these characteristics.

Quality Decision-Making

In life there are numerous opportunities where decisions must be made—often decisions that will frame the future. The QoL decision-making component contributes to enhancing performance and increasing growth capability in two ways (Sutherland & Till, 1993). On the micro level, it uses growth capability during every hour of life activity to see how life can be improved immediately as well as the next time one engages in this type of activity. On the macro level, it is the decisions that will alter one's life path and its future quality. It is the glue that integrates all the other components. Without it, these growth efforts may unravel leaving a person with less quality. The other 14 components of growth capability can be easily undermined with poor choices. Choices, as well as their consequences and complicating ramifications, can easily set back quality significantly. Rushing to an appointment that one is late for by driving too fast can lead to an accident which then has a major impact on QoL. On the other hand, QoL can be increased significantly when positive decisions are built upon one another.

Growth capability is potential, while QoL decision-making is the action of applying the growth capability to improve QoL. QoL decision-making is the ability to flexibly move from hourly micro decisions (time usage, selection of alternatives, to find/use/document resources,

or collaborate) to the macro decisions such as a large purchase, career path, relationships, and maintaining current investments. By combining two definitions—one for decision-making and the other for quality of life (Merriam-Webster, n.d.)—we may construct the following definition for *QoL decision-making*: “the action or process of making decisions, especially important ones to increase the standard of health, comfort, and happiness experienced by an individual or group”. Many characteristics are part of the effectiveness of QoL decision-making (Shogren et al., 2018):

- Ownership of the decision
- Alignment to criteria
- Visualization of consequences from good to bad outcomes
- Randomness that effects outcomes/results
- Positive mindset
- State of environmental conditions
- Analysis of the decision
- Assessment of the decision effectiveness
- A strong process

Friedman argues that QoL decision-making should be rational rather than impulsive; it should be reflective rational, holistic decision-making process based upon effective problem solving addressing personal life quality (1997).

Development of QoL decision-making can benefit from a weekly reflection based upon one standard question; “What are examples of QoL decisions gone bad this week and when did a quality decision produce good quality?” The goal of this investigative reflection is to discover and clarify tips on how to turn poor decisions into good life decisions. This investigation will start to answer other questions such as, “What do I wish I had decided?” and “What consequences could I have avoided?” and even, “Why add heartaches and troubles when I could enjoy the increased quality of life instead?”

On a life journey, it is useful to build a compare and contrast chart to help differentiate the good decisions from the poor. The decisions made have many control points such as broad criteria, growth plan, life goals, and life plan to determine whether a decision moved the life journey forward, sideways, or backwards. It is important that systematic assessment of the decision-making process and decision's outcomes are done to use these other control points in the consideration of the self-assessments. With this perspective and a QoL framework, one can use their broad criteria to guide

actions, efforts and paths chosen to increase QoL. In the reflection, one should consider the environment and conditions surrounding one's current situation. Are they growth oriented? Did they become a better version of themselves because of this decision? Did they grow other components of growth capability because of this decision? If not, what should one decide differently next time?

Examples of Growth Capability in Action

The previous justification of the growth capability components illustrates how important they are to growth and development, whether they are done with external help from a performance mentor or self-growth coach or by oneself as a self-grower. The efforts of Process Educators over the last 25 years have been about increasing growth capability within learning experiences (Apple et al., 2016). While some of the areas of growth capabilities are relatively new in Process Education, many have been direct efforts of major processes within Process Education areas such as instructional design, professional development, teaching and learning practices, assessment systems, culture, and institutional systems, processes, and structures. The incorporation of intent to empower growth development is evident in a variety of previous curricular and faculty development materials. Five specific examples are:

- *Foundations of Learning-based Learning to Learn Camps* (Redfield & Lawrence, 2009; Apple et al., 2015)
- *Learning to Learn: Becoming a Self-Grower* and Academic Success Institute Curriculum (Apple et al., 2013; Apple & Leasure, 2018; Wenner et al., 2019)
- Self-Growth Community (Academy of Process Educators, 2021)
- Self-Growth Institute (Pacific Crest, 2020)
- Teaching Institute (Pacific Crest, 2016)

Table 2 (available on the following page) delineates where specific growth capability components have been observed and/or used in Process Education-related developmental activities.

Through scanning the activities underlying these professional development events and generalizing strategies for pursuing each of the components of growth capability, the authors assembled Table 3, which consists of 15 components, with tips, that help one get a firm start towards improving their QoL (i.e., a synthesis of what one could get if they went through these professional development experiences). For each component a purpose is summarized, a widely applicable method is suggested for harnessing the

power of that component, and discernment questions are offered for validating the impact of that component.

Future Research

A major issue in Process Education has been the differentiation of knowledge from growth (Leise, 2007), including what is classified as knowledge and what is classified as growth capability. As outlined in this paper, there are now two other aspects to be considered in addition to knowledge and capabilities: self-concept and experiences. Self-concept is ever evolving and as it matures with experience, knowledge and capabilities, the ideal self also advances and often the gap between real self and ideal self is not bridged because even as one's real self-expands, so does the ideal self.

Both practice and scholarship on how to improve the 15 components of growth capability is ongoing. The model of growth capability presented here with its positioning of components under self-concept, planning one's life, growth, and improving performances, is a model for studying synergy among the components. Understanding the dynamics in this system holds the potential to help Process Educators transform enriched learning environments into enriched growth environments.

Finally, subjective measurement tools (self-reports) for determining the impact of PE practices on increased growth capability and resulting increases in QoL would be beneficial to both practitioners and scholars of personal growth. The authors see great utility in a QoL index that can be personalized and used longitudinally throughout one's life journey.

Conclusions

This paper presents a model for studying the evolution of real self toward ideal self. While the 15 components that make up this model may not fully account for all growth capability, the components have been shown to impact quality of life individually and synergistically. Each component needs individual attention in order to fully unlock its potential for human development. Process Educators have produced a variety of tools for advancing growth capabilities, but they have frequently been more focused on learning to learn than on growth. This article suggests that the power of growable moments in advancing one's QoL can be intensified through cultivation of an elevated level of consciousness with respect to growth. A performance mentor can accelerate this development. Over the course of an individual's lifetime, they can benefit from internalizing the skill of mentoring, ideally becoming a self-mentor of their own growth. It is important to note that the pursuit of growth capability is likely to be inert if done without the development of self-concept, the first component of

growth capability. Instead, planned use of one's capabilities, grounded in one's vision of their ideal self, and connected with challenges of authentic performance experiences is needed to stimulate a growth mindset and associated practices. Finally, the temporal and spatial dimensions of growth extend far beyond the classroom. Many additive experiences such as international studies, cooperative

education, internships, extracurricular activities, service learning, undergraduate research, intercollegiate competitions, etc., are more growth-inducing environments than traditional classrooms. As such, maximizing professional growth is an educational outcome that needs to be pursued at the program level, weaving together experiences across multiple courses and co-curricular venues.

Table 2 Mapping Growth Capability Components to Developmental Activities in Process Education Resources

Notes: **1 L2L Curriculum** includes: *Foundations of Learning (FOL)*, *Student Success Toolbox (SSTB)*, *Life Vision Portfolio (LVP)*, and *Math & Graphing Skills (MGS)*

2 PLS Curriculum includes: *Learning to Learn: Becoming a Self-Grower (L2LBSG)* and the Academic Success Institute

Self-Awareness	L2L Curriculum ¹	CH 8: Living in the Information Age, LVP
	PLS Curriculum ²	CH 11: Metacognition: Thinking about My Thinking Life Vision assignments
Self-Growth Community	Institutes	Teaching
Self-Growth Methodology – Stage 1		Self-Growth
		Reflective assignments Pre-activity
		Self-Growth Methodology – Stage 1 L2LSG CH 11, CH 15 Need analysis and Value analysis
Vision of Ideal Self	L2L Curriculum ¹	CH 2: Strengthening Identity, LVP
	PLS Curriculum ²	CH 15: Shifting from Extrinsic to Intrinsic Motivation Life vision assignments
Self-Growth Community	Institutes	Teaching
Visioning Ideal Self		Self-Growth
		Profile of a Quality Faculty Member
		CH 15: Shifting from Extrinsic to Intrinsic Motivation Life vision assignments
QoL Clarity	L2L Curriculum ¹	LVP CH 13: Assessing for Self-Improvement
	PLS Curriculum ²	CH3: Your Past Doesn't Define Your Future CH 15: Shifting from Extrinsic to Intrinsic Motivation
Self-Growth Community	Institutes	Teaching
QoL Framework		Self-Growth
		Quality Learning Environments
		CH3: Your Past Doesn't Define Your Future QoL Framework / Meaning of Life

Life's Plan	L2L Curriculum 1	CH 10: Finding and Working with Sources, LVP
	PLS Curriculum 2	CH 7: Visioning Your Future, CH 15: Shifting from Extrinsic to Intrinsic Motivation Life vision assignments
Self-Growth Community	Institutes	Teaching
Life's Plan		Self-Growth
		Implementation plan for self-change and growth
		CH 15: Shifting from Extrinsic to Intrinsic Motivation Life vision assignments Multiple times to develop components of life plan over the 5 days – 12 sessions

Life Goals	L2L Curriculum 1	CH 2: Strengthening Identity, LVP
	PLS Curriculum 2	CH 5: Time, Planning & Productivity Life vision assignments
Self-Growth Community	Institutes	Teaching
Life Goals		Self-Growth
		Institute Goals – Learning and Growth
		CH 5: Time, Planning & Productivity Life Goals

Broad Criteria	L2L Curriculum 1	CH 14: Self-Growth
	PLS Curriculum 2	CH 4: Self-Assessment: The Engine of Self-Growth
Self-Growth Community	Institutes	Teaching
Broad Criteria		Self-Growth
		Assessment vs Evaluation
		CH 4: Self-Assessment: The Engine of Self-Growth Collective Broad Criteria Individualized Broad Criteria

Growth Plan	L2L Curriculum 1	CH 14: Self-Growth
	PLS Curriculum 2	CH 1: Performing Like a Star CH 12: Using Failure as a Stepping Stone for Success CH 13: Choosing and Using Mentors Effectively
Self-Growth Community	Institutes	Teaching
Growth Plan		Self-Growth
		Growth Goals for the Institute Institute Assessment Implementation Plan
		CH 1: Performing Like a Star CH 12: Using Failure as a Stepping Stone for Success Growth Plan

Growth Skills	L2L Curriculum 1	CH 13: Assessing for Self-Improvement
	PLS Curriculum 2	CH 1: Performing Like a Star CH 14: My Turn to Shine
Self-Growth Community	Institutes	Teaching
Growth Skills		Integrated within all the activities
		Self-Growth
		CH 1: Performing Like a Star CH 14: My turn to Shine Growth Skills

Classification of Learning Skills	L2L Curriculum 1	CH 4: Learning to Learn
	PLS Curriculum 2	CH 2: Becoming a Master Learner
Self-Growth Community	Institutes	Teaching
Classification of Learning Skills		Learning Process Methodology, Reading for Learning
		Self-Growth
		CH 2: Becoming a Master Learner CLS Every Activity

Growth Mindset	L2L Curriculum 1	CH 14: Self-Growth
	PLS Curriculum 2	CH 1: Performing Like a Star
Self-Growth Community	Institutes	Teaching
Growth Mindset		Transformation of Education
		Self-Growth
		CH 1: Performing Like a Star Growth Mindset, Self-Growth Mindset

Methodology for Developing Performance	L2L Curriculum 1	CH 1: Improving Performance CH 6: Context of Performance
	PLS Curriculum 2	CH 1: Performing Like a Star CH 9: Performing when Being Evaluated
Self-Growth Community	Institutes	Teaching
Methodology for Developing Performance		Performance Model
		Self-Growth
		CH 13: Choosing and Using Mentors Effectively Performance Development Performance Mentoring

Methodologies	L2L Curriculum 1	CH 3: Reading Methodology CH 11: Writing in College
	PLS Curriculum 2	CH 6: Methodologies: Unlocking Process Knowledge CH 10: Reading for Learning
Self-Growth Community	Institutes	Teaching
Methodologies		Activities on 7 various methodologies: Learning Process, Reading, Quality Learning Environment, Course Design, Activity Design, Assessment, Mentoring
		Self-Growth
		CH 6: Methodologies: Unlocking Process Knowledge CH 10: Reading for Learning Methodologies

Assessing	L2L Curriculum 1	CH 13: Assessing for Self-Improvement
	PLS Curriculum 2	CH 4: Self-Assessment: The Engine of Self-Growth
Self-Growth Community	Institutes	Teaching
Consistent usage		Assessment Methodology Assessment vs. Evaluation Assessment (Peer, Self, Midterm)
		Self-Growth
		CH 4: Self-Assessment: The Engine of Self-Growth Assessment of Assessments

Professional Characteristics	L2L Curriculum 1	CH 7: Addressing Personal Obstacles CH 12: Communications and Teamwork
	PLS Curriculum 2	CH 8: Performing in Teams All Chapters
Self-Growth Community	Institutes	Teaching
Professional Characteristics plan of development		Development of the Characteristics of a Quality Faculty Member
		Self-Growth
		Professional Characteristics plan of development

QoL Decision-making	L2L Curriculum 1	CH 5: Problem Solving CH 9: Time Management
	PLS Curriculum 2	CH 6: Methodologies: Unlocking Process Knowledge
Self-Growth Community	Institutes	Teaching
QoL Decision-making		Using reflection and self-assessment of past to plan future direction
		Self-Growth
		CH 6: Methodologies: Unlocking Process Knowledge QoL Decision-making

Table 3 Building a Foundation of a Growth Approach to Life

Category / Component	Purpose	Method	Discernment Questions (to ask oneself)
Self-Concept			
Self-Awareness	Current state of identity, values, and relationships	Reflect on life experiences to identify which qualities of life that are really valued that make it special	When my inner compass tells me that a decision or action was not true to my values (i.e., a gut check or my stomach churns)
Envisioning Ideal Self	What does the individual want their identity (values, needs, and desired life quality) to look like?	The individual should visualize what they would like to do that they are currently not doing	If I was stronger and more capable (mentally and/or physically) what would I like to accomplish that is currently not a life goal?
Clarifying Life Quality	From the ideal self, create a chart weighing the value of each part to total 100%	Search through memories and determine what was significant to determine what made it memorable	If it was good why? How does this relate to my QoL? If it was not so good, why? How does this relate to my QoL?
Planning One's Life			
Life Goals/ milestones	The individual describes their quality characteristics	Decide what is important to accomplish in life	How would I determine if I am making progress toward my goal? What are goals I have been afraid to list?
Planning One's Life (continued)			
Life's Plan	Strategies to self-direct one's journey towards one's ideal self	Identify learning, changes in characteristics and behaviors that can help one address life's challenges, risk factors and opportunities leading to a better version of oneself.	Where am I stuck? To what characteristics do I aspire? What impedes me from becoming my ideal self?
Broad Criteria	Performance criteria for living life	Determine the most important qualities of one's own life	Which criteria are most different from each other? What are my top 5-8 qualities of life?
Growth			
Growth mindset	The individual believes in themselves and that they can grow and succeed	Confirm that you have grown in the last five years in five key areas	How did I grow in these five areas?
Growth Skills (assessment mindset)	40 learning skills that produce real-time development of quality	Identify three growth skills used effectively and explain how they affect QoL	Which three growth skills are new and that that can improve my QoL?
Growth (continued)			

Category / Component	Purpose	Method	Discernment Questions (to ask oneself)
Classification of Learning Skills	Resource of 509 learning skills	Choose from learning skills from the cognitive, social, affective, and assessment/evaluation of quality domains that match the individual's goals	Which learning skills hold me back and which have I avoided using?
Growth Plan	Plan that aligns strategies, resources, and conditions to increase QoL	Identify areas of life quality that the individual would like to increase	What value would a performance mentor or self-growth coach contribute to my desired growth?
Improving Performance			
Performance development methodology	Step by step cycle for improving performance	Decide which performance areas are most important for you to significantly increase	When is practice and rehearsal most enjoyable? How do I currently use assessment and evaluation feedback?
Methodologies	Models of key life processes	Select relevant methodologies to guide self-growth	Have I explored the Learning Process Model? How effectively have I used it?
Professional Characteristics	50 characteristics that contribute to professional behavior	Determine which professional attributes are most critical	What are my top characteristics that make me a strong professional? What are the top characteristics that get in the way of my professional growth?
Assessing	Sequence of invited observations of performance for the purpose of obtaining constructive feedback	The individual decides how and when to assess their performance	How judgmental am I and how does that influence my improvement? How could I benefit from using SII on a regular basis?
Quality Decision-making	Micro level decisions in every moment and macro level changes over time	Develop consciousness about how to spend time and the impact of what one chooses to do	How do my choices and actions affect my QoL?

References

- Academy of Process Educators. (2019). *Welcome to the Classification of Learning Skills*. The Classification of Learning Skills. <http://www.processeducation.org/clis/web/>
- Academy of Process Educators. (2021). *Self-Growth Community*. <http://www.processeducation.org/moo/moodle/course/view.php?id=5>
- Apple, D. K., & Ellis, W. (2015). Learning how to learn: Improving the performance of learning. *International Journal of Process Education*, 7(1), 21–28. <http://ijpe.online/2015/learning.pdf>
- Apple, D., Ellis, W., & Hintze, D. (2015). Learning to learn camps: Their history and development. *International Journal of Process Education*, 7(1), 63–74. <https://www.ijpe.online/2015/camps.pdf>
- Apple, D., Ellis, W., & Hintze, D. (2016). 25 years of Process Education. *International Journal of Process Education*, 8(1), 3–147. <http://www.ijpe.online/2016/color033116sm.pdf>
- Apple, D. K., Ellis, W., & Leasure, D. (2018). *A professional's guide to self-growth*. Hampton, NH: Pacific Crest.
- Apple, D. K., & Leasure, D. (2018). *How raising the bar helps re-entry students succeed*. Four Part Series March 2018. Evollution. <https://evollution.com/attracting-students/retention/how-raising-the-bar-helps-re-entry-students-succeed-part-1/>
- Apple, D. K., Leasure, D. E., Nelson, T., Ulbrich, I. M., & Woodbridge, C. M. (2020). How the learning to learn experiences model the seven universal and perennial principles of student learning and persistence. *International Journal of Process Education*, 11(1), 31–40. <http://www.ijpe.online/2020/descriptions.pdf>
- Apple, D., Leise, C., Ellis, W., Beyerlein, S., Leasure, D., Batchelor, G., Burke, K., Woodbridge, C., El-Sayed, M., Ulbrich, I., Duncan, W., Utschig, T., & Donald, A. (2021). Self-Growth capability components and their impact on growth. *International Journal of Process Education*, 12(1).
- Apple, D. K., Morgan, J., & Hintze, D. (2013). *Learning to learn: Becoming a self-grower*. Hampton, NH: Pacific Crest.
- Baehr, M., & Beyerlein, S. (2007). Overview of assessment. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Barrick, M., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, 44(1), 1–26. doi: 10.1111/j.1744-6570.1991.tb00688.x
- Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development*, 78(1), 246–263. doi:10.1111/j.1467-8624.2007.00995.x
- Bobrowski, P. (2007). Bloom's taxonomy: Expanding its meaning. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest
- Boyatzis, R. E., & Akrivou, K. (2006). The ideal self as the driver of intentional change. *Journal of Management Development*, 25(7), 624–642. <https://doi.org/10.1108/02621710610678454>
- Burgoyne, A. P., Hambrick, D. Z., & Macnamara, B. N. (2020). How firm are the foundations of mind-set theory? The claims appear stronger than the evidence. *Psychological Science*, 31(3), 258–267. doi: 10.1177/0956797619897588
- Covey, S. (1989). *The seven habits of highly effective people*. Simon and Schuster.
- Desjarlais, M., & Smith, P. (2011). A comparative analysis of reflection and self-assessment. *International Journal of Process Education*, 3(1), 3–18. <http://www.ijpe.online/2011/reflectionh.pdf>
- Dewey, J. (1938). *Logic: The theory of inquiry*. NY: Holt, Rinehart & Winston.
- Dweck, C. (2017). From needs to goals and representations: Foundations for a unified theory of motivation. *Psychological Review*, 124(6), 689–719. doi: 10.1037/rev0000082
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, 95(2), 256–273. <http://dx.doi.org/10.1037/0033-295X.95.2.256>

- Erikson, E. (1968). *Identity: Youth and crisis*. New York: W.W. Norton.
- Eurich, T. (2018). What self-awareness really is (and how to cultivate it). *Harvard Business Review*. <https://hbr.org/2018/01/what-self-awareness-really-is-and-how-to-cultivate-it>
- Friedman, M. I. (1997). *Improving the quality of life: a holistic scientific strategy*. Westport, CT: Praeger Publishers.
- Hong, Y. Y., Chiu, C., Dweck, C. S., Lin, D., & Wan, W. (1999). Implicit theories, attributions, and coping: A meaning system approach. *Journal of Personality and Social Psychology*, 77(3), 588–599. doi:10.1037/0022-3514.77.3.588
- Horton, J. (2015). Identifying at-risk factors that affect college student success. *International Journal of Process Education*, 7(1), 83-102. <https://www.ijpe.online/2015/risk.pdf>
- Hurd, B. (2007). Self-growth plans for faculty members. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Jain, C. R., Apple, D. K., Ellis, W., Leise, C., & Leasure, D. (2020). Bringing self-growth theory to practice using the self-growth methodology. *International Journal of Process Education*, 11(1), 73-100. <http://www.ijpe.online/2020/sgmethodology.pdf>
- Kegan, R., & Lahey, L. L. (2001). *How the way we talk can change the way we work: Seven languages for transformation*. John Wiley & Sons.
- Kegan, R., & Lahey, L. L. (2009). *Immunity to change: How to overcome it and unlock potential in yourself and your organization*. Harvard Business Press.
- Komaraju, M., Karau, S. J., Schmeck, R. R., & Avdic, A. (2011). The big five personality traits, learning styles, and academic achievement. *Personality and Individual Differences*, 51(4), (477). <https://doi.org/10.1016/j.paid.2011.04.019>
- Leasure, D., Apple, D., Beyerlein, S., Ellis, W., & Utschig, T. (2020). A system for learning by performance (LxP). *International Journal of Process Education*, 11(1), 101-128. <http://www.ijpe.online/2020/lxp.pdf>
- Leise, C. (2007). Differentiating knowledge from growth. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Leise, C., & Beyerlein, S. (2007). Learning processes through the use of methodologies. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th Ed.). Lisle, IL: Pacific Crest.
- Leise, C. (2020, June). Psychology of growth and self-growth. [Paper presentation]. Process Education Conference 2020, online.
- Leise, C., Litynski, D., Woodbridge, C., Ulbrich, I., Jain, C., Leasure, D., Horton, J., Hintze, D., El- Sayed, M., Ellis, W., Beyerlein, S., & Apple, D. (2019). Classifying learning skills for educational enrichment. *International Journal of Process Education*, 10(1), 57-104. http://www.ijpe.online/2019/cls_full1.pdf
- Loevinger, J., & Wessler, R. (1970). *Measuring ego development. Volume I. Construction and use of a sentence completion test*. San Francisco: Jossey-Bass.
- Matsumoto, D. (Ed.). (2009) *Cambridge Dictionary of Psychology*. Cambridge University Press.
- Nelson, T., Apple, D., Ellis, W., Leasure, D., & King-Berry, A. (2020). Performance descriptions: A major tool for performance development. *International Journal of Process Education*, 10(1), 129-151. <http://www.ijpe.online/2020/descriptions.pdf>
- Oettingen, G. (2015). *Rethinking positive thinking: Inside the new science of motivation*. London: Current.
- Pacific Crest (2020). Self-Growth Institute.
- Pacific Crest (2016). Teaching Institute. Retrived from <http://www.pcrest.com/PC/institutes/teaching.pdf>

- Redfield, K., & Hurley Lawrence, B. (2009). *Foundations of learning* (4th ed.). Lisle, IL: Pacific Crest.
- Rogers, C. R. (1951). *Client-centered therapy: Its current practice, implications, and theory*. Oxford, UK: Houghton Mifflin.
- Seligman, M. (2011) *Flourish: A visionary new understanding of happiness and well-being*. Free Press.
- Shogren, K. A., Wehmeyer, M. L., & Martinis, J. (2018). *Supported decision-making: Theory, research, and practice to enhance self-determination and quality of life*. Cambridge, England: Cambridge Press
- Smith, P., & Apple, D. (2007). Methodology for developing methodologies. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th Ed.). Lisle, IL: Pacific Crest.
- Sutherland, H. J., & Till, J. (1993). Quality of life assessments and levels of decision making: Differentiating objectives. *Quality of life research*, 2(4), 297-303. www.jstor.org/stable/4034727
- Taylor, J. (2017) *Making your sports goal setting smarter*. Psychology Today. <https://www.psychologytoday.com/us/blog/the-power-prime/201710/make-your-sports-goal-setting-smarter>
- Utschig, T., Leasure, D., & Apple, D. (2019, October 9-12). Learning by performing (LxP) – A practical framework for authentic learning [Presentation]. International Society for the Scholarship of Teaching and Learning 2019 Conference - SoTL Without Borders: Engaged Practices for Social Change, Atlanta, GA.
- Utschig, T., & Apple, D. (2009). Keys to improving academic assessment. *International Journal of Process Education*, 1(1), 43-52. http://www.ijpe.online/2009/keys_assessmenth.pdf
- Utschig, T. (2020). How to Make Learning Objectives Useful: Write Performance Criteria! 2020 Process Education Professional Development Workshop. http://www.processeducation.org/2020_w5a.html
- Van Slyke, A., & Utschig, T. (2020, June). Development tips for performance mentoring [Workshop]. Process Education Conference 2020, online.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Wasserman, J., & Beyerlein, S. (2007). SII method for assessment reporting. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest
- Watts, M. (2018). The learning process methodology: A universal model of the learning process and activity design. *International Journal of Process Education*, 9(1), 41-51. <http://www.ijpe.online/2018/lpm.pdf>
- Wenner, W., Soman, S., Stevenson, R., & Apple, D. (2019). Building institutional support for a recovery course for academically dismissed students. *International Journal of Process Education*, 10(1), 3-14. <http://www.ijpe.online/2019/recovery.pdf>
- Yeager, D. S., & Dweck C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist*, 47(4), 302-314. doi: 10.1080/00461520.2012.722805.

Appendix A Growth Skills for Performance Development and Improving Quality of Life, Ordered According to the Stages of the Methodology for Developing Performance

Growth skill	Description	Impact on Improvement of Quality of Life
Stage 0: Exploring a Performance Opportunity		
Being true to self	Walking the walk of one's values; following one's inner compass	Consistently following one's values, beliefs, and passion for all aspects of life as one imagines it can dramatically enrich the path(s) one develops.
Updating life vision:	Mapping new paths to realize one's identities in achieving goals and dreams	Improving life quality requires greater clarity about the person one is and wants to be; practical plans are needed to increase the probability that the life goals, strategies, and milestones relevant for enriching personal meaning of one's life become reality.
Stage 1: Sizing up Performance Expectations		
Strengthening role identities:	Prioritizing the most important parts one plays	Growth in identity development will be greater as one makes better decisions about how to increase the coherence and value of key roles that are related to life quality.
Defining performance characteristics:	Recognizing key features of actions or nuances in the process(es)	As the individual improves in the identification of factors that have impact on life quality, they can focus more clearly on the qualities that are important for your life.
Motivating self:	Setting up conditions that lead to desired actions	The recognition that motivation often arises outside oneself stimulates the need to set plans, take first steps, collaborate, and perform other actions to make quality outcomes more likely.
Committing to self:	Believing the value of one's life is as important as anyone's and is best determined by the individual	Sustaining one's pursuit of growth goals requires that one value personal agency as the key factor.
Analyzing performance:	Objectively assessing current capacity in a performance area	Learning, performance, and growth will be enhanced by thorough inquiry of how well these presently meet expectations.
Valuing performance:	Acknowledging excellence in performances	Constantly seeking higher levels of performance is valuable because it expands one's work ethic and increases quality of life.
Introspecting	Using systematic analytical and assessment tools to produce greater meaning about self	Asking oneself hard questions to explore personal meaning unlocks barriers and constraints on who one wants to become.
Being self-aware:	Appreciating opportunities for engaging in reflection	Capturing accurate information about why one acts in the way that they do in any activity, social role, or challenging situation is essential to building of self-efficacy.
Applying criteria:	Aligning observations (evidence), analyses and feedback to focus areas	Consistently using broad criteria keeps one's perspective on enhancing overall quality of life
Maintaining standards	Refraining from subjectively changing evaluation criteria/standards after a performance	Because quality is related to high standards, lowering them will reduce quality. Holding high standards for oneself and others will maintain and improve quality of life for all.

Growth skill	Description	Impact on Improvement of Quality of Life
Stage 2: Planning Performance		
Self-challenging	Getting out of your comfort zone to increase growth opportunities	Greater life quality depends upon taking on difficult tasks that have great promise for adding to the dimensions of one's performances even if seemingly beyond current capability.
Making meaning:	Valuing experiences or insights that push one beyond current concerns	Making new connections among ideas, experiences, or events results in more integrated insights about life and world beyond one's current way of being.
Valuing growth:	Appreciating opportunities for increasing one's capacity	Increasing personal capabilities is directly related to improved quality of life.
Setting growth goals:	Identifying direction and using planning to increase capacity	The better one targets and selects where, when, and how to invest in growth, the more one will improve the quality of life.
Believing in your potential:	Generalizing from achievements to validate a growth trend	Life quality can be enhanced by choosing opportunities that are personally valuable for actualizing success.
Being proactive:	Using opportunities to take steps to enhance future outcomes	Doing things quickly and early improves productivity, self-worth, and progress towards life goals.
Stage 3: Preparing for Performance		
Being passionate:	Flourishing by doing those things that create the greatest meaning in one's life	Giving all of oneself to the pursuit of selected goals that mesh with one's central values will produce great life meaning
Prioritizing	Consistently putting the most important things first	Placing emphasis on roles, areas of performance, and values that are of highest personal importance will improve decisions related to achieving greater QoL.
Feeling empowered:	Having all the factors needed to make a significant endeavor possible	Confidence built from past successes leads to selecting new undertakings with a high chance of positive impact on life quality.
Maintaining balance:	Practicing moderation	It is essential to keep the big picture in mind and to apply self-control strategies to not lose sight of the moments of one's life that are most valuable among the abundance of situations, experiences and relationships.
Focusing on self-improvement:	Taking on the mindset of continuously improving one's own performance	Creation of better versions of oneself requires attention to growth opportunities as these occur each day, month, and year.
Seeing prompts:	Knowing when reflection is needed and will produce significant value	Life quality can be increased by being ready to use growable moments as opportunities that will increase the quality one is seeking.
Stage 4: Executing the Performance		
Trusting self:	Knowing that one's values and capabilities are the most relevant to one's situation	Developing a stronger sense of ownership of one's life, its direction and conviction in self are the keys to choosing one's unique individualized QoL
Committing to success:	Devoting oneself to accomplishing one's goals or triumphing in a challenge	One can add to the quality of life by doing what it takes, within ethical boundaries, to achieve important results.

Growth skill	Description	Impact on Improvement of Quality of Life
Stage 5: Judging Performance		
Exposing vulnerability:	Being willing to speak publicly about sensitive disclosures	Growth can be stimulated by revealing difficult life experiences in areas one wishes to change.
Toughening self-esteem:	Strengthening self-worth by overcoming difficulties and struggles	The stronger one becomes from dealing with the negatives of life and making them more positive, the more value one gets from each moment; increased valuing of who one is, what one wants, and where one is headed
Changing reactions:	Purposefully trying out new or alternative reactions to specific feelings	Emotions can be interpreted in multiple ways; a positive choice will produce greater good and lead to greater quality.
Accepting consequences:	Agreeing to bear or own the full outcome of an action or decision	Having a mindset of “the buck stops here” encourages trust and respect from others and a willingness for others to follow the individual’s lead in ventures that involve risk.
Stage 6: Coaching and Assessing Performance		
Seeking feedback:	Asking for assessment/ evaluation to adjust and strengthen self-assessment	Increasing the frequency, diversity and effectiveness of feedback increases growth and its impact on areas of life quality.
Accepting feedback:	Being receptive to the perspectives and analysis of others on one’s performance	Quality is enhanced by integrating multiple sources of information about how to improve quality.
Having assessment mindset:	Focusing on improvement without judging quality	Focusing on discovery of what to do better avoids attention to negative perceptions and attitudes that impede forward movement.
Identifying SII Opportunities:	Picking the most valuable areas for analyzing and including in feedback	Learning to recognize what is most important and relevant to assess in any situation is the most efficient path to increased quality in all aspects of life.
Stage 7: Interpreting Performance Feedback)		
Interpreting feedback:	Figuring out why and what the assessor/evaluator is trying to say	One can maximize the value realized from feedback by better understanding the nature of the feedback, the motivations behind it, and how people are trying to help improve quality.
Listening to self:	Tracking the focus of one’s inner voice	A prime directive is to attending to one’s feelings, motives, and thoughts about life and how one is living it.
Persisting	Continuing on a reasonable path despite low mood or mounting difficulties	Learning that barriers like moods and low energy can be tackled and changed which makes it possible to continue to pursue important goals and produce their quality outcomes.
Changing behaviors:	Deliberately responding in a new way to old feelings and situations	When a barrier arises, new doors can be opened by choosing a new behavior or strategy that contrasts with how one has customarily reacted.
Practicing reflection:	Increasing apprehension of new truths about identities, values, feelings and actions	The better one can step back and create meaning from self, situations, ideas, and their interactions, the more one can control actions that enhance quality of life.
Using summative assessment:	Analyzing the quality of a process or project for future benefit	Termination points are a fertile time for assessment of the full impact of endeavors or experiences for future performance development and growth.

Self-Growth Capability Components and Their Impact on Growth

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Abstract

Self-growth requires special capabilities and consciousness in order to independently construct a life journey toward an ideal self. Self-growers have the capability to increase their own growth capability and promote growth capability in others. This article describes 13 contributing components of self-growth capability that increase growth capability and raise self-growth consciousness. Activating these components elevates growth experiences into self-growth experiences, supports the journey toward ideal self, and helps individuals stay in their ideal zone of development. Collectively, these components provide a foundation for the scholarship and practice of building as well as using self-growth capability.

Introduction

Self-Growth is a conscious undertaking to become a better version of oneself through planned actions (Jain et al., 2015). An individual will struggle to gain ownership of their growth and development if their personal growth is dependent upon external resources or if they lack self-determination. Gaining control of opportunities afforded by one's life context is the basis of capability development (Nussbaum, 2011). This is also the philosophical foundation of self-growth development. Individuals motivated to become self-growers must answer the following questions:

- What are my most notable opportunities for growth now and in the future?
- Which of my potential areas of growth are most compelling?
- What short-term and long-term decisions must be made to translate my opportunities into real improvements during my life journey?
- What actions will result in strengthening my growth capability over time?
- How will my growth plans align with meeting my practical and psychological needs?

- What should be done to overcome my unexpected barriers and my failures to perform with a higher level of quality?
- How will I monitor progress and integrate new insights in the process of self-growth?

Self-Growth, for most people, is an undeveloped capability with unlimited potential since most individuals do not ask these kinds of questions. *Self-Growth capability*, as defined herein, is a powerful construct that is currently guiding the evolution of Process Education (PE) (Ellis, 2020). Self-Growth capability can be developed by engaging in a complex but predictable pattern that requires knowledge creation, generalization of learning, and consciousness about how one intends to expand opportunities and choices for one's life journey. This article presents 13 dimensions of self-growth capability that will support the examination of one's developmental process for moving from growth moments (such as in learning contexts) and experiences (strengthening areas of performance, for example) to the independent decision-making that is the hallmark of self-growth capability. Reflection on one's ideal self is an essential ingredient in building self-growth capability because it is a source of counsel for all aspects of the life journey.

¹ Pacific Crest

² Bellevue University

³ West Valley College

⁴ University of Idaho

⁵ University of Maryland
Global Campus

⁶ The American College of
Financial Services

⁷ SUNY Cortland

⁸ Georgia Gwinnet University

⁹ Eastern Michigan University

¹⁰ Educational Consultant

¹¹ Champlain College

¹² Kennesaw State University

¹³ Virginia State University

Literature Review

Self-Growth is a process that combines the ability to self-analyze, self-evaluate, and self-motivate to move from one stage of life to a higher state of being (Jain et al., 2020). The PE self-growth approach highlights new discoveries about growth development that can elevate individuals beyond their current capabilities. Answers to questions about growth development are often triggered by one of the following situations: a powerful learning to learn experience, a major life difficulty that stimulates the need for change and growth, a key life event such as marriage or childbirth, an inspirational speaker, or an impactful teacher/mentor/coach (Buxant et al., 2010).

Self-Growth within the PE Framework

Self-Growth is an essential construct in PE philosophy that was first introduced in 1995 (Apple et al., 2016). A profile of a self-grower was described in *Foundations of Problem Solving* (Myrvagnes et al., 1999) which included learning experiences designed to reinforce the development of the growth capabilities of learners. The *Life Vision Portfolio* (Mettauer, 2002) was centered on the idea of a self-growth journey created through self-discoveries and reflection. The concept that growth is possible in any area of life was represented by the Classification of Learning Skills (CLS) (Apple et al., 2007). The explicit precept is that any person can use the CLS to facilitate their own growth through the strengthening of learning skills relevant to growth goals and opportunities.

The philosophy of capabilities (Nussbaum, 2011) provides insight into how quality of life (QoL) can be increased by recognizing how opportunities in life can become growth moments. This construct was expanded by Jain et al. (2015) to demonstrate that an individual's life journey and its success is based upon the ability to apply self-growth to any aspect of life. The individual must direct this self-growth journey themselves; no one else can. The self-growth process must be self-assessed and reflected on at pivotal intervals to produce an independent and self-determined journey (Desjarlais & Smith, 2011). A summary of research-based practice related to growth and the development of growth capability is contained in a special edition of the *IJPE* (Apple et al., 2016).

Role of Mindset

A self-growth mindset extends the belief in oneself into areas of life performance previously characterized by limits, failures, and negative outcomes. The former pessimistic attitude is replaced with self-motivated actions, growth development experiences, and successful achievements. The positive and progressive nature of the self-growth

mindset contributes to a stronger sense of identity as well as to the development of better life habits, personal attributes, and professional characteristics. Self-growers thoughtfully select growth opportunities with potential for self-transformation. Transition from a growth mindset to self-growth mindset opens the field of choice by drawing attention to new capabilities needed for tackling complex and dynamic challenges to one's current life pattern (Leise, 2020). Each component of self-growth capability provides a different perspective about personal development that will increase QoL.

Role of Consciousness

Consciousness is mental awareness of one's mind and of the world through sensations, feelings, perceptions, thoughts, and memories about experiences that provide feedback for meeting needs, understanding others' minds, and planning future actions (Bertolero & Bassett, 2019). It is the waking life awareness that results in personal creation of knowledge, especially self-knowledge, and the ability to mentally connect actions with beliefs and value systems that produce a sense of self-validation about how one is relating to reality.

Self-Growth consciousness can be equated to a movie director's level of consciousness of all facets of the movie while they are creating it. Directing and acting one's life requires a level of consciousness that includes being ready to use each life moment to increase life's meaning, to grow, and to increase life quality along the journey of becoming one's ideal self.

Self-Growth Capability

Self-Growth capability shifts one's consciousness of the moment from a learning experience into a growable experience and then to generating conditions for self-growth. Consciousness of the self and one's environment, as well as the relationship between these two, support the growth and self-growth that can only happen in that interface. This means that each developmental level in the PE framework (i.e., knowing, learning, and growing) must be mastered before self-growth capability can be fully attained.

Self-Growth capability is built upon the self-growth process encapsulated in six stages, with subsidiary steps, of the Self-Growth Methodology (SGM) (Jain et al., 2020). This innovative methodology synthesizes three decades of scholarship and practice (Apple et al., 2016; Beyerlein et al., 2007; Bloom et al., 1956; Leise et al., 2019; Apple et al., 2018). Self-Growth is also built upon increasing growth capabilities that make facilitation of growth in others possible through mentoring (Leise, 2007). Facilitating the development of growth capability in oneself requires

consciousness of growth through expanded awareness of how growth choices fit into a larger sense of purpose and identity (Leise, 2020). The self-growth journey materializes by focusing time and energy within a zone of development (Vygotsky, 1978) that is productive and valuable for QoL. Staying in this developmentally productive zone increases growth and self-growth capabilities represented by how one envisions an ideal self. Important indicators that one is in their maximal zone include recognition of life moments as growth opportunities, transformation of growth moments into self-growth experiences, use of past experiences to stay centered, and planning for one's future self-growth journey. As one evolves from their current self to their next real self, they will detach from old habits, practices, and beliefs to take in new self-knowledge, expand capabilities, and advance their vision of ideal self.

Model of the Journey from Real Self to Ideal Self

Figures 1 and 2 represent how the real and ideal versions of self are expressed in personal development. Figure 1 illustrates how the self is a synthesis of four aspects of the individual: their knowledge, performance capability, life experiences, and self-concept. As consciousness of all aspects of one's real self increases, there is greater probability that one can envision a stronger version of their ideal self.

The ideal self is the long-term target of self-growth which defines one's Ideal Zone of Development. Across life's journey one's real self can be aligned more and more with one's ideal self through growth as well as self-growth. The strengths of the current real self are used to realize the next opportunities, leading to the next real self. This movement results from planning, implementing, and assessing

Figure 1 Composition of Self

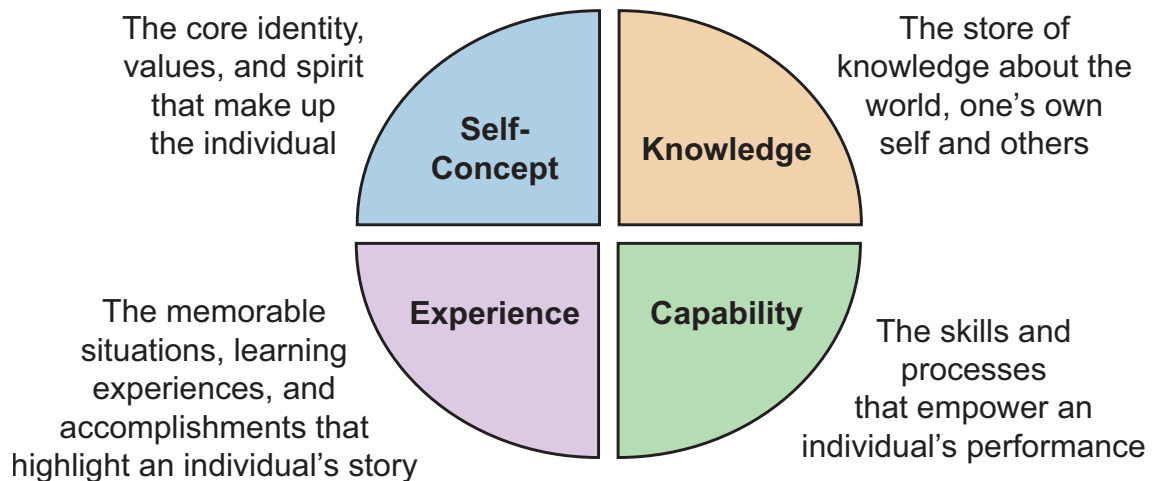
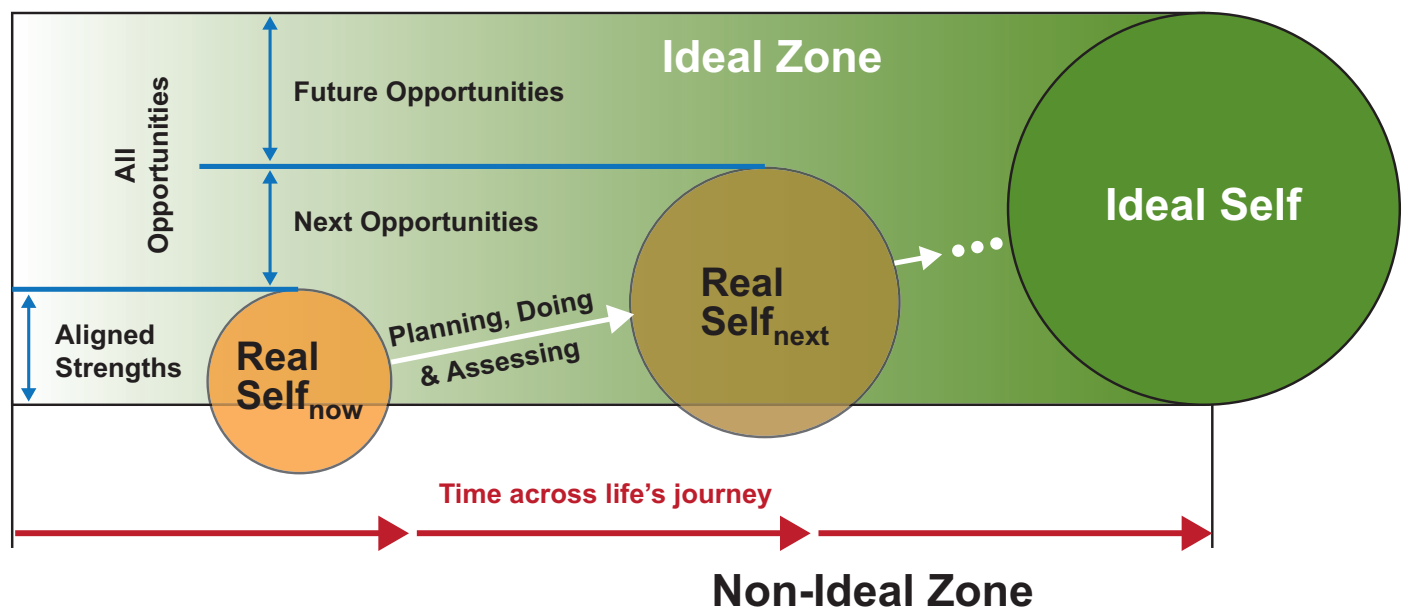


Figure 2 Incremental Growth and Self-Growth Across a Life Journey



improvements. In this process new strengths emerge that can be deployed in future opportunities. Part of growth is also moving away from undesirable qualities of the Non-Ideal Zone.

The sentience function of consciousness (Pinker, 1997) helps to increase the sense that one is in the Ideal Zone of Development, which makes each moment more meaningful for QoL, growth, and self-growth. Conscious awareness makes it possible to sense when one is not in this zone and must take corrective action to realign the journey towards their ideal self (Figure 2). From a psychoanalytic perspective, Fingarette emphasizes the importance of personal autonomy in gaining insights about the self-growth process (1963).

Experiences with self-growth are often initiated by self-growth coaches who consciously facilitate the transfer of mentoring experiences to performers/learners so they can self-mentor. From a psychological viewpoint, the transfer of new learning of any kind is most likely when a mentor or coach has strong lived performance skills and insights that a learner/observer can see in action (Dorsey & Seegers, 1959). This is how experiences are shared so others can imitate through learning processes, transfer through growth activities, and self-mentor using skills listed in the Appendix. Reflection can powerfully increase awareness of progression within the roles of knower, learner, grower, and self-grower. As one moves through these roles, consciousness is elevated. This has implications for future performance and QoL, progression toward greater self-growth capability, and increased ability to stay in the ideal zone of self-development. Assessment is another significant process that can promote consciousness of how handling of each of these roles is occurring in one's life experiences.

Relationship Between Growth and Self-Growth Capabilities

Figure 3 presents the relationships between the 13 presently identified components of self-growth capability and the 15 components of growth capability that are essential in actualizing self-growth. Within Figure 3, each component of self-growth capability has been identified and defined for its meaningful contribution to increasing growth capability. There are many synergistic connections across the self-growth components and between the growth and self-growth components. Each component of self-growth capability has potential to increase the individual's self-growth consciousness and to empower a grower to transform growth experiences into self-growth experiences, to set in motion planning of the self-growth journey toward an ideal self, and themselves manage the vitally important process of staying in an Ideal Zone of Development.

These self-growth capabilities are grouped into 4 categories to clarify which components are most closely related. Category 1 (Self-Growth Methodology, Shared Journey, and Reflection) represents use of one's past to better define one's future ideal self and strengthen one's life journey so that one becomes a better version of themselves. Category 2 (Life Plan, Self-Growth Plan, and Designing Assessments) targets how energy and effort can best be expended to increase growth capability. Category 3 (Active Growth Plan, Classification of Learning Skills (CLS), and Mentoring Skills) supports growth in the moment by increasing growth capability when the individual is engaged in purposeful daily decisions and activities. Category 4 (Self-Growth Mindset, Quality Mindset, Self-Mentoring, and Self-Growth Coaching) encompasses the mindsets and processes self-growers use to increase the quality of their growth capability as they make decisions important to QoL.

Key Features of the 13 Components of Self-Growth Capability

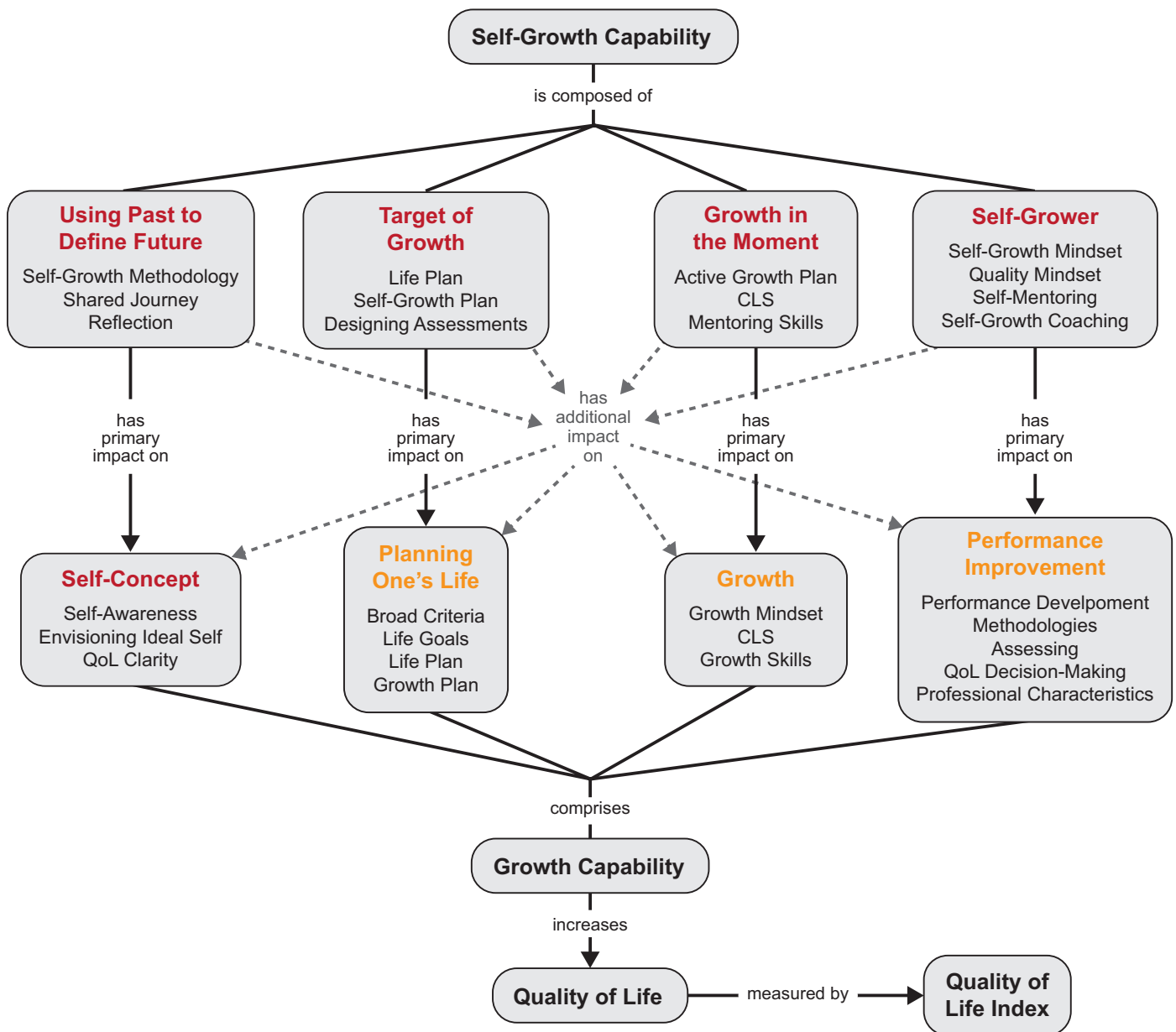
Each of the following subsections presents an extended description and discussion of one of the 13 components of self-growth capability. The intent is to define each component, make clear how it is related to other components, and provide guidance for incorporating it into practice as one embraces transformations in one's life that represent progress toward one's ideal self.

Self-Growth Methodology (SGM)

A hallmark of human development (Maslow, 1970), self-growth involves a methodical plan and transformation of challenges into opportunities through incorporation of specific steps and processes, identified as the Self-Growth Methodology (Jain et al., 2020). It is impossible to hold even a small portion of one's life experiences and knowledge in present-moment consciousness, so the question arises as to how actualizing self-growth capability is possible. Consciousness never becomes a complete solution to self-knowledge or access to knowledge, but it does provide a uniquely personal sense of self that includes a strong awareness of personality and identity. The SGM resolves some of these limitations and inconsistencies of consciousness by providing a systematic set of stages and steps to help one articulate all the experiences important for achieving self-growth capability. As consciousness grows, so will insights from each step that resonate across other steps in the methodology.

The stages and steps of the SGM facilitate a systematic use of the growth capability components. A methodical, sustained practice of the SGM also strengthens

Figure 3 Relationship Between Self-Growth Capability and Growth Capability



ownership of one's growth capability. Stage 1 begins with motivation to increase self-awareness; against broad criteria, by identifying values, needs and passions, and clarifying QoL characteristics that bring wonder, joy, meaning, and happiness. Stage 2 involves envisioning one's ideal self and strengthening one's life goals and life plan. Stage 3 focuses on performance development, methodologies, and growth mindset. Stage 4 focuses on the professional characteristics and growth plan. Stage 5 focuses on growth skills, assessing, and CLS. Stage 6 focuses QoL decision-making by reflecting on personal values, goals, socio-cultural context of one's environment, and one's progress towards their ideal self.

A systematic and continuous assessment of the impact Stage 5 has on growth efforts increases self-growth consciousness. This helps determine the specific modifications to enhance growth and quality of the next performance, promote increased self-awareness, and what one needs to do to turn opportunities into a self-growth experience. Applying the SGM in annual analysis of values, goals, and expectations helps raise conscious awareness of transformational life goals, broad performance areas with respective criteria, risk/success influences, professional characteristics, and supportive self-growth activities. Regular review of self-growth progress helps one to determine if they are in their ideal zone of development and whether

current activities and QoL decisions align with their ideal self.

Shared Life Journey

In a shared journey, partners help each other to strengthen growth capability, making it a team effort. Consciousness of interpersonal collaboration along life's path requires continual assessment of the similarities and differences that characterize this special relationship. A sharing mindset requires recognition that one's emotional reactions to responses of the other are subjective. Reaction to traits such as personality, must be recognized but not become the focus in themselves (you cannot change others), except perhaps in terms of how to sidestep impulses to decide how to act in productive ways instead of simply reactive ways (Reynolds, 1983). It takes mutual mindfulness to work on positive learning skills and plans that will increase relationship quality within shared experiences and to integrate separate experiences within independent life paths. When quality of life is highly dependent upon the quality of the relationship between two people, the self-growth journey must be shared.

Within developing self-growth capability, a shared life journey impacts how reflection is used and what the nature of the self-growth plans become. This will determine the level of support of each other's growth plan, the design of assessment opportunities, and the type of environment that exists for coaching each other. Self-awareness is impacted by how the partner asks questions for clarifying foggy areas of one's past or inner being. The vision of one's ideal self can be compared and contrasted with their partner's vision so they can jointly align their shared life plan. Using the QoL framework, two individuals can merge their broad criteria by seeking greater quality and using reflection to validate the quality being realized. The annual review of life goals, life plans, and progress made toward realizing them helps to develop growth and self-growth plans that are in sync with each other. Partners can collectively design assessments with the intention to cultivate better assessment skills in each other. A shared journey will also result in more effective and productive QoL decision-making.

Because partners share the most time with each other, they will be able to quickly identify growth opportunities and make timely recommendations as well as interventions that increase the likelihood of transforming growable moments into self-growth experiences. One's partner is the best person to support the journey toward one's ideal self because they see the target clearly, they are invested in the shared journey, and they

will be honest in providing feedback along the journey. Investment in a shared life journey makes each person accountable both to themselves and the other to maximize time in their ideal zone of development and identify when life activities are not supportive of self-growth.

Reflection

Reflection is the systematic and deliberate practice of analyzing one's experiences to engage in raising consciousness, learning, and growth. Many models of reflection have been described elsewhere, some of them millennia old. These include the evening meditations undertaken by Stoics such as Seneca (1969), Schön's "reflection-on-action" (1983), Kolbs' experiential cycle of learning (2005), and Gibbs' detailed structured debriefing (1988). The value of reflection increases as inferences relevant to growth are enhanced by asking oneself specific, logical questions about comparisons and contrasts of present with past concerns about self-concept, identity, and life goals (GlobalGurus, 2020). Reflection can be used with a self-growth coach to elevate level of awareness from content knowledge or knowledge why, to process knowledge or knowledge how (Jarvis, 1999). The elevation and creation of a raised level of consciousness is achieved when a self-growth coach empowers their client to increase the client's level of awareness of their own internal processes of learning how to learn, doing in action, thinking in action, reflecting in action, and reflecting on action after an action.

Realization of growth can only occur through intentional reflection on experience. This reflection produces enhanced self-awareness, increased confidence, better QoL decision-making, and improved performance in everything from learning to interpersonal interactions to professional work.

Becoming aware of the most relevant elements from past experiences will make it possible to recognize significant new opportunities for growth and self-growth. Reflection can be facilitated by a mentor, but when undertaken independently, it becomes a self-growth tool. The critical, deliberate, and habitual practice of reflecting yields greater self-awareness, understanding of growth development, growable moments, and helps individuals hone the effectiveness of their perception of experiences, their reactions to them, and understand how to elevate these experiences into self-growth experiences. This can be generalized by asking these questions after an experience:

1. What happened?
2. What were my reactions and feelings?

3. What was good or bad about the experience?
4. What sense can I make of the situation?
5. If I put myself into others' shoes, how would they have seen it?
6. What was really going on?
7. What conclusions can I draw about my feelings, attitudes, values, and performance?
8. How does the situation relate to my ideal self and my life journey?
9. How will I monitor myself more effectively in the future?

A reflective individual, with a deep and explicit understanding of the broad criteria, envisions their ideal self and plans their self-growth journey using the insights about self-concept, knowledge, growth, and life satisfaction arising from this disciplined reflection. Increased consciousness of one's strengths, weaknesses, fears, aspirations, and potentialities helps one stay in their ideal zone of development so that each life activity is authentic and appreciated, producing purpose and equanimity.

Life Plan

A life plan includes a vision for realizing unlimited potential toward being the best version of oneself in one's pursuit of their image of an ideal self. It also includes an honest and comprehensive assessment of personal strengths, weakness, opportunities, and threats that can be harnessed/addressed in one's life journey toward this ideal self (Garcia, 2016). These coalesce in broad criteria that can be referenced for short-term and long-term decision-making. The utility of the life plan is strengthened to the extent that it includes measurable goals and milestones that are actionable within a realistic timeline, but which are also realistic about costs and investments needed. Finally, the life plan is sensitive to the social environments in which the individual resides, supporting desirable life qualities that inspire others to become better versions of themselves. This builds strong consciousness of one's real self within the journey of self-growth.

Reviewing insights gained from careful reflection about many significant episodes in one's life and from autobiographical writing about these experiences will prepare one for devising broadly constructed plans for multi-year increments of future growth and self-growth. Conscious articulation of a proposed pattern of future actions and associated milestones will enhance accountability to self by creating a motive

to establish an assessment system that supports key growth and self-growth elements of one's life plan.

Since growth experiences are possible in many divergent and mutually exclusive directions, key decisions need to be made about investing one's time and talent on a daily and annual basis. A compelling and concise life plan can help inform and focus these life-decisions. Foresight and consciousness development associated with one's life plan helps slow down the action of the moment so that self-growth opportunities can be seen within growable moments.

The life plan is the bridge between the individual's current experience/knowledge/skills (real self) and the person they want to become (ideal self). When a life plan is a well-established feature in long-term memory, it helps one expeditiously respond to present circumstances, to optimally invest one's time, to appropriately apply one's talents, and to focus on essential areas for improvement. Creating a life plan can be energizing in itself. Continuously reflecting on and refining one's life plan throughout the walk of daily life is what unlocks its true potential. Consciousness of broad criteria and milestones will determine of how effective each day was in the journey towards one's ideal self. Sustaining and adapting a thoughtfully constructed and frequently assessed life plan is a commitment that unlocks the power of many other components of growth and self-growth.

Self-Growth Plan

A self-growth plan entails an annual process for systematically designing and developing self-growth capability. The process includes consciously making critical decisions on how much total time to invest in defining the purpose of self-growth, deciding which components of self-growth to develop, and whether to use outside help. This plan describes how and where self-growth capability will impact growth capability, and thus indirectly improve QoL. The self-growth plan is a tool for developing annual growth in Stage 6 of the Self-Growth Methodology (Jain et al., 2020).

Growth is an essential prerequisite to the development of self-growth capability. However, planning for growth is different from planning for self-growth (Hurd, 2007). Differences in consciousness between growth and self-growth (Leise, 2020) include breadth and depth of attention to micro aspects (e.g., specific performances) versus attention to the macro aspects (e.g., self-determination of decisions) in one's journey toward the ideal self. Planning how to activate, apply, and enhance self-growth capability requires

being a deliberate and effective knower, learner, and grower who realizes how to direct self-growth capability in alignment with one's values and aspirations.

The self-growth plan elevates consciousness and self-growth mindset. Consciousness at the self-growth level lets the self-grower target their own growth capability development, thus strengthening their self-growth mindset to keep self-growth in mind when approaching every performance and life experience. With elevated consciousness, the self-grower increases awareness of how to create self-growth opportunities from growth opportunities. The self-growth plan lists the growth goals from the growth plan and strategies for increasing the effectiveness of the growth plan, selects mentoring skills to develop growth skills that then develop learning skills, selects self-growth components to be developed, pre-thinks growth opportunities that can be transformed into self-growth experiences, outlines the contents and timing of an assessment system to enhance growth acceleration, and identifies the self-growth coach who will assist the self-grower.

By predicting the growable experiences that are most likely to occur, the self-growth plan raises awareness of the self-mentoring and self-monitoring required to elevate those moments to self-growth experiences. Assessment helps identify challenges in these skills that are diminishing consciousness. A self-growth coach can play a vital role here, modeling processes the self-grower can use for their next stage of growth.

The self-growth plan is the operational plan to empower the self-grower to achieve their next expanded, real self (Figure 2). The self-growth plan and its system of assessment strengthen awareness of the aspects of the ideal zone of development so that the self-grower can continuously design the zone, have the consciousness of micro-thinking to get into that zone in every life activity in real time, and plan life activities to happen there. It also creates a framework to monitor how well the self-grower stays in that zone, and with assessment, helps them use the plan to move back into the zone if they leave.

Designing Assessments and Assessment Systems

Assessment drives growth in the moment. These moments involve a range of stakeholders who benefit differently from the enhanced growth attained by consciously engaging in those moments. Potential stakeholders include the performer, performance mentor, life coach, sponsoring agency, and life partners (Utschig et al., 2019). For growth and self-growth capabilities

to develop, the assessment system should be designed to meet the needs of the growth challenge, generate stakeholder commitment, and include periodic assessment of the assessments themselves to increase overall effectiveness. Critically, assessment helps shift growable moments into self-growth experiences with lasting influence on consciousness about ownership and effectiveness of decisions toward increasing QoL.

A mindset focused on quality is indicative of intrinsic desire for continuous quality improvement. Strategic thinking about measurement, including what, why, how, when, where, and by whom, is essential for productive assessment. As a result, self-growth consciousness is predictive (before), dynamic (during), and reflective (after) for each life moment. Focus on quality arises from assessment planning and design, is activated through observation, is increased by analysis of these observations, and is sustained by articulating what elements of performance or life experience produce value or need to change.

Design of assessment methods and systems, in any context, integrates purpose, objectives, criteria, and timing to match the situation and produce benefits such as increased quality of processes and outcomes. Assessment of growth, such as in a performance, is a more familiar assessment context than self-growth, but the principles are similar. Many learning skills from the 2019 CLS foster growth capabilities, especially the 40 skills identified as directly relevant to growth. Assessment of the 37 learning skills designated as mentoring skills (Appendix A) is a more complex challenge requiring an additional layer of consciousness to apply more subjective criteria related to personal values.

An assessment system for self-growth capability should systematically capture stakeholder interests, implementation alternatives, and projections of how to use results. It does this by focusing on needs of the assessee, identification of relevant measurement tools, the mode for reporting outcomes, who will assess, and how the assessor(s) will carry out the assessment (Apple & Baehr, 2007). Distinctive methodologies have been designed for growth (Utschig et al., 2019) and self-growth (Jain et al., 2020), the use of which can be assessed for each purpose and for impact on QoL decisions. In order to enhance growth or self-growth capabilities, an assessment design must meet the needs of the immediate growth challenge but also be flexible enough for repeated application across different contexts for longitudinal evidence, and itself be assessed for quality (Apple et al., 2016). Closely attending to the quality of significant experiences will help to improve

upon how one envisions their ideal self. Creating a self-growth assessment system that specifies how one can stay within an optimal zone of development will help one become more independent and confident about their life journey.

Active Growth Plan

Because an active growth process is necessary before self-growth occurs, growth development in the moment requires planned, growable experiences that can be turned into self-growth experiences. A growth plan represents conscious identification of growth opportunities and strategies for applying growth capability components to improve aspects of one's QoL. One's growth plan must be activated to unlock these growth opportunities as they occur in daily life and its purposeful activation arises through application of self-growth capability guided by a self-growth plan.

Recognizing growth indicators within situations aids in visualization of growth experiences that have potential to increase capabilities. A sense of readiness to take action is as important as the specifications of the planned actions for growth to occur. A preliminary assessment, analysis, and reflection of past performances along with the Methodology for Performance Development provides the steps to strengthen self-determined actions that improve performance (Van Slyke & Utschig, 2020). An active growth plan requires a working mental model that is retrievable and applicable in a just-in-time fashion as opportunities occur in order to dispel the impediments and limiting mindsets that mask real-time growth opportunities.

A growth plan is a road map that helps pinpoint next step(s) on the path to one's ideal self. Without an active growth plan, one cannot deliberately increase growth capability because opportunities can quickly disappear as soon as they materialize due to lack of forethought. For growth to occur, one needs to target specific performance areas, professional characteristics, learning skills, and growth skills one wants to improve so appropriate time and energy can be directed to this challenge. An active growth plan integrates a growth plan's intentions into one's life activities. An active growth plan recognizes that this movement requires planning, assessment, and feedback. It also intentionally details how one is going to create timely development activities and establish themselves in their ideal development zone.

Classification of Learning Skills

The Classification of Learning Skills (CLS) (Leise et al., 2019) is a rich resource of 509 learning skills from

the Cognitive, Social, Affective, and Assessment/Evaluation of Quality domains. The purpose of the CLS is to guide the development of capabilities that can be strengthened without limit. The stronger the mastery of learning skills, the stronger a grower becomes. The more open one's mindset for exploring the universe of learning skills, the greater one's potential to self-determine which learning skills can provide the richest path for creating more value, meaning, compassion, and transcendence in one's life.

True growth occurs by focusing attention on situational opportunities—growth moments—judged valuable for improving learning skills related to the four PE critical processes: knowing, learning, growing, and self-growing. Attention to opportunities afforded by significant moments for enhancing or expanding learning skills also makes it easier to consciously recognize that these moments often reoccur and can therefore become consciously developed growth experiences. Through planning, assessment, reflection, and all the supporting learning skills needed for effectively utilizing growable experiences, these experiences can be consciously transformed into self-growth experiences.

As self-growers strengthen their overall use of the CLS, their growth capability is enhanced because of increased performance and enrichment of experiences in every area of life. For example, developing an assessment mindset requires learning skills such as being positive, being non-judgmental, developing action plans, and accepting feedback (Leise, 2020). Fuller development of strengths across the CLS will support increasingly creative responses to growth and self-growth opportunities, i.e., moving beyond just responding to available conditions. This awareness allows the preplanning of appropriate action plans to address impediments to development of growth capability.

Ongoing investment in the CLS will guide conscious decisions about which risks are worth taking for expansion of growth capability. For self-growers, the CLS provides many patterns of potential response to growth opportunities that emerge in experience—even when they are unexpected. The breadth of application of the CLS arguably makes it the foundation of PE theory and practice, with self-growth capability as the defining aspiration (Apple et al., 2016).

Mentoring Skills

Within the CLS (Leise et al., 2019), there is a subset of skills that are considered integral components to

mentoring. The 37 mentoring skills identified in the Appendix have broad impact on many of the components of growth capability as well as a direct impact on growth skills and other learning skills. Many of these growth skills are in the affective and (meta)cognitive domains. Consciousness of self-growth develops as consciousness of growth process expands through increased understanding of how mentoring skills are used to develop growth skills and how growth skills are used to develop learning skills. Self-growers consciously use these mentoring skills to develop growth capabilities that are used to develop learning to learn abilities, ultimately strengthening knowledge construction and reflective practice. Each of these mentoring skills have broad impact on many of the components of growth capability and not just the growth skills themselves. As the individual develops these mentoring skills, the more effective they will become in strengthening growth skills, other learning skills, professional characteristics, use of methodologies, performance development, etc.

Mentoring skills can also be termed *self-growth skills*. The duality in the name of this set of skills is represented from the context in which the skills are applied. When an individual utilizes these skills to facilitate others' growth through a growable moment, experience, or performance, they are utilizing them as mentoring skills. When an individual develops and internalizes these skills for their own use, they can facilitate their own growth experiences, i.e., self-growth experiences, in which case they are rightly referred to as *self-growth skills*.

Mentoring skills are integrated throughout the SGM as illustrated in the Appendix. A self-growth coach uses their mentoring skills to help someone through the self-growth process to develop their self-growth skills. As these self-growth skills become stronger, so does one's ability to facilitate their own journey towards their ideal self. Many of the self-growth skills will enable an individual to determine when they are not in their ideal development zone. This self-knowledge will assist in shifting focus back into their ideal zone of development to ensure alignment of life decisions with one's ideal self.

Self-Growth Mindset

The self-growth mindset builds upon the foundation of a strong growth mindset (Leise, 2020). Beyond believing the individual can grow important performance areas of their life and positively increase QoL (Apple, 2020), self-growth mindset is the belief that there are no limitations in one's ability to grow, even in those

areas currently not considered personal strengths (Ellis, 2020). Mindsets are relatively fixed patterns that develop from unconscious adaptations (Wilson, 2002) and often define the way of being of individuals. Mindsets often have developmental roots related to ways of meeting needs and therefore have great influence in the formation of personal characteristics such as personality traits (Dweck, 2017; McCrae & Mõttus, 2019). The basic challenge of becoming a self-grower is to use all means possible, including collaboration with a life partner, performance mentors, and self-growth coaches, to break out of constrictive mindsets to gain the control necessary to live constructively (Reynolds, 1983). Mindsets help an individual to pursue a conscious life journey that is positive, growth-oriented, personally meaningful, courageous, and beneficial to people and the world beyond the individual. Consciousness grows more through self-monitoring of contrasting one's self-concept (mindsets) with one's intentions and the resulting actions in relationships and efforts.

While the individual continues to increase growth capability through their own efforts, i.e., being a self-grower (Jain et al., 2020), the more the self-growth mindset evolves, and the greater desire to increase self-growth capability. This quickly becomes the focus of seeking out areas of "can't do" and turn them into "can do" areas. As this mindset strengthens, growth capability and QoL will improve. Almost all the 15 components of growth capability will be positively impacted as self-growth mindset is strengthened and applied to increasing growth mindset, consciousness, and capability. As belief in self-growth increases, the desire to increase growth capability magnifies vesting in one's self-growth plans to impact growth plans. Reviewing each component of growth capability and identifying the limiting barriers will significantly increase that component's contribution to growth capability (Apple et al., 2018).

The self-growth plan will use the growth plan to effectively increase a desired growth capability component with a self-growth component, along with the self-growth mindset, to address the barrier during the application of that growth component in the moment to improve performance and QoL. This makes it easier to turn a growable experience into a self-growth experience by assessing a single criterion when focusing on growth capability improvement and the mitigation of the barrier.

As the self-growth mindset strengthens, so does the power of raising expectations, and with raised expectations, the vision of one's ideal self expands and

becomes more prominent in one's self-growth consciousness. This expanded and enhanced clarity of self-concept, ideal self, and self-growth consciousness strengthens the design of their ideal zone of development and all the characteristics that support a powerful self-growth journey (Hurd, 2020).

Quality Mindset

Striving for excellence is clearly the main driver for the pursuit of continuous improvement in QoL (Apple, 2020). This pursuit is powered by the fundamental belief that there is no limit for improvements and no boundary for growth. It is obvious that striving for achievement and growth is the essence of any quality-driven growth mindset (Leise, 2020). In fact, striving for perfection in QoL (ideal self) necessitates the growth of the characteristics needed to improve any desired performance areas. A mindset that consistently directs continuous improvement efforts to increase QoL and a consciousness of self-growth to strive for perfection are essential motivators for achieving a sustainable and resilient self-growth journey.

Broad criteria orient growth and self-growth experiences by specifying the characteristics most important for QoL and for the journey toward the ideal self. Mental comparison and contrast of the key elements of each growth opportunity, using at least two broad criteria to represent realistic complexity, will increase the likelihood that a decision can be made in the moment about whether to pursue self-growth through engagement with the present opportunity. The value of criteria for increasing quality in any context is enhanced by being able to consciously select and hold those most relevant in mind along with the general characteristics and specific attributes of a growth or self-growth opportunity. Quality considerations must be integrated into an assessment mindset to intentionally increase the value attained in every part of one's life plan.

The 15 components of growth capability will be continuously improved along with the continuous growth of the self-growth mindset itself. To overcome the limiting barriers and continuously increase the contribution to any growth capability (Apple et al., 2018), significant motivation and drive has been established with the quality mindset.

Striving for truth, beauty, and goodness is a driver for continuously raising expectations. With the desire and motivation for unlimited pursuit of perfection in QoL and self-growth, the perception of one's expectations, capabilities, and ideal self are naturally elevated with no limits. The pursuit of quality and perfection in

self-growth will add more clarity, quality, and perfection to the self-growth journey. This upward spiral to self-perfection creates an inspiring and rewarding self-growth journey (Hurd, 2020). Seeking and applying criteria for an ideal zone of development can be used to assess each current experience to determine how centered the self-growth journey in one's ideal zone of development.

Self-Mentoring

During performance development, a self-mentor conducts performance mentoring for themselves to improve performance and increase growth capability. Thus, self-mentoring is a process used by someone to develop their own performance. As their own self-growth coach, a self-mentor designs, plans, implements, and improves their self-growth journey's progress toward their ideal self by applying mentoring skills, self-growth coaching skills, and their self-growth consciousness. A self-mentor needs to increase their self-growth consciousness to better develop internal and external self-awareness capabilities (Eurich et al., 2018). The self-mentor must validate the accuracy of their self-awareness, see opportunities for expanding growth and self-growth, increase self-growth consciousness, strengthen self-development process, and use assessment for self-development (Desjarlais & Smith, 2011). The self-mentor must develop capability to seek perspectives from others and develop capabilities to reflect ever more effectively.

This increases the overall self-awareness about one's own experiences during these performances—its accuracy, need for additional capability development, need for external validation, and its assessment relative to one's ideal self.

The increased capability for self-growth consciousness that comes through self-mentoring supports increased growth capability by supporting performance development with higher-quality self-awareness. This leads to development of a higher-quality ideal self as well as use of self-awareness to improve one's capability to take steps on the journey. Particularly important is the improved capability to select and develop from growth experiences leading to the greatest reduction of distance between the current real and the future ideal selves.

Recognizing the attributes that align with the ideal self and an accurate self-appraisal of the state of ideal and non-ideal attributes allows the self-mentor to choose growth experiences to promote ideal attributes as well as shed attributes that are less than ideal. Self-Growth

mentoring may be strengthened further through self-growth performance mentoring by another experienced self-growth coach.

Self-Growth Coaching

The authors define *self-growth coaching* as facilitating the process of developing growth capability in others. A self-growth coach helps their client elevate their level of awareness from content knowledge or knowledge why, to process knowledge or knowledge how (Jarvis, 1999). The elevation and creation of a raised level of consciousness is achieved when a self-growth coach effectively empowers their client to increase the client's own level of awareness of their own internal processes of learning how to learn, performing in action, thinking in action, and reflecting while in action and on action, after an action. A self-growth coach's goal is to empower the client to think about what they are going to perform, thinking/assessing while they are performing in action to allow for self-adjustment, and then, the client reflecting back on their own action to assess areas for improvement and progress toward their own goals. Reflection has been found to be more effective initially when led by a coach or other reflective practitioner like a mentor (Norman, 2020). Therefore, it is important that coach's consciousness about self-growth is elevated to the level where they can grow the consciousness of their clients.

A self-growth coach empowers a client to reflect in action and reflect on action and facilitates the client's assuming responsibility and accountability for coaching their own thinking and actions, QoL decisions, and assessment of progress. This empowerment allows the client to better design action plans, increases their likelihood of sustainable growth, and provides a pathway to self-growth. The coach encourages the client to take ownership of their vision of who they want to become, i.e., their ideal self and help to strengthen their journey of becoming that person by helping them to strengthen their growth capability. Self-Growth coaches strengthen a person's life and growth plans, their growth and assessment skills, and use of methodologies, especially the Self-Growth Methodology and Methodology for Performance Development (Jain et al., 2020; Van Slyke & Utschig, 2020).

The coach helps the client challenge their own level of consciousness while improving their self-growth capability by transforming growable experiences into self-growth experiences. With the coach's vast experiences of various clients' life journeys, they can help each new client elevate their own sense of their ideal zone of development. The coach motivates the client

to design their ideal self, use their life plan, growth plan, and self-growth plan to guide their self-growth journey so the client assumes QoL decisions, assessment of progress, and design of action plans to realize their ideal self. Through these efforts, a self-grower is in the best position to sense when these actions are not aligned to their journey and take corrective action when productivity is dropping.

Insights about the Emergence and Development of Self-Growth Components

The development of recent self-growth communities within the Academy of Process Educators came from the extensive work behind growth-producing experiences of the Learning to Learn Camps and was a natural extension as these camps have become more focused on self-growth. The 2019 and 2020 Self-Growth Institutes along with the 2018–19 and 2019–20 self-growth communities have concentrated on the development of the 13 components of self-growth capability described in this paper. What follows is a list of the self-growth capability components with a timestamp when it was first introduced, a brief description of its initial application, a snapshot of its current practice, and inquiry questions that are being explored to enrich understanding of that component.

Self-Growth Methodology

Initial Application (October 2018): The Self-Growth Community struggled to use learning and assessment methodologies as the focal point for the members' self-growth journeys. The Self-Growth Methodology was introduced to fill this gap and add greater meaning to one's self-growth journey.

Current Practice: The discussion and framing of the Self-Growth Methodology is in place. This is widely used in planning, coaching, and in assessing self-growth. In turn, this has assisted Self-Growth Community members refine the methodology and gain insights in its effective use.

Inquiry Questions: What are the best practices in building proficiency in each of the stages of the Self-Growth Methodology? How might this change for different audiences?

Shared Life Journey

Initial Application (January 2019): As key members of the community used the Self-Growth Methodology, they realized the importance of this component when two members lost their spouses, while others realized that their spouse was critical in the way they responded to many steps in the Self-Growth Methodology.

Current Practice: During biweekly meetings 2019/2020 self-growth communities, members reported using particular steps in the Self-Growth Methodology with their significant others. These included QoL clarification, life goals and plan, growth plan, and assessment process.

Inquiry Questions: When there is not a significant other in one's life, what does *shared journey* imply? What is the meaning of *shared journey* for someone who is deeply engaged in spiritual life?

Reflection

Initial Application (1990): The Process Education community had its origins in the Problem Solving Across Curriculum conference that was held in upstate New York. Reflection was used extensively, especially during the evening sessions, to process that day's activities. Incorporation of timely reflection in the learning process became one of the core themes of future conferences.

Current Practice: This is a well-researched PE practice that is now recognized as complementary to self-assessment. New insights are being made regarding how to use reflection, as distinct from assessment, to support other components of self-growth, especially in the elevation of self-growth consciousness.

Inquiry Questions: When is the most opportune time to engage in reflection during the self-growth process? What are best practices for capturing and applying discoveries derived from reflection to increase self-growth consciousness?

Life Plan

Initial Application (2002): Learning to Learn Camps integrated the *Life Vision Portfolio* (Mettauer, 2002) that assisted students in thinking through life vision, life goals, educational aspirations, and strategies to direct their life journey. These were integrated in *Foundations of Learning* (Redfield & Lawrence, 2009), the textbook for many Learning to Camps.

Current Practice: This is structured at a higher level of consciousness than the more one-dimensional life plan which is a growth capability component. Past, present, and future are consciously connected by this self-growth capability. Life's moments are forecast and scaffolded with scripting to maintain focus on key elements of the life plan as part of the journey between current real self and the ideal self.

Inquiry Questions: When and how should one upgrade their life plan as their philosophy of life evolves?

Self-Growth Plan

Initial Application (August, 2019): In preparation for the 2019/2020 Self-Growth Community, and at the request of participants from the 2018/2019 Self-Growth Community as well as the 2019 Self-Growth Institute this new tool was drafted.

Current Practice: This component has undergone a radical change in the last two years, and will probably change even more dramatically over the next two years, as it links one's growth plan (growth component) with the active growth plan (self-growth component). Its purpose is to provide strategic guidance on how to integrate growth and self-growth efforts.

Inquiry Questions: What is the nature of the relationship between the design of the growth plan, self-growth plan, and active growth plan in pre-thinking the use of self-growth capabilities? How is this similar and different when working with a self-growth coach?

Designing Assessments

Initial Application (2000): This was the timeframe where accreditation organizations such as ABET were changing criteria and standards to feature regular assessment of student outcomes that were in turn used to inform program changes in a continuous improvement cycle. The Assessment Institute (Pacific Crest, 2001) and Program Assessment Institute (Pacific Crest, 2002) were created in this era to help individuals and teams design better assessment tools and assessment systems;

Current Practice: While assessment is a well-established and valued PE practice, designing assessment systems is one of the more underdeveloped self-growth components. Advancing this component is essential for growth capability development because QoL improvement is dependent on the availability of pre-designed, high quality assessment tools that are needed for just-in-time use during the growth moment.

Inquiry Questions: What are the specifications for assessment tools and monitoring systems that will help large populations of users track progress on their growth and self-growth activities?

Active Growth Plan

Initial Application (January 2020): The Self-Growth Community realized that when coaching became part of the Self-Growth Community, that the growth plans, while developed, were not being actively

used by the participants. The difference between the thinking before doing (growth plan) and doing what you thought you wanted to do (active growth plan) is based upon being conscious of self-growth opportunities so that life's immediacy doesn't eclipse growth and self-growth development. Efforts ensued to formulate action plans that could be deployed to invoke elements in one's self-growth plan in response to anticipated situations associated with upcoming experiences.

Current Practice: While still nascent, practitioners have begun experimenting with self-growth analogs to the facilitation plan used in the learning process.

Inquiry Questions: How does an active growth plan recognize impediments to growth in the moment? What are guidelines for crafting transformative action plans that can be applied in the moment, both naturalistically and fruitfully?

Classification of Learning Skills

Initial Application (1992): A team of 20 early adopters incorporated "skills for life" into *Learning Through Problem Solving* (Apple et al., 1992). This became the foundation for creating two subsequent generations of Classification of Learning Skills with a wider and more diverse set of contributors (Apple et al., 2007; Leise et al., 2019).

Current Practice: The CLS is a go-to reference in program, course and activity design as well as facilitation and performance planning. Many members of the current Self-Growth Community are frequent users of a variety of performance measures for specific learning skills. Thirty learning skills are highlighted in the Profile of Collegiate Learner (as part of 50 professional characteristics) that was central to *The Professional's Guide to Self-Growth* (Apple et al., 2018).

Inquiry Questions: Is there a minimal level of proficiency with certain learning skills that is needed to begin self-growth? What is the developmental pathway for accessing higher order learning skills that are required for a specific performance? What is the most effective way to promote consciousness of learning skills in growth and self-growth activities?

Mentoring Skills

Initial Application (January 2019): Feedback from IJPE reviewers on the latest edition of the CLS along with the Self-Growth Community's need for a mentoring skills booklet triggered inquiry into which of the 509 learning skills were growth related. Once

these 77 learning skills were separated out, there was additional desire to isolate those that were primarily invoked in the Self-Growth Methodology (mentoring skills) versus the Methodology for Performance Development (growth skills).

Current Practice: Almost all of the 37 mentoring skills were not part of the 2007 CLS. As a result, their use and impact on developing growth capability has left many frustrated in their (in)ability to effectively use them, but excited about the potential they offer.

Inquiry Questions: What are the drivers for increasing performance in the mentoring skills? What learning skills are foundational for each mentoring skill? Which mentoring skills are best used for developing specific growth and learning skills?

Self-Mentoring

Initial Application (1995): When the profile of a self-grower was evolving, the idea that an individual could be their own mentor arose because of key characteristics of a self-grower—that they self-assess and self-mentor their own growth.

Current Practice: This has and probably will always be the most challenging component to develop because of the complexity of consciousness needed to keep the camera on self-growth capability while engaged in performance. Effective self-mentors are able to slow down life so that they can self-monitor important aspects of life in the moment (details of the ongoing performance, impediments to the self-growth experience, and data for future self-assessment as well as reflection).

Inquiry Questions: What are the greatest challenges associated with growing self-mentoring capability? What are best practices to address these challenges?

Self-Growth Mindset

Initial Application (August 2019): This was one of the major discoveries from the first Self-Growth Institute (Pacific Crest, 2019).

Current Practice: This is the breakthrough that has caused the separation of growth from self-growth. Most individuals have experienced growth in life, some with insight of how to get more growth, but few have discovered how to grow self-limiting areas. These are the areas which others don't believe an individual can strengthen, often because that individual has convinced everyone, including themselves, that they are forever limited in that area. Only with a self-growth mindset, will this person ever have the possibility to grow in these self-limited areas.

Inquiry Questions: How does evolution of this mindset parallel the development of self-growth consciousness?

Quality Mindset

Initial Application (June 2016): This mindset was brought to light in a well-attended and spirited discussion about the transcendental values of truth, beauty, and goodness surrounding a presentation by El-Sayed at the 2016 Annual Process Education conference (El-Sayed, 2016). Especially in the realm of human development, essential qualities are challenging to identify, develop, and measure. This inspired Process Educators to begin inventorying learning skills related to the identification of key characteristics, selection of measures, and the continuous improvement of quality in the eyes of multiple stakeholders. Many new learning skills emerged.

Current Practice: A new domain, Evaluation and Assessment of Quality, was introduced in the latest CLS. This resource has impacted ongoing PE practice and scholarship in professional profile development, performance descriptions, performance criteria, and performance measurement. Holistic appreciation of this domain has inspired members of the Self-Growth Community to propose a QoL framework which holds promise as an essential resource for quantifying the impact of personal/professional growth.

Inquiry Questions: How can a QoL framework be used meaningfully by a broad population of individuals with different backgrounds, current roles, and future aspirations? How does one deploy a QoL framework in creating a personalized QoL index?

Self-Growth Coaching

Initial Application: (July 2020): The experience in the second Self-Growth Institute of having mentors in the process play the role of performance mentoring and life coaching triggered the realization that it wasn't life coaching but self-growth coaching that was needed (Pacific Crest, 2020).

Current Practice: The 2020-21 implementation of the Self-Growth Community involves pairs of growers and mentors/self-growers who collaborate regularly outside of community meeting times to strategize and to debrief the elevation of growth experiences into self-growth experiences. These are centered around specific life goals and performance areas desired by the grower.

Inquiry Questions: How does self-growth coaching impact each of self-growth capability components?

Insights on Transforming a Growth Moment into a Self-Growth Experience

The foundation for operationalizing the transformation of a growable experience into a self-growth experience is dependent upon the grower wanting to elevate their growth mindset into a self-growth mindset—that they are committed to becoming a self-grower. This requires pre-thinking the process of creating self-growth experiences from the forecast growable moments. This is accomplished with more forethought about the context of potential growth moments, the current limiting conditions in one's growth capability, and reviewing one's active growth plan to target changes in growth capability. In the moment, the grower needs to want and value the growth moment as a worthwhile self-growth investment in the movement towards ideal self. The issue about this challenge is that current performance and its outcomes are so often more valuable to the performer than the long-term value of increased growth capability. Reflection on efforts to increase growth capability relieves this tension and should include clarification about what worked and why, what was difficult and why, and how to slow down these growth moments so they can be expanded into self-growth experiences.

Insights on How Self-Growth Capability Optimizes A Life Journey

Self-Growth capability identifies what is currently slowing the journey towards ideal self by identifying where self-concept needs to be strengthened, what the risk factors and impediments to self-growth are, where the opportunities for growth and self-growth development are over the next year and how the relationship between self-growth capability and growth capability can be more effectively synergized. Self-Growth capability builds a cyclic behavior of growth capability development where more of this growth capability development shifts to the subconscious through internalization in long-term memory. This frees up one's self-growth consciousness to focus more on opportunities in the current moment for making positive changes in the growth capabilities. The stronger one's self-growth capability becomes, the more effective the increase in one's growth capability. This increases both consciousness and subconsciousness around self-growth, better uniting all the components of self-growth capability.

Conclusion

This article has defined self-growth capability, the consciousness required for self-growth, how its components contribute to growth, and the role it plays in intensifying the self-growth journey. Once an individual has consciousness of the 13 components of self-growth capability, they can begin to evaluate more effectively who they are and

who they want to become. From this increased consciousness they should be able to determine their current level of self-growth capability, where they want to develop expanded growth and self-growth capability, and how they can begin to incorporate these components into their self-growth journey. A key to this transformation is awareness of the difference between one's real self and one's ideal self along with best practices for infusing the components of self-growth capability in one's life journey.

Five lessons about self-growth and self-growth capability have emerged in the crafting of the manuscript behind this article. Each of these lessons follow with a descriptive label and a brief explanation.

Humility: Until we admit that almost all efforts across disciplines has been on growth development and not self-growth development, there will be little advancement in the components of self-growth capability.

Interdependence Between Growth and Self-Growth: There is more overlap between growth and self-growth capabilities than there is independence and mutual exclusiveness. Growth capability is foundational to developing self-growth capability, and self-growth consciousness is an essential ingredient for mobilizing each of the 13 components of self-growth capability.

Synergy of Components: Each of the 13 components of self-growth capability has great promise to play a significant role in advancing growth capability by strengthening itself in relationship to growth and the interplay with the other self-growth components. For example, becoming a stronger reflective practitioner in life will impact life plan, shared journey, self-growth plan, etc., which will make all these self-growth components stronger and have a greater impact on the 15 components of growth capability.

Power of Self-Growth Coaching: The self-growth coach is a new and value-added role. Self-Growth coaching begins by helping individuals increase growth capability, and the dynamics of this coaching helps the client begin to build self-growth consciousness to learn how to transform their growable experiences into self-growth experiences.

New Horizon in Process Education: There are robust opportunities for advancing scholarship and practice of self-growth (in learning, in growth, and in self-growth consciousness).

References

- Apple, D. K. (2020, June). Expanding learning to learn into developing growth capability and self-growth capability [Online presentation]. Process Education Conference 2020.
- Apple, D. K., & Baehr, M. (2007). Assessment methodology. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Apple, D. K., Beyerlein, S. W., Leise, C., & Baehr, M. (2007). Classification of learning skills. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest
- Apple, D. K., Beyerlein, S. W., & Schlesinger, M. (1992). *Learning through problem solving*. Corvallis, OR: Pacific Crest.
- Apple, D. K., Ellis, W., & Hintze, D. (2016). 25 years of process education. *International Journal of Process Education*, 8(1), 3-153. <http://www.ijpe.online/25/image/sections/selfgrowth.pdf>
- Apple, D. K., Ellis, W., & Leasure, D. (2018). *The professional's guide to self-growth*. Hampton, NH: Pacific Crest.
- Bertolero, M., & Bassett, D. (2019). *How matter becomes mind*. Scientific American.
- Beyerlein, S. W, Holmes, C., & Apple, D. K. (Eds.) (2007), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th Ed.). Lisle, IL: Pacific Crest.
- Bloom, B., Englehart, M. Furst, E., Hill, W., & Krathwohl, D. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain*. New York, Toronto: Longmans, Green.
- Brooks, D. (2015). *The road to character*. NY: Random House.

- Buxant, C., Saroglou, V., & Tesser, M. (2010). Free-lance spiritual seekers: Self-Growth or compensatory motives? *Mental Health, Religion & Culture*, 13(2), 209-222. doi: 10.1080/13674670903334660
- Desjarlais, M., & Smith, P. (2011). A comparative analysis of reflection and self-assessment. *International Journal of Process Education*, 3(1), 3-18. <http://www.ijpe.online/2011/reflectionh.pdf>
- Dorsey, J. M., & Seegers, W. H. (1959). *Living consciously: The science of self*. Detroit: Wayne State University Press.
- Dweck, C. (2017). From needs to goals and representations: Foundations for a unified theory of motivation. *Psychological Review*, 124(6), 689-719. doi: 10.1037/0000082
- El-Sayed, M. (2016, June). Quality: Identifying, defining, & measuring it. [Workshop]. Process Education Conference 2016, Grand Valley State University, Allendale, MI.
- Ellis, W. (2020, June). Evolving Framing for Process Education [Presentation]. Process Education Conference 2020, online.
- Eurich, T., Woznyj, H., Wagoner, P.V., Heggstad, E. D., & Brodersend, A. (2018). *What self-awareness really is (and to cultivate it)*. Harvard Business Review.
- Fingarette, H. (1963). *The self in transformation*. New York: Harper and Row.
- Garcia, E. (2016) Strategic planning: a tool for personal and career growth. *Heart Asia*, 8(1), 36-39. doi: 10.1136/heartasia-2015-010684
- Gibbs, G. (1988). *Learning by doing: a guide to teaching and learning methods*. London: Further Education Unit.
- Global Gurus (2020). Retrieved from <https://globalgurus.org/>
- Hurd, B. (2007). Self-Growth plans for faculty members. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.). *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th Ed.). Lisle, IL: Pacific Crest.
- Hurd B. (2020, June). Modeling growth capability [Paper presentation]. Process Education Conference 2020, online.
- Jain, C. R., Apple, D. K., & Ellis, W. (2015). What is self-growth? *International Journal of Process Education*, 7(1), 41-52. <http://www.ijpe.online/2015/selfgrowth.pdf>
- Jain, C., Apple, D. K., Ellis, W., Leise, C., & Leasure, D. (2020). Bringing self-growth theory to practice using the self-growth methodology. *International Journal of Process Education*, 11(1), 73-100. <http://www.ijpe.online/2020/sgmethodology.pdf>
- Jarvis, P. (1999). *The practitioner-researcher: Developing theory from practice*. San Francisco, CA: Jossey-Bass.
- Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning and Education*, 4(2), 193–212. doi: 10.5465/amle.2005.17268566
- Leise, C. (2007). Personal development methodology. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Leise, C. (2020, June). Psychology of growth and self-growth [Paper presentation]. Process Education Conference 2020, online.
- Leise, C., Litynski, D., Woodbridge, C., Ulbrich, I., Jain, C., Leasure, D., Horton, J., Hintze, D., El-Sayed, M., Ellis, W., Beyerlein, S., & Apple, D. (2019). Classifying learning skills for educational enrichment. *International Journal of Process Education*, 10(1), 57-104. http://www.ijpe.online/2019/cls_full1.pdf
- Maslow, A. H. (1970). *Motivation and personality* (2nd Ed.). NY: Harper & Row.
- McCrae, R. R., & Möttus, R. (2019). What personality scales measure: A new psychometrics and its implications for theory and assessment. *Current Directions in Psychological Science*, 28(4), 415–420. <https://doi.org/10.1177/0963721419849559>
- Mettauer, J. (2002). *Life vision portfolio*. Lisle, IL: Pacific Crest.

- Myrvaagnes, E., Brooks, P., Carroll, S., Smith, P. D., & Wolf, P. (1999). *Foundations of problem solving*. Lisle, IL: Pacific Crest.
- Norman, C. (2020). *Mentor coaching: A practical guide*. London, England: Open University Press.
- Nussbaum, M. (2011). *Creating capabilities: The human development approach*. Cambridge MA: The Belknap Press of Harvard University
- Østby H., & Østby, Y. (2018). *Adventures in memory: The science and secrets of remembering and forgetting*. Vancouver/Berkeley: Greystone Books
- Pacific Crest (2001). Assessment Institute. <http://www.pcrest.com/PC/institutes/assessment.pdf>
- Pacific Crest (2002). Program Assessment Institute. http://www.pcrest.com/PC/institutes/program_assessment.pdf
- Pacific Crest (2019). *Self-Growth institute final report: Results and implications*. Hampton NH: Pacific Crest.
- Pacific Crest (2020). Self-Growth Institute. <https://www.mypcrest.com/institutes/moodle/course/view.php?id=11>
- Pinker, S. (1997). *How the mind works*. New York: W. W. Norton & Company.
- Redfield, K., & Hurley Lawrence, B. (2009). *Foundations of learning* (4th ed.). Lisle, IL: Pacific Crest.
- Reynolds, D. K., (1983). *Constructive living*. Honolulu, HI: Kowowalu Books.
- Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Seneca, L. A., & Campbell, R. (1969). *Letters from a Stoic: Epistulae morales ad Lucilium*. Manhattan: Penguin Books.
- Utschig, T., Leasure, D., & Apple, D. (2019, October 9-12). Learning by performing (LxP) – A Practical framework for authentic learning [Presentation]. International Society for the Scholarship of Teaching and Learning 2019 Conference - SoTL Without Borders: Engaged Practices for Social Change, Atlanta, GA
- Van Slyke, A., & Utschig, T. (2020, June 25). Developing tips for performance mentoring [Online workshop]. Process Education Conference 2020, online.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Wilson, T. (2002). *Strangers to ourselves: Discovering the adaptive unconscious*. Cambridge, MA: The Belknap Press of Harvard University Press.

Appendix A Mentoring Skills to Support Self-Growth Ordered According to the Stages of the Self-Growth Methodology

Mentoring skill	Description	Impact on Increasing Growth Capability
Stage 1: Defining Meaning of Your Life		
Encouraging ownership	Engaging others to accept a stake in a vision	As ownership grows, investment, commitment, desire, and quality of performance also increase.
Analyzing needs	Finding the qualities a receiver desires	As ownership grows, investment, commitment, desire, and quality of performance also increase.
Raising expectations	Influencing receiver's mindset towards wants, desires, or anticipation	Ongoing increases in the level of challenge—raising the bar—motivate one to identify areas of growth needed for additional success.
Being courageous	Taking action in spite of fear	The most significant growth moments come from the greatest challenges and the greatest failures.
Establishing standards	Specifying the level of quality for each measurement scale	Setting standards for life quality make it possible to target growth areas for inclusion in growth and self-growth plans.
Being philosophical	Gaining deeper understanding of the nature of life and its meaning	In enacting values, fulfilling needs, and pursuing goals beyond oneself make it possible to define and deepen understanding of key characteristics that make one's life meaningful.
Setting criteria	Choosing the important characteristics that represent quality	Broad criteria play one of the most important roles in one's quality of life because they are the best guide to selection of areas of growth that will be beneficial and meaningful.
Being independent	Seeking an appropriate level of autonomy in each role identity	As ownership of one's decisions and role identities strengthen, one can become a more effective mentor of one's self-growth.
Stage 2: Creating Life Vision and Plan		
Forecasting needs	Determining the new or adapted future desires	As one's accuracy in predicting needs becomes better, it becomes feasible to shift growth to areas that will match these future needs.
Writing measurable outcomes	Documenting a project or process set of expectations for quality	Intended outcomes become more likely to be achieved when written in growth and self-growth plans that also include methods and times of assessment of progress.
Transforming strategies	Developing ownership of action plans for gaining improved quality	Full ownership of action plans in combination with creative insights produces additional new areas of growth capability.
Stage 3: Determining Your Key Performance Areas		
Validating personal impact	Recognizing the effect you have	Observing and valuing one's influences on others provides insights for growth and self-growth in performance mentoring and self-growth coaching roles.
Self-Evaluating	Being honest about who you are and where you are with respect to your life vision	Insights about the quality of one's life vision are enhanced by the realization that openness about evaluation criteria and standards helps one be more objective—and increases capability to facilitate this openness in others.

Mentoring skill	Description	Impact on Increasing Growth Capability
Stage 3: Determining Your Key Performance Areas (continued)		
Describing performance	Preparing a picture of expected actions or steps in process(es)	Writing richly detailed descriptions of elements, steps, and processes essential to a performance area will enhance capability to create better learning, growth, and performance plans.
Writing performance criteria	Documenting descriptive expectations of desired quality	Growth will be enhanced by assessment that is guided by explicit, meaningful statements that define quality.
Selecting measures	Establishing a minimal working set of scales for a purpose (what matters)	Well-chosen measures, when triangulated with growth and self-growth criteria that are meaningfully related to a desired capability, will also clarify how quality of life has increased.
Ensuring reliability	Consistency in measuring level of quality by different measurers	Having empirical evidence that validates a level of quality in the data promotes more confidence in its use for growth and self-growth plans.
Designing an assessment	Collaborating with assessee to structure the specific process	A well-designed system or structure that defines what, how, and when to assess will be efficient, objective and motivating in the use of feedback for growth and self-growth.
Stage 4: Conducting Risk Analysis		
Being self-honest	Recognizing when one's own filters and assumptions reflect known/new biases	Detecting and minimizing personal and critical biases help one to become a stronger self-assessor of these constant challenges to objectivity.
Being fair	Being objective and not letting biases, values and petitions influence judgement	Injustices, which are impediments to growth and self-growth, must be identified and challenged as undesirable inconsistencies to be mitigated from evaluations by others as well as oneself.
Pre-assessing	Analyzing preparation of a performance to improve readiness	Knowing where someone is on their growth or self-growth path is essential for planning realistic steps by which they can make progress toward their desired capabilities in the present and for the future.
Getting unstuck	Recognizing the lack of movement towards life's goals and updates strategies	Motivation of new strategies to transform a situation arises from realizing that growth is not happening as a result of what one is doing.
Determining future match	Identifying actual characteristics that cover future needs	On the life journey to the ideal self, new needs must be identified and addressed to keep one's present self in the ideal zone of development.
Stage 5: Conducting Weekly Self-Growth Analysis		
Being non-judgmental	Withholding or avoiding using one's personal standards or opinions	Because evaluation is among the greatest impediments to growth, it is essential to mitigate its effects by stopping judgment of self and others while using assessment to enhance growth.
Highlighting sub-standard performance	Providing evidence justifying judgment with consequences	The greatest opportunities for growth and self-growth exist when performance is extremely low.
Developing action plans	Creating short and long-term strategies for improvement	Strong action plans accurately and meaningfully define how growth and self-growth can be pursued.

Mentoring skill	Description	Impact on Increasing Growth Capability
Stage 5: Conducting Weekly Self-Growth Analysis (continued)		
Being metacognitive	Stepping back to better understand one's cognitive, affective, and social learning skills	Growth capability is highly correlated with improved understanding of how well one's thinking, affect, or behavior match demands and desires in any situation.
Providing growth feedback	Supplying key observations, meaningful analysis, and implications	Mentoring the self-growth of others is the best way to learn about and strengthen one's own self-growth capability.
Giving consulting feedback	Causing action in assessee through timely, valuable, expert analysis	Skillful interventions by mentors or self-growth coaches can strengthen the self-mentoring capabilities of others through timely and constructive use of expertise.
Self-Mentoring	Engaging in intentional self-assessment leading to analysis of self for improvement	Self-Growth can best occur from using assessment and reflection to gain authentic awareness of where one is so they can progress toward their ideal self.
Self-Monitoring	Having a continuous camera on every performance so it can be replayed	Visualization of one's own performance and actions to make it possible to revisit the memory later for both self-assessment and reflection to strengthen self-mentoring.
Maintaining objectivity	Focusing on reporting the evaluation, not responding to personal reactions	Staying removed from one's emotional attachment to a performance makes it possible to obtain unbiased data and to produce a non-emotional analysis and assessment.
Being patient	Waiting with equanimity when timing, conditions, and readiness are not right	Time for growth must be guarded from disruption and not be forced; since development cannot be instantaneous, the appropriate context and timing must be found.
Stage 6: Conducting Annual Reflection on Self-Growth		
Determining unmet needs	Identifying desired characteristics lacking for receiver	Discovering and addressing what is missing in one's life will increase wholeness, strength and power to go after life with greater fortitude, energy, and consistency.
Validating added value	Recognizing the worth you have contributed	Seeing one's contribution to the whole allows the individual to study how they did it which contributes to self-efficacy, self-esteem, self-confidence, and being proactive.
Identifying new qualities	Finding new dimensions that enhance value for an audience	New areas of quality lead to new growth opportunities and new dimensions in one's quality of life index.

Modeling Self-Growth with Fuzzy Cognitive Maps

George W. Dombi¹, Matthew Watts²

Abstract

One contemporary approach to self-growth is to identify an individual's risk roadmap, the set of risk factors that will inhibit their personal development. Associated with each of these risk factors are professional characteristics that can be strengthened to support the self-growth journey. To facilitate this process, a fuzzy cognitive map framework was developed to model the relationship between these professional characteristics and risk factors. Conventions are put forward for assigning relative numerical values for the relationships, for reducing the set of characteristics to master, and for identifying practices that develop them. Fuzzy cognitive mapping software leverages mathematical simulations that predict how the changes in professional characteristics will propagate through the network to mitigate the risk factors. A methodology for incorporating fuzzy cognitive maps into the self-growth process is presented and its use is exemplified through case studies. The results of the case studies led to several new conventions and strategies that help to focus an individual's attention to the key characteristics that will promote self-growth.

Introduction

Self-growth was first introduced as a process where individuals increase the quality of their performances through self-assessment (Leise, 2007). The concept was later formalized as a performance itself, consisting of ten key components (Jain et al., 2015). Preliminary results of this research led to the publication of *The Professional's Guide to Self-Growth* (PGSG) (Apple et al., 2018) where the process of self-growth is presented in a way that any professional can use. At the core of this model are 35 risk factors inhibiting self-growth as well as 50 professional characteristics that mitigate these risk factors to support self-growth. A complete list of the 35 risk factors and their associated professional characteristics is provided in Appendix A.

The readers of the PGSG are guided through the self-growth process by identifying risk factors on which to focus to develop the associated professional characteristics. The development of a mathematical model utilizing quantitative measurements could assist readers in this process. Since there is a feedback relationship between the risk factors and professional characteristics, a weighted, directed graph, known as a fuzzy cognitive map, models the connections between the risk factors and the professional characteristics. The fuzzy cognitive map will indicate which of the 50 characteristics may be best and most often applied to a set of risk factors unique to an individual working in a structured fashion on their self-improvement.

To develop an understanding of how the use of Fuzzy Cognitive Maps (FCMs) assist in the self-growth process, the remainder of this paper is structured as follows. First, an introduction to FCMs as well as the utilization of the

FCM to examine a single risk factor is explored. Next, a methodology for incorporating the FCM into the self-growth process is presented. The incorporation of the FCM Methodology is discussed in multiple case studies where an individual is focusing on mitigating a varying number of risk factors. Finally, general conclusions, insights regarding the FCM methodology, and next steps are discussed.

Fuzzy Cognitive Maps as a Modeling Tool

A concept map, or mind map, represents concepts as nodes with links connecting the nodes to show causation or influence (Buzan, 2019). Similarly, in an FCM, the connecting lines between nodes are represented by arrows to indicate their causal relationship, but they are also assigned a weight to indicate the strength of the interaction between the nodes (Kosko, 1986). These weights, or impact factors, are numbers between -1 and +1. If the weight is a positive number, there is an increasing or a direct causal relationship between the nodes indicating that an increase in the one will produce an increase in the other. If the weight is a negative number, the two nodes have an inverse causal relationship and an increase in the one will produce a decrease in the other.

The term fuzzy refers to the mathematics that governs the strength of the connections. It is this attempt to give a dynamic, numerical aspect to an otherwise qualitative relationship that makes the fuzzy cognitive maps more complex than simpler mind maps or concept maps. Because two connected nodes may be quite different in what they represent and how they are measured, it can be difficult or impossible to show exact changes in one corresponding to

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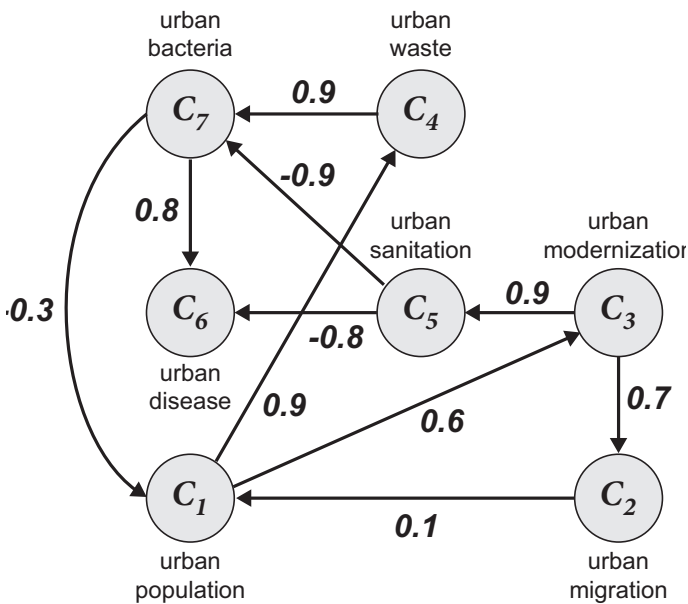
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changes in the other. So, to follow dynamic changes that can propagate throughout an FCM, percentages are used.

To illustrate this point, an example of a public health FCM (Peng et al., 2016) is depicted in Figure 1. In this FCM, the connection between node C5, the dollar cost of urban sanitation, and node C6, the extent of urban disease, shows a negative effect (-0.8). Thus, a doubling in the urban sanitation funding would produce a decrease in the extent of urban disease by 80 percent, assuming no changes in the other connected nodes.

One of the critical questions about using a FCM as a predictive model is not only what nodes to include, but how to determine the connecting strength and direction of the connection. This determination is usually done by expert

Figure 1 Fuzzy Cognitive Map for Public Health (Peng et al., 2016)

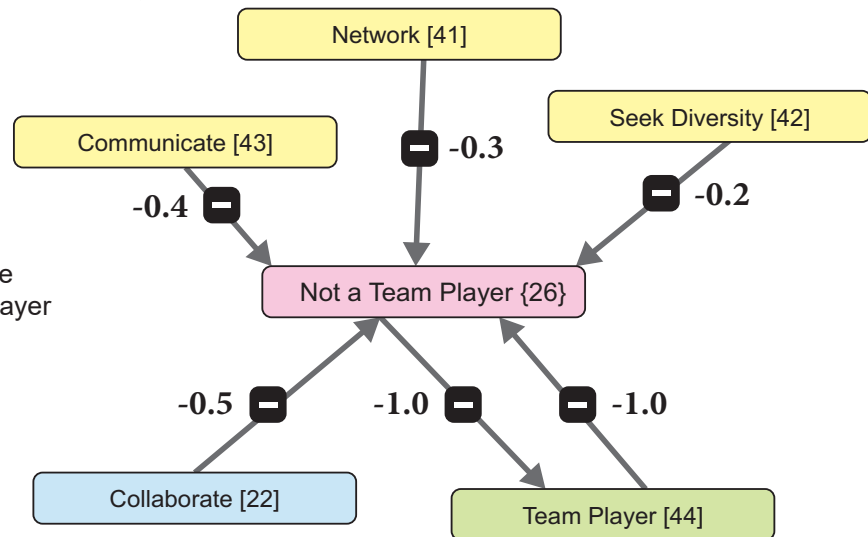


consideration of the connections. For the purposes of this work, the PGSG guided the determination of appropriate weights for the FCMs of the risk factors and associated professional characteristics. The values of the weights are based on how these characteristics were prioritized within the PGSG. The weights are inversely proportional to their order listed in in Appendix A, Table 1.

While the risk factors in Appendix A, Table 1 are organized alphabetically, their associated professional characteristics are listed in descending order of influence from left to right. To determine the weights, if the professional characteristic is directly opposite of the risk factor, its weight is 1.0. If it is not, then the weights are 0.7, 0.5, 0.4, 0.3, 0.2 for each professional characteristic listed respectively. For example, the risk factor *Not a Team Player* has five associated professional characteristics Team Player, Collaborate, Communicate, Network, and Seek Diversity. Team Player is the direct opposite, so its weight is listed as 1.0. The other professional characteristics are weighted 0.5, 0.4, 0.3, 0.2, respectively.

Mental Modeler (Gray, 2020) is a free mathematical modeling application used to create the FCM. As depicted in Figure 2, the central node of the FCM is the risk factor *Not a Team Player*. It also displays the influence of the five professional characteristics on this single risk factor. Since each characteristic will mitigate the risk factor, all the relationships are modeled with arrows pointing to the risk factor with negative weights. Finally, as noted previously, the professional characteristic *Team Player* is direct opposite of *Not Team player* thus the weight is -1.0 and an additional link is added going from the characteristic back to the risk factor since as one goes up the other goes down. In general, the numbers used for the weights are chosen by the self-grower and adjusted as the growth process proceeds to optimize the accuracy of the model.

Figure 2 Fuzzy Cognitive Map for the Risk Factor *Not a Team Player*



Once the FCM is built, the user inputs changes in each characteristic based on their efforts in that area. For example, using the Mental Modeler interface a user records a change in the professional characteristic(s). These changes are then used to run a simulation to predict the corresponding changes in the other professional characteristics. For example, if an individual was working to improve their Collaborate characteristic, they would enter the increase in the Mental Modeler software, run the simulation, and utilize the results to help guide their self-growth decisions.

The FCM Methodology

The FCM is a tool that can be used to help promote self-growth. An individual using the tool can more easily determine which professional characteristics on which to focus. The Fuzzy Cognitive Map Methodology outlines the process an individual uses to identify how strengthening a professional characteristic affects the mitigation of risk factors and impact on other professional characteristics. First, the individual creates their FCM through the analysis of risk factors affecting their growth. They then identify a professional characteristic to focus upon that will mitigate that risk factor and utilize the techniques identified in *The Professionals Guide to Self-Growth* (Apple et al., 2018) to strengthen the characteristic. Finally, they will re-calibrate the changes with the strengthened characteristics and repeat the process. These steps of the FCM Methodology are delineated in Table 1 and are discussed further in what follows.

Table 1 Fuzzy Cognitive Map Methodology

Step 1	Creating the fuzzy cognitive map
Step 2	Identify the characteristics on which to focus
Step 3	Prescribe techniques to strengthen characteristics
Step 4	Strengthen the characteristics
Step 5	Model the changes with a scenario
Step 6	Calibrate the model and repeat

Step 1 Creating the fuzzy cognitive map

To begin, an individual alone or with the assistance of a mentor should utilize the Risk Roadmap Survey tool presented in the Professionals Guide to Self-Growth (Apple et al., 2018) to identify and delineate their risk factors. Using this list, a FCM should be created with a central node for each risk factor to be addressed. Additionally, surrounding nodes are created for each of the associated professional characteristics with arrows pointing from the professional characteristic

to the risk factor(s) they mitigate. The characteristics should be ranked in order of their impact on the risk factor and the corresponding weights indicated. There may be some overlap in the professional characteristics associated with the identified risk factors, thus inherently increasing the importance of those that will have the most effect. To offset this effect, characteristics that are connected to multiple risk factors are given a lower weight for each connection.

Step 2 Identify the characteristics on which to focus

If the FCM contains a large set of professional characteristics, then the FCM can be used to narrow the focus. The individual should analyze the degree of a characteristic, the number of risk factors it is connected to, and the impact weights of those connections to determine which characteristic to focus upon. The lesser characteristics can be eschewed in favor of those that will dominate the overall change in risk factors.

Step 3 Prescribe techniques to strengthen characteristics

The next step is to create an action plan that supports the development of the characteristics identified in Step 2. These action plans can be developed by the individual or with the help of a mentor. Sample techniques are provided in the PGSG. Activities that are realistic, observable, and meaningful to the individual will provide the best results.

Step 4 Strengthen the characteristics

It has been said by Dr. Maxwell Maltz, MD in his book *Psycho-Cybernetics* (1960), that the acquisition of a new habit takes 21 days. More recent research by Lally et al. (2010) indicates that it may take from 18 to 254 days depending on the task with the new average set at 66 days. Therefore, an individual who wants to mitigate a risk factor must develop the associated set of professional characteristics by working on their action plans until they become a habit. It is important to keep detailed records of any activities to assist with quantifying the change in the skills later.

Step 5 Model the changes with a scenario

To quantify this step, which is called fuzzifying the data, the individual needs to create a scale for the changes that have taken place. Historically, fuzzification was the process of assigning terms to numbers, working with the terms, then defuzzifying them back to numbers (Tsipouras et al., 2008). For example, if the characteristic was developed for 1 to 3 weeks then the

change could be +0.3, if the characteristic was developed for 4 to 6 weeks then the change could be +0.6, if the characteristic was developed for 7 to 9 weeks then the change could be +1.0. Some FCMs just use labels such as low, medium, and high for the fuzzy variables. The scenario is then run using the software and the resulting change in the risk factors is calculated.

current state of their risk roadmap. Changes can then be made to the risk factors and their weights determined in Step 1, the action plan prescribed in Step 3, and the scale used to determine change in Step 5 when repeating the process.

Step 6 Calibrate the model and repeat

The results of the scenario should be compared with the personal experience of the individual and the new

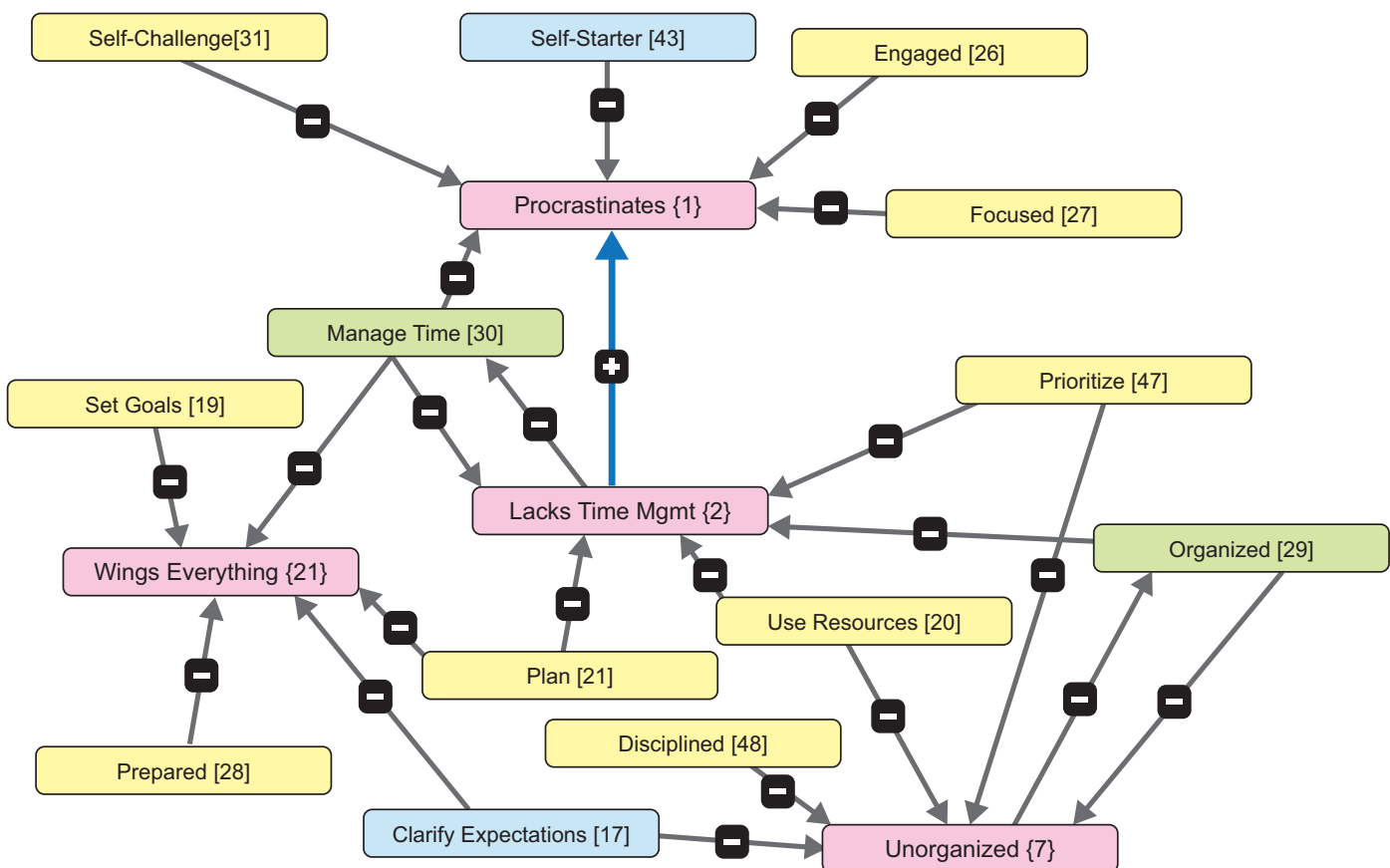
Case Studies

To highlight the use of this methodology in the context of self-growth three case studies are presented. The first is presented here, while the remaining two are discussed in Appendix B.

Table 2 Excerpted Risk Factors and Associated Professional Characteristics

Risk Factors	Associated Professional Characteristics				
Lacks Time Management {2}	Manage Time [30] (-1.0)	Plan [21] (-0.5)	Prioritize [47] (-0.3)	Organized [29] (-0.3)	Use Resources [20] (-0.2)
Procrastinates {1}	Self-Starter [46] (-0.7)	Self-Challenge [31] (-0.5)	Manage Time [30] (-1.0)	Engaged [26] (-0.3)	Focused [27] (-0.2)
Unorganized {7}	Organized [29] (-0.3)	Clarify Expectations [17] (-0.5)	Disciplined [48] (-0.4)	Prioritize [47] (-0.3)	Use Resources [20] (-0.2)
Wings Everything {21}	Clarify Expectations [17] (-0.5)	Plan [21] (-0.5)	Prepared [28] (-0.4)	Set Goals [19] (-0.3)	Manage Time [30] (-0.2)

Figure 4 FCM for Case Study 1



Case Study 1: A Professional Working on Four Risk Factors with Linked Interactions.

To put the methodology into practice, imagine a professional who aims to reduce the role of four risk factors in their life: Lacks Time Management, Procrastinates, Unorganized, and Wings Everything. The creation of the FCM (Step 1) denotes that these four risk factors are related to a cluster of 14 unique professional characteristics as depicted in Table 2. These excerpted risk factors come from the full table in Appendix A Table 2.

Five of the professional characteristics (Prioritize, Organized, Uses Resources, Plan, Clarify Expectations) each mitigate two risk factors, thus have arrows to both in the FCM in Figure 4. Manage Time mitigates three of the risk factors as indicated by the three arrows connecting to the three risk factors. Again, all the connections from a professional characteristic to a risk factor are negative, that is as an individual increases the professional characteristic, there is a decrease in the risk factor. There is a direct positive link made between the risk factors Procrastinate and Lacks Time Management. This positive link means that a deficiency in time management skills exacerbates procrastination.

During Step 2 of the FCM Methodology, the individual, in possible consultation with a mentor, examines which of the professional characteristics have the most connections and/or the greatest weights. The individual will decide to work on the professional characteristic that will have the greatest impact. In this FCM, both Manage Time and Organize have the maximum impact value of -1.0 on the risk factors Lacks Time Management and Unorganized, respectively. In addition, Clarify Expectations have multiple high impacts (-0.7 and -0.5) on the risk factors Wings Everything and Unorganized respectively. Finally, although only mitigating the Procrastinates risk factor, Self-Starter has the highest impact at -0.7. Thus, the individual determines that they will work on four professional characteristics, Self-Starter, Manage Time, Clarify Expectations and Organize.

Step 3 of the FCM methodology, the individual works with their mentor to determine action plans to address the growth of the professional characteristics. In this case study, the individual the individual commits to the following action plans for each of the professional characteristics:

- Self-Starter: at the start of each day, write down one goal for the day (something simple that could be done in under two hours)

- Manage Time: keep a pocket calendar and make an entry for each scheduled meeting
- Clarify Expectations: for each assignment, write down three criteria, asking their supervisor questions as needed
- Organize: for one project each week, break it down into a three to five step methodology

After two months of working on the action plans (Step 4), the individual produced the following results with the corresponding increase in improvement to be entered into the FCM software in parenthesis:

- Self-Starter: they had written down a task to complete nearly every day (+1.0)
- Manage Time: only some meetings were scheduled (+0.5)
- Clarify Expectations: liked to ask questions, but sometimes forgot to write down the questions or the answers (+0.5)
- Organized: it seemed tedious to break down a project on paper, so it was only done for two projects (+0.25)

The improvement values were placed into the FCM and the scenario was run (Step 5). The results showed a 1% reduction in Lacks Time Management, no change in Wings Everything, and a 6% reduction in Procrastinates. Surprisingly, there was a 4% increase in the risk factor Unorganized using this constellation of responses. Re-running the scenario with a greater improvement score in Organized reduced the risk factor Unorganized by 3%. Thus, the individual decided to do more to strengthen the Organize professional characteristic (Step 6).

Two additional case studies are discussed in Appendix B. Case 2 is a simpler situation where the individual addresses two risk factors. Case 3 is more complex where the individual address five risk factors.

Conclusions and Insights

An examination of the list of risk factors and professional characteristics shows that the more risk factors an individual wants to improve, the more complex is the resulting FCM. The analysis of these types of combinations reveals that increasing the scope of the risk roadmap leads to an untenably large list of characteristics upon which to work. It was one of the objects of this study to find a way to reduce the number of professional characteristics in a complex map by only working with the highest impact characteristics. To this end, a frequency analysis of all the professional characteristics from PGSG was conducted to

determine which are most often listed as mitigating a risk factor, that is, which professional characteristics have the greatest impact to the risk factors.

As delineated in Table 3, the professional characteristics that impact the greatest number of risk factors are Think Critically, Self-Efficacy, and Take Risks, all associated with seven risk factors. Self-Assess, Clarify Expectation, Life Vision, and Leverage Failure are all associated with impacting six risk factors. This list suggests that individuals with very broad self-growth plans, or no plans to reduce specific risk factors, should start with these characteristics to achieve the most overall improvement.

Table 3 Frequency of the 50 professional characteristics used to address the 35 risk factors ("Number" is as assigned in PGSG)

Number	Professional Characteristic	Frequency
#2	Think Critically	7
#15	Self-Efficacy	7
#32	Take Risks	7
#13	Self-Assess	6
#17	Clarify Expectations	6
#18	Life Vision	6
#32	Leverage Failure	6

An individual should develop only those characteristics with the highest impact factors and/or greatest degree to optimize reduction in the risk factors in question. The relative ranking of the elements is based on the individual's personal experiences and intuition. Of course, simpler ways of assigning numbers could be applied, for example using trivalent logic $\{-1, 0, 1\}$ (Taber et al., 2007). It is interesting that in the case studies discussed in Appendix B, which model cases with two and five risk factors, the characteristics with the greatest impact were not included in Table 3. On the other hand, as the FCM became more complex, as in the Victoria case, the list of characteristics with the highest impacts does more closely resemble the list seen in Table 3.

It is also important to note that as the FCM became more complex, there was a penalty for not showing at least medium ($\geq +0.5$) scores in improvement of a characteristic. In two of the case studies, when the characteristic had low improvement, one of the risk factors increased in value, that is, it worsened. This effect could be discouraging to a student or professional working alone on their self-growth. To this end, a teacher/mentor would be beneficial to encourage the self-grower to persist to completion on the

actualization goals set up. This follows the dictum "plan the work, work the plan." The mentor can help the individual to operationalize the methods to work or activate the identified professional characteristics. While the PGSG clearly identifies which professional characteristics are connected to each, actualizing the plan to develop them will be different for each self-grower. The mentor needs to be able to offer the mentee specific and personalized methods. If the mentee doesn't want to do an activity, then they should ask for a substitute, but in all cases the teacher/mentor needs to request to see proof that the action was taken, and a self-assessment was made.

With the creation of FCMs, it is possible to measure and track an individual's self-growth. A FCM could be created linking all 35 risk factors and all 50 professional characteristics. This large map would show a massive amount of complexity that may be of more theoretical interest than functional interest for the self-grower. Further, extensions of this work might include a community-wide re-valuation of the professional growth characteristics for each risk factor. If years of research indicate a modified order is merited for some risk factors, that change should be noted in subsequent editions of the PGSG. Another possible extension of this work would be to create a collection of possible ways to operationalize various professional characteristics within the goals of each mentee. This list could never be exhaustive but having a minimal number of approximately five ways with which to start would be a valuable resource for new mentors as they try to help others overcome risk factors.

References

- Apple, D. K., Ellis, W., & Leasure, D. (2018). *The Professional's guide to self-growth: A step-by-step process for developing your unlimited potential*. Hampton, NH: Pacific Crest.
- Apple, D., Duncan, W., & Ellis, W. (2016). Key learner characteristics for academic success. *International Journal of Process Education*, 8(2), 61-82. http://www.ijpe.online/2016_2/2016_success2.pdf
- Buzan, T. (2019). *How to Mind Map*. Ayoa. <https://www.ayoa.com/mind-mapping/how-to-mind-map/>
- TCM Concept of Disease. (2019, February 27). Broadcast China. <https://www.followcn.com/TCM/2019/02/27/tcm-concept-of-disease/>
- Gray, S. (2020). Mental Modeler. <http://www.mentalmodeler.org/>
- Horton, J. (2015). Identifying at-risk factors that affect college student success. *International Journal of Process Education*, 7(1), 83-101. <http://www.ijpe.online/2015/risk.pdf>
- Jain, C. R., Apple, D. K., & Ellis, W. (2015, June). What is self-growth?. *International Journal of Process Education*, 7(1), 41-52. <http://www.ijpe.online/2015/selfgrowth.pdf>
- Kosko, B. (1986). Fuzzy Cognitive Maps. *International Journal of Man-Machine Studies*, 65-75.
- Lally, P., Van Jaarsveld, C. H., Potts, H. W., & Wardle, J. (2010). How are habits formed: Modeling habit formation in the real world. *European Journal of Social Psychology*, 40, 998-1009.
- Leise, C. (2007). Becoming a self-grower. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Maltz, M. (1960). *Psycho-Cybernetics: A new way to get more living out of life*. New York: Penguin.
- Peng, Z., Lifeng, W., & Zhenguang, C. (2016). Research on steady states of fuzzy cognitive map and its application in three-rivers ecosystem. *Sustainability*, 8(1), 40.
- Taber, R., Yager, R. R., & Helgason, C. M. (2007). Quantization effects on the equilibrium behavior of combined fuzzy cognitive maps. *International Journal of Intelligent Systems*, 22(2), 181.
- Tsipouras, M. G., Exarchos, T. P., Fotiadis, D. I., Kotsia, A. P., Vakalis, K. V., Naka, K. K., & Michalis, L. K. (2008). Automated Diagnosis of coronary artery disease based on data mining and fuzzy modeling. *IEEE Trans Inf Technol Biomed*, 12(4), 447-458.
- Wasserman, J., & Beyerlein, S. (2007). SII method for assessment reporting. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.

Appendix A

The first column of Table 1 alphabetically lists the 35 most common risk factors with the number from original listing in *The Professional's Guide to Self-Growth* (Apple et al., 2018) in curly brackets. The next five columns list the top five associated professional characteristics in ranked order left to right. The number from the original listing in *The Professional's Guide to Self-Growth* in square brackets and the recommended weight for use in the FCM in parentheses.

Table 1 The 35 Most Common Risk Factors and their Associated Professional Characteristics.

Risk Factors	Associated Professional Characteristics			
Afraid of Failure {6}				
Take Risks [32] (-0.7)	Leverage Failures [34] (-0.5)	Persist [33] (-0.4)	Manage Frustration [37] (-0.3)	—
Anxious {3}				
Manage Frustration [37] (-0.7)	Prepared [28] (-0.5)	Maintain Balance [35] (-0.4)	Adapt [38] (-0.3)	Leverage Failures [34] (-0.2)
Coasting/Unchallenged {19}				
Self-Challenge [31] (-0.7)	Set Goals [19] (-0.5)	Take Risks [32] (-0.4)	Leverage Failures [34] (-0.3)	—
Differential {30}				
Assertive [24] (-0.7)	Self-Confident [49] (-0.5)	Self-Efficacy [15] (-0.4)	Take Risks [32] (-0.3)	—
Financial Constraints {23}				
Problem Solver [9] (-0.7)	Think Critically [2] (-0.5)	Manage Time [30] (-0.4)	Use Resources [20] (-0.3)	Information Processor [6] (-0.2)
Fixed Mindset {9}				
Open Minded [11] (-1.0)	Adapt [38] (-0.5)	Self-Challenge [31] (-0.4)	Take Risks [32] (-0.3)	Self-Assess [13] (-0.2)
Frustrated {35}				
Manage Frustration [37] (-1.0)	Leverage Failures [34] (-0.5)	Persist [33] (-0.4)	Problem Solver [9] (-0.3)	Self-Efficacy [15] (-0.2)
Ineffective Problem Solver {14}				
Problem Solver [9] (-1.0)	Think Critically [2] (-0.5)	Information Processor [6] (-0.4)	Inquisitive [16] (-0.3)	Take Risks [32] (-0.2)
Ineffective Reader {22}				
Reader [7] (-1.0)	Information Processor [6] (-0.5)	Think Critically [2] (-0.4)	Inquisitive [16] (-0.3)	Contextualize [3] (-0.2)
Ineffective Writer {24}				
Writer [8] (-1.0)	Think Critically [2] (-0.5)	Organize [29] (-0.4)	Clarify Expectations [17] (-0.3)	Take Risks [32] (-0.2)

Insecure Public Speaker {28}				
Speak Publicly [45] (-1.0)	Communicate (43) (-0.5)	Prepared [28] (-0.4)	Organized [29] (-0.3)	—
Irresponsible {34}				
Responsible [50] (-1.0)	Committed to Success [36] (-0.5)	Take Risks [32] (-0.4)	Assertive [24] (-0.3)	—
Isolated from Others {20}				
Network [41] (-0.7)	Team Player [44] (-0.5)	Communicate [43] (-0.4)	Seek Diversity [42] (-0.3)	Collaborate [22] (-0.2)
Lacks Discipline {4}				
Disciplined [48] (-1.0)	Prioritize [47] (-0.5)	Focused [27] (-0.4)	Work Hard [25] (-0.3)	Engaged [26] (-0.2)
Lacks Mentors {16}				
Self-Assess [13] (-0.7)	Ask for Help [40] (-0.5)	Network [41] (-0.4)	Communicate [43] (-0.3)	—
Lacks Support System {25}				
Network [41] (-0.7)	Ask for Help [40] (-0.5)	Assertive [24] (-0.4)	Use Resources [20] (-0.3)	Adapt [38] (-0.2)
Lacks Time Management {2}				
Manage Time [30] (-1.0)	Plan [21] (-0.5)	Prioritize [47] (-0.4)	Organized [29] (-0.3)	Use Resources [20] (-0.2)
Life-Long Learning Not a Priority {15}				
Learner Ownership [1] (-0.7)	Contextualize [3] (-0.5)	Generalize [4] (-0.4)	Reader [7] (-0.3)	Information Processor [6] (-0.2)
Minimal Meta-Cognition {27}				
Meta-Cognitive [5] (-1.0)	Reflect [10] (-0.5)	Think Critically [2] (-0.4)	Validate [23] (-0.3)	Focused [27] (-0.2)
Minimalist {32}				
Set Goals [19] (-0.7)	Life Vision [18] (-0.5)	Self-Efficacy [15] (-0.4)	Work Hard [25] (-0.3)	Clarify Expectations [17] (-0.2)
Needs Affirmation {31}				
Self-Assess [13] (-0.7)	Validate [23] (-0.5)	Reflect [10] (-0.4)	Meta-Cognition [5] (-0.3)	Open to Feedback [12] (-0.2)
Negative Attitude {12}				
Positive [14] (-1.0)	Self-Efficacy [15] (-0.5)	Self-Starter [46] (-0.4)	Leverage Failures [34] (-0.3)	Maintain Balance [35] (-0.2)
No Life Vision {11}				
Life Vision [18] (-1.0)	Self-Motivate [39] (-0.5)	Clarify Expectations [17] (-0.4)	Committed to Success [36] (-0.3)	Responsible [50] (-0.2)

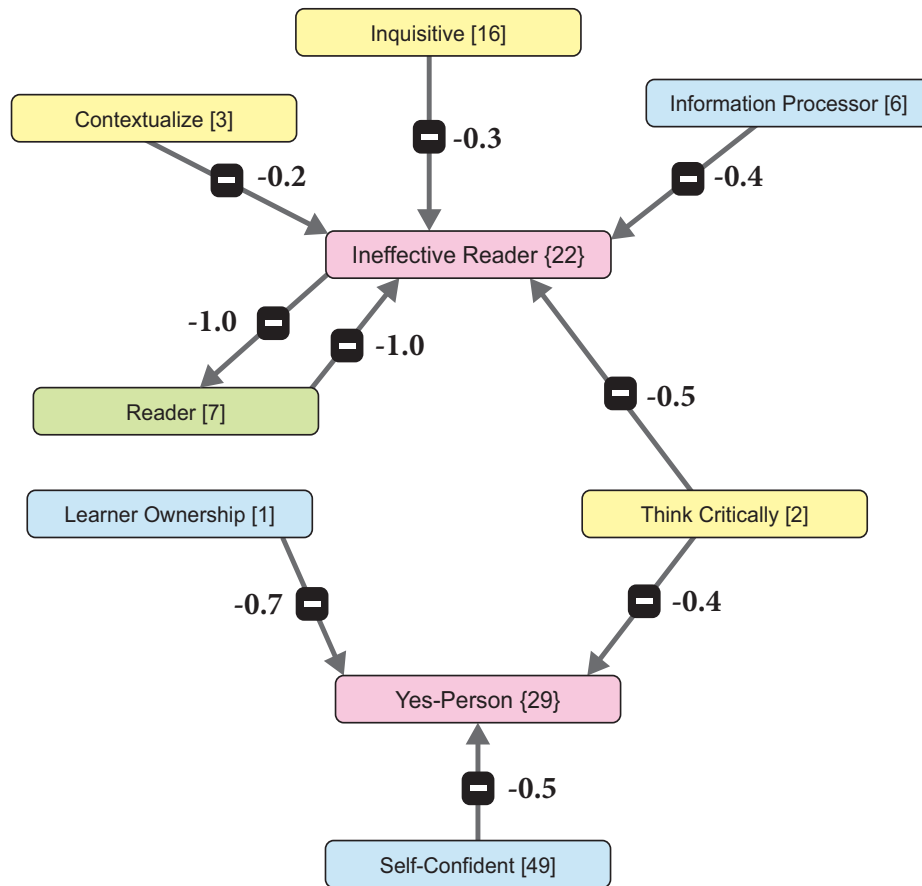
No Sense of Self-Efficacy {5}				
Self-Efficacy [15] (-1.0)	Self-Confident [49] (-0.5)	Life Vision [18] (-0.4)	Self-Assess [13] (-0.3)	Speak Publicly [45] (-0.2)
Not a Team Player {26}				
Team Player [44] (-1.0)	Collaborate [22] (-0.5)	Communicate [43] (-0.4)	Network [41] (-0.3)	Seek Diversity [42] (-0.2)
Not Open to Feedback {18}				
Open to Feedback [12] (-1.0)	Self-Assess [13] (-0.5)	Communicate [43] (-0.4)	Open-Minded [11] (-0.3)	Positive [14] (-0.2)
Personal Factors {17}				
Self-Efficacy [15] (-0.7)	Leverage Failures [34] (-0.5)	Life Vision [18] (-0.4)	Problem Solver [9] (-0.3)	Positive [14] (-0.2)
Procrastinates {1}				
Self-Starter [46] (-0.7)	Self-Challenge [31] (-0.5)	Manage Time [30] (-0.4)	Engaged [26] (-0.3)	Focused [27] (-0.2)
Uncommitted {8}				
Committed to Success [36] (-1.0)	Life Vision [18] (-0.5)	Responsible [50] (-0.4)	Set Goals [19] (-0.3)	Persist [33] (-0.2)
Unmotivated {13}				
Life Vision [18] (-0.7)	Self-Motivate [39] (-0.5)	Set-Goals [19] (-0.4)	Committed to Success [36] (-0.3)	Clarify Expectations [17] (-0.2)
Unorganized {7}				
Organized [29] (-1.0)	Clarify Expectations [17] (-0.5)	Disciplined [48] (-0.4)	Prioritize [47] (-0.3)	Use Resources [20] (-0.2)
Self-Evaluator {10}				
Self-Assess [13] (-0.7)	Positive [14] (-0.5)	Open to Feedback [12] (-0.4)	Open Minded [11] (-0.3)	—
Self-Limited Thinking {33}				
Think Critically [2] (-0.7)	Contextualize [3] (-0.5)	Generalize [4] (-0.4)	Inquisitive [16] (-0.3)	Meta-Cognitive [5] (-0.2)
Wings Everything {21}				
Clarify Expectations [17] (-0.7)	Plan [21] (-0.5)	Prepared [28] (-0.4)	Set Goals [19] (-0.3)	Manage Time [30] (-0.2)
Yes-Person {29}				
Learner Ownership [1] (-0.7)	Self-Confident [49] (-0.5)	Think Critically [2] (-0.4)	Self-Efficacy [15] (-0.3)	—

Appendix B

Case Study 2: A Student with Two Risk Factors

A student wishes to reduce the role of two risk factors in their life: Ineffective Reader and Yes-Person. From PGSG it was found that these two risk factors could be remediated by a cluster of seven skills, one of which, Think Critically, mitigates both of these risk factors. Based on the convention listed above, this common skill Think Critically is given a weight of -0.3 for both risk factors. The characteristic Reader is given the maximum weight of -1.0, and an additional back relationship, because it is the direct opposite of the risk factor Ineffective Reader. The top characteristic for Yes-Person, Learner Ownership, is given an impact value of -0.5. Less important characteristics are given weaker weights to complete the FCM.

Figure 1 Fuzzy Cognitive Map for Case 2



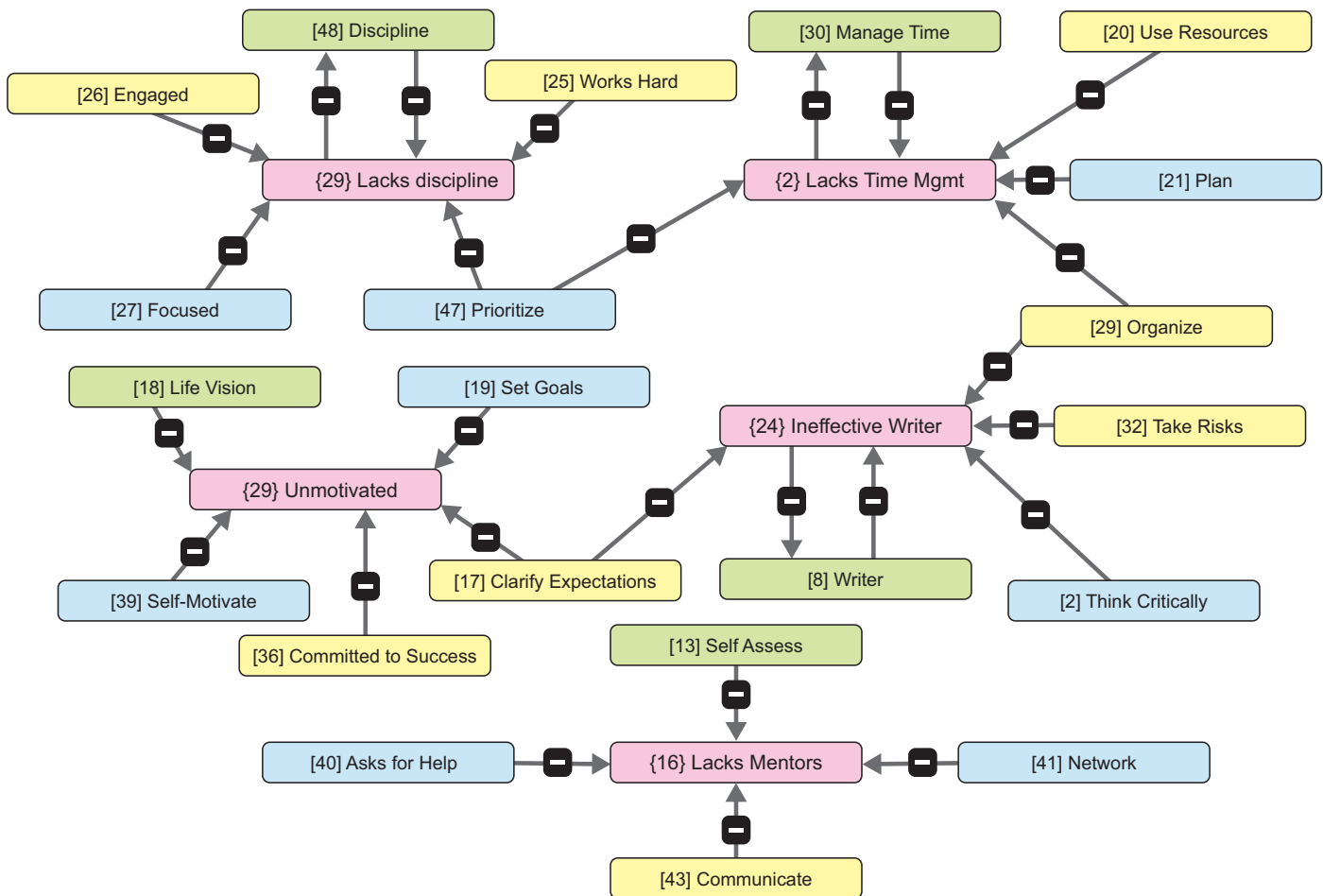
From the FCM (Figure 1), the student decides to first focus on improving the highest weighted characteristics: Reader, Learner Ownership, and Think Critically. Even though Self-Confident has a substantial effect on Yes-Person, this was considered too difficult to work on directly, but improvements could still be made because of success in the other areas. The student worked with their mentor to operationalize the development of the characteristics. To work on Reader, the student agreed to read one graphic novel of their choice every week for two months. To work on Learner Ownership, the student plans to intentionally disagree with someone once a week and record the results in a journal. To work on Think Critically, the student will exhale and wait three heart beats before replying when asked a direct question. After two months, the student returned to the mentor with detailed records of their actions. They had read six graphic novels, so Reader was scored as +0.5. They reported disagreeing with someone on three instances, so Learner Ownership was scored as +0.25. They had thought the assignment to wait three heart beats before speaking was silly and did not do it so Think Critically was scored as zero. The values of change were placed into the fuzzy cognitive map and run as a scenario. The results showed a 1% reduction in the risk factor Ineffective Reader and a 3% reduction of the risk factor Yes-Person. Comparing these results with the FCM revealed the weight of Learning Ownership was too high and should be lowered. The teacher proposed a new technique for Think Critically and the student agreed to continue reading graphic novels and playing the devil's advocate for the time being.

Case Study 3: Example of Victoria Working on Five Risk Factors with Linked Interactions

Victoria is hypothetical student seeking support from her academic advisor. Her advisor has Victoria peruse the list of risk factors in the PGSG to determine which risk factors to focus on. Victoria’s risk roadmap contains five risk factors: Lacks Discipline, Lacks Time Management, Unmotivated, Ineffective Writer, and Lacks Mentors. These five risk factors are best mitigated by a set of 21 unique professional characteristics (Appendix A). Three of these professional characteristics (Prioritize, Organize, and Clarify Expectations) are degree two, meaning they help to mitigate two of her risk factors. Discipline, Manage Time, and Writer are given a maximum impact of -1.0 because they are the direct opposites of Lacks Discipline, Lacks Time Management, and Ineffective Writer, respectively. Also note, that Clarify Expectations is awarded a low-level impact on both its connected risk factors because this professional characteristic is listed last in each grouping. In addition, Organize has a medium level impact on one risk factor and a low level impact on the other connected risk factor.

Once the fuzzy cognitive map shown in Figure 2 was created, the recommendation for Victoria was to master the eight professional characteristics: Manage Time, Organize, Plan, Prioritize, Set Goals, Self-Assess, Persist, and Ask for Help. Victoria was advised to disregard the remaining 13 because they all have medium to low impact on their connected risk factors. To operationalize these characteristics the mentor asks Victoria to make use of a planner and record her class times, work times, and study times in it and bring in to back in a few days so it can be determined if the schedule is realistic and functional. Also, the mentor asks her to set four goals, two near-term and two long-term, write these goals down in the planner and discuss what she needs to make these goals happen in the time set aside. The mentor asks Victoria to report on these goals as they are in progress using the strength, improvement, insight, SII assessment format, to model self-assessing (Wasserman & Beyerlein, 2007). At each meeting, the mentor asks her to *plan the work and work the plan* to model persistence. This model includes getting the materials, skills, and advice that are necessary to complete her four goals. At the end of each week, they review what has been done and her status with the four goals, using this data to run scenarios and update her FCM.

Figure 2 Fuzzy Cognitive Map for the Victoria Case Study



Developing a Quality of Life (QoL) Framework for Self-Growth

Arlene King-Berry¹, Dan Apple¹, Wade Ellis¹, Cy Leise¹

Abstract

People have been searching for the good life or **quality of life (QoL)** for several millennia. The concept of QoL is described in the Oxford dictionary as the standard of health, comfort, and happiness experienced by an individual or group. The things that are needed for a good quality of life. Self-growers would benefit from a QoL Framework that would help them improve their self-growth capability. Such a QoL framework would enable individuals to measure the progress they make toward increasing their self-growth capability and provide an ideal to measure the effectiveness of Process Education. This article presents a QoL Framework for Self-Growth that describes different aspects of life that researchers refer to as domains or dimensions and for which they develop appropriate subjective or objective indicator scales. The QoL Framework for Self-Growth is essential for individuals who want to clarify, define, measure, and develop their capabilities to improve their QoL.

Introduction

People have been searching for “the good life” or quality of life (QoL) for several millennia. The pursuit of quality of life provides individuals with significant motivation for increasing their growth and self-growth capabilities. However, only during the past four decades have researchers designed and implemented objective and subjective tools for measuring QoL.

In parallel development over the last 30 years, Process Educators have advanced their practices in knowing, learning, learning to learn, growth and self-growth (Leise, 2020). During the 1990s, the focus of Process Education (PE) was on increasing the teachable moments in the curricula developed by process educators. Teachable moments are the typical contextual experiences that stimulate learning. The cognitive dissonance leads to the production of new or changed knowledge by a learner. Process Educators accomplished this by setting up challenging assessment cultures with active learning (Apple et al., 2016). They used the Learning Process Methodology to create and facilitate activities (Watts, 2016). Process Educators linked a set of learning skills (Leise et al., 2019) to specific courses and address selected learning skills from that set for each activity. Facilitation plans were designed to help facilitators identify learning issues that would support learner intervention, thus helping struggling learners improve a specific learning skill. Consequently, the facilitator could take advantage of each growable moment (Minderhout, 2007).

During the early 2000s, the idea that learning is more than process began to germinate; learning is also performance with unlimited growth potential (Elger, 2007). Process Educators expanded learning by developing supporting processes like reading, writing, communicating, and problem

solving (Krumsteg & Baehr, 2000). With the increasing number, size, and impact of Learning to Learn Camps (Apple et al., 2015), a philosophical change occurred wherein learning skills shifted from a knowledge-producing focus to the development of learning skills usable across all life performance areas. It is during these learning experiences that learners with a growth mindset also realize that if their learning performance had been stronger, they would not have required teachable moments. Instead, they would have created their own learning moments. Facilitators, to the extent that they become aware of learner readiness through accurate assessment, use learners' readiness to elevate growable moments to growable experiences (Smith & Apple, 2007). Growable experiences occur when a person or group experience a complex set of conditions and circumstances that cannot be fully addressed merely with new knowledge because life issue(s) have triggered a need to respond with a higher level of capability than previously. In other words, the person or group require a growth in learning skills that leads to transformation and greater empowerment for the learner. Knowing where growth opportunities are likely to arise, facilitators can intervene constructively, so that learners become more aware and involved in the development of learning skills (Smith & Leise, 2007).

Recently, the PE community discovered that the facilitators were able to increase student success (Wenner et al., 2019; Murray, 2019; Watts & Perkins, 2019) when they mentored performance development, that is, facilitating the effective development of students into better learners and performers (Van Slyke & Utschig, 2020). Thus, growth was more readily realized if individuals became more skilled at facilitating their own growth. In the book, *Learning to Learn: Becoming a Self-Grower*, Apple et al. (2013) describe the

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relationship between learning and self-growth and how the two have become integrated. Tunstall's workshop (2016), *Comparing PE Philosophy to Existentialism*, during the 2016 Process Education Conference, stimulated conversation on how PE provides educators with a greater quality of life. The PE community has expanded its focus on the relationship between self-growth development and improved quality of life by putting the focus on performance mentoring and self-growth coaching. Process Educators are trying to help turn *growable experiences* into *self-growth experiences* by drawing upon higher motives that drive personal development, performance growth, and self-growth (Leasure et al., 2020) and, in turn, improve their QoL.

QoL has been recognized as a critical part of the self-growth process (Jain et al., 2020) and was identified as a primary benefit from increased growth capability. PE's objective of self-growth development is to improve the overall QoL by increasing one's growth capability in areas of meaning and value toward one's chosen life. Jain et al. (2020) developed the Self-Growth Methodology designed to improve growth capability and one's QoL. This methodology includes many parts such as defining the meaning of life, developing a life vision and a life plan, identifying important performance areas, clarifying impediments and risks associated with these performances, developing weekly growth and self-growth plans, and assessing and reflecting weekly and annually on these performances. The foundation of the self-growth process is based upon a personal framework for creating life meaning and developing capabilities to live a quality life.

This research begins the development of a personalized QoL measurement system through the development of a QoL Framework for Self-Growth. In what follows, the literature on quality of life and life's characteristics is discussed leading to the development of the QoL Framework for Self-Growth. Next, the use of this framework as a personal tool for growth and self-growth is outlined. Finally, future research utilizing the QoL Framework for Self-Growth and conclusions are presented.

Literature on Quality of Life and its Characteristics

QoL research is extensive and spans many disciplines, segments of the private sector, levels of government, and academia (Constanza et al., 2008). The research includes areas such as subjective well-being (McMahan & Estes, 2011; Strack, 1996), life satisfaction (Pavot & Diener, 2008), and happiness (Kammann et al., 1984). QoL research uses objective indicators, data that can be measured and quantified (e.g., income, standard of living, education), and subjective indicators of QoL such as satisfaction with health, family, living conditions, etc. (Sirgy et al., 2006). To capture

the breadth of this literature, Sirgy (2006), Constanza et al. (2008), and Haraldstad et al. (2019) each conducted meta-analysis research projects that span the history of QoL research.

The first meta-analysis (Sirgy et al., 2006) looked at QoL measurement from multiple perspectives by first laying out the conceptual structure of its research, then from perspectives of the disciplines of economics, health orientation, well-being, marketing, and organizational psychology and management. An interesting part of this article is their perspective on forecasting the future research of QoL, which the authors compared to the actual research that resulted from 2006 to 2020. The last 15 years has led to the incorporation of QoL in many areas. Health and Medicine research and practice expanding their use QoL. Higher education incorporating QoL as a critical learning outcome in numerous programs, developing QoL courses, expanding the number of QoL research centers, as well as providing research opportunities for students like Nova Southeastern University QoL program. The development of numerous private-sector jobs in marketing, advertising, pharmacology, and health fields with respect to QoL. Governments incorporating QoL into policy making, decision making and funding. Finally, organizations and human resource departments incorporating QoL in managing their workplace.

In the second meta-analysis, Constanza et al. (2008) provided a vast background of the research that led to their development of an integrative multi-disciplinary perspective definition of QoL. This QoL definition was the basis of a multi-scale, multi-dimensional concept based on the interaction of objective and subjective indicators. A major context for this effort is to expand opportunities for increasing QoL. Constanza et al. summarize their work as follows:

... quality of life (QOL) is the extent to which objective human needs are fulfilled in relation to personal or group perceptions of subjective well-being ... Human needs are basic needs for subsistence, reproduction, security, affection, etc. ... [subjective well-being] is assessed by individuals' or groups' responses to questions about happiness, life satisfaction, utility, or welfare. The relation between specific human needs and perceived satisfaction with each of them can be affected by mental capacity, cultural context, information, education, temperament, and the like, often in quite complex ways. Moreover, the relation between the fulfillment of human needs and overall subjective wellbeing is affected by the (time-varying) weights individuals, groups, and cultures give to fulfilling each of the human needs relative to the others.

They further clarify the measurement of QoL as: “Overall QoL at any point in time is a function of (a) the degree to which each identified human need is met, which we will call ‘fulfillment’ and (b) the importance of the need to the respondent or to the group in terms of its relative contribution to their subjective well-being.”

Finally, in the third meta-analysis, Haraldstad et al. (2019) focuses on health fields but tries to connect to the broader QoL research. Haraldstad et al. compare and contrast QoL measures through a systematic review to identify instruments, design and conceptual issues. Their conclusion is that QoL research methods can be strengthened and standardized so that improved quality instruments will produce more meaningful research. While most studies did not adequately define the QoL concept or distinguish QoL from Health-Related QoL, the studies did indicate the domains of QoL to be measured, give a reason for choosing the instruments used, and aggregate the results from multiple items.

These three meta-analyses delineate critical QoL research and measuring system approaches which provide the theoretical context for the QoL Framework for Self-Growth. Further, three major life characteristics underlie the QoL Framework for Self-Growth: subjective well-being, life satisfaction, and happiness. Life’s quality characteristics are inherently personal. They are subjective constructs that arise from life but are not always connected to objective reality. They are multidimensional constructs that describe how one defines emotional, physical, material, and social well-being. Camus (1955) offers a revealing insight on life’s quality by asking, if life is not worth living, why doesn’t everyone kill themselves? Philosopher Thagard argues that despite challenges, human beings act morally because doing so is the most relevant and harmonious path to a meaningfully enriched life in all spheres of existence (Lucas, 2010). Shermer (2015) identifies ten “provisional moral principles” that begin with the “golden rule” of treating others the way you wish to be treated. Schwarz and Strack (1991) distinguish life quality as a balance between positive and negative feelings. Diener and Suh (1997) note three alternative approaches as sources for life’s quality characteristics: normative ideals (religion, philosophy), satisfaction of preferences (resource-based), and desired personal experiences (joy, pleasure, and contentment). Books, plays, movies, songs, poems, oral stories, paintings, traditions, sports, relationships, personal experiences, etc., all help to identify which of these characteristics are the most important to you and bring exceptional value to your life. Experiences that have become your precious favorite memories drive motivation to perform in ways that make each day of your life special to create even more of these memories. Synthesizing these viewpoints, *The Professional’s Guide to Self-Growth* (Apple et al., 2018) identifies 50

professional characteristics for success that help to elevate self-expectations for QoL.

Subjective Well Being

Most researchers credit Diener (1984) with articulating subjective well-being as a self-reported measure typically obtained by questionnaire. Diener describes subjective well-being as “people’s cognitive and affective evaluations of their lives,” that is, how people experience the quality of their lives. Busseri and Sadava (2010) separated this construct into three synergistic components (Tripartite Model): frequency of positive affect, infrequency of negative affect, and cognitive evaluation of a person’s life satisfaction. These affective determinations are influenced by the degree to which hedonic and eudaimonic dimensions are emphasized as important aspects of the experience of well-being. Subjective well-being informs key QoL dimensions that likely matter to most individuals. Seligman (2002) suggests there are three orientations to consider: the pleasant life (hedonic orientation of positive affective experiences), the meaningful life (eudaimonic orientation of working towards a higher purpose), and the engaged life (activities that promote psychological well-being and flow).

Life Satisfaction

Veenhoven (2015) maintains that “Life satisfaction is the degree to which a person positively evaluates the overall quality of his/her life as a whole” which is essentially how much a person likes their life. The Satisfaction with Life Scale (SWLS) has been used by Diener frequently as a measure of the life satisfaction component of subjective well-being. Scores on the SWLS have been shown to correlate with measures of mental health and to be predictive of future behaviors such as suicide attempts. Psychometricians describe key characteristics of the SWLS as a 7-point Likert style response, with a score range of 5 to 35. A score of 20 represents a neutral point, a score between 5 to 9 indicates extreme dissatisfaction with life, and a 31 to 35 score indicates extreme satisfaction.

Happiness

In reviewing the literature on happiness, many general findings were revealed. Being happy and finding life meaningful overlap, but there are important differences. A large survey revealed multiple differing predictors of happiness (controlling for meaning) and meaningfulness (controlling for happiness). Satisfying one’s needs and wants increased happiness but was largely irrelevant to meaningfulness (Kammann et al., 1984). Happiness was largely present-oriented, whereas meaningfulness involves integrating past, present, and future. For example, thinking about future and past was associated with high meaningfulness

but low happiness. Happiness was linked to being a taker rather than a giver, whereas meaningfulness was linked to being a giver rather than a taker. Higher levels of worry, stress, and anxiety were linked to higher meaningfulness but lower happiness. Concerns with personal identity and expressing the self both contributed to meaning but not happiness.

The QoL Framework for Self-Growth

A review of the research and frameworks for QoL that would support self-growth, revealed critical QoL research across 15 different disciplines (see Appendix A), QoL research centers (see Appendix B), and journals focusing on publishing QoL research (see Appendix C). The QoL Framework for Self-Growth was developed by identifying a subset of these studies that pertain to subjective measures.

Then selecting 15 of the most appropriate disciplinary and interdisciplinary QoL frameworks along with their domains and dimensions. Further review reduced and synthesized the total domains into 14 relevant domains for self-growers along with corresponding dimensions from the 15 frameworks and supplemented these dimensions with additional dimensions from the Self-Growth community. The resulting framework, *QoL Framework for Self-Growth*, is a versatile structure consisting of 14 domains and 68 dimensions. When clarifying the QoL Framework for Self-Growth, the domains are shared by many people and this shared commonality often extends to dimensions. To ensure completeness, a perception check of the QoL Framework for Self-Growth was conducted with the Self-Growth Community. After incorporating their input, the final framework is presented in Table 1.

Table 1 Domains and Dimensions of the QoL Framework for Self-Growth

Life Domains	Dimensions with Descriptions
Domain 1: Social Well-being (Enjoying the relationships within life that add so much special meaning)	
	<p>Life Partner: The individual a person chooses to share life's journey, love, experiences and quality</p> <p>Friendships: Meaningful relationships that contribute to who a person is, what they do, and that help them to become the person they want to be</p> <p>Family: All members: children, grandchildren, parents, siblings, grandparents, uncles, aunts, cousins, nieces, nephews, and very close family friends who are part of the family</p> <p>Community: Groups of people a person values belonging to, such as a neighborhood, church, professional learning community, association, etc.</p> <p>Personal Support System: Strength of friends, family, community members, mentors, and co-workers, especially during tough times</p> <p>Social Status: How an individual is perceived within various communities in with they engage</p> <p>Pets: Animals who bring love, warmth, and compassion</p>
Domain 2: Work Well-being (Doing work that adds value and quality to life)	
	<p>Valued for work: Work an individual produces is valued by the organization, clients, supervisors, and individual</p> <p>Job/profession status: How a person recognized in their professional career by society</p> <p>Professional network: Quantity and quality of influential individuals who are invested in an individual's future, want to see them succeed, build their reputation, and are willing to help them progress in their career</p> <p>Valuing one's impact: Understand and enjoy the contributions one makes to all stakeholders</p>
Domain 3: Spiritual Well-being (Moving beyond self to obtain a greater meaning of life)	
	<p>Volunteering/Gifting: Provide time, energy and personal resources to help others better their lives and its quality</p> <p>Positive civic action: Through individual and collective action, help increase justice, freedom, and equity</p> <p>Being positive: Use each day to treat others with respect, kindness, and compassion to better everyone's life quality</p> <p>Practicing Faith: Use of prayer, traditions, and beliefs to help make greater meaning of life regarding a greater being or spirit</p> <p>Being in nature: Enjoy bonding with nature's beauty, resources and wonder for renewal</p> <p>Being connected to something greater: Understanding, believing and experiencing significance beyond self</p>

Domain 4: Emotional Well-being (Feeling good about oneself)

Taking care of self (needs): Fulfill primary needs each day to keep whole

Being productive: Use each hour effectively to produce experiences and results that exceed expectations

Reason to live: A driving life force which encompasses purpose, passion, goals, direction, and people for relishing the experience of living

Self-worth: A sense that one's importance to the world is as good as anyone else's

Efficacy: Belief that one is capable to do anything they set their mind and being towards doing

Being Happy: Waking up positive, constantly smiling and bringing joy to oneself and for others

Domain 5: Intellectual/Mental Well-being (Creating meaning)

Sense of Purpose: Build a philosophical meaning of life that centers one and produces a personal compass to guide one's actions

Freedom: Opportunity to make one's own choices and own their consequences with minimal social constraints by others

Learning: An understanding of self and the world that allows a person to process life in the ways they choose

Domain 6: Personal Development (Strengthening personal capabilities)

Learning to Learn: Increasing learning performance and the ability to learn

Self-improvement (assessment): the use of every experience and performance to increase future situations

Life Plan: Thoughtful development of a life vision, life goals, broad criteria and strategies to direct life efforts with a productive growth mindset

Growth (Personal Growth Rate): Use of life moments to see how to improve and move along the path towards an ideal self, i.e., systematically improving self, situations, and performances, and their positive impact on QoL

Self-growth: Expenditure of energy and time on increasing growth capability by increasing the power of its components

Domain 7: Joyful Experiences (Enriching life experiences)

Meaningful pastime: Taking joy of doing what one wants to do because of the personal value it renders

Leisure: Enjoy taking time to explore aspects of life, including travel, that are outside of routine for the experiences they might provide

Attending performances/events: Enjoy the quality produced by others in all dimensions of life performances

Spending time with loved ones: Joy sharing holidays, events, life happenings with people who are close and meaningful

Domain 8: Physical Well-being: (Being in peak condition for enjoying the body and its role in a holistic life)

Exercise: Workouts that keep a person feeling fit

Sport: Enjoy the physical competition of giving it your all, trying to excel and continually improve

Outdoor recreation: Physical activities to commune with the environment and tap into the vast resources

Safety: Protecting oneself from obvious harm by being situationally aware and taking normal precautions

Domain 9: Good Health Maintaining a body that feels good)

Maintenance: Keeping the body in functioning order by getting routine checkups

Nutrition: Balancing body's physical needs through eating, sleeping and dietary choices thus maintaining a healthy weight and alertness

Wellness: making sure to take care of self physically to minimize sick days

Domain 10: Environmental Well-being (Enjoying quality surroundings in which to work, live and play)

Local environment: The quality of the Parks, Green Space, museums commercial establishments, upkeep, transportation, etc.

Living conditions: Quality of housing, personal living space, cleanliness, autonomy, and things to make daily living viable

Mobility: Being able to make choices to do things because one can relocate to achieve access

Environmental quality: having a quality environment including such things as water, air, vegetation, industrial plants, restoration, repairs, and general maintenance

Domain 11: Economic Well-being (Having access to healthy economic support)

Perceived standard of living: How one feels about the level of comfort experiencing against expectations

Cost of living: How expensive is it to maintain one's standard of living

Net-worth (retirement plan): The number of resources accumulated for the future so retirement is well funded and future work will not be a requirement

Domain 12: Self-Expression (Engaging in creative pursuits)

Orating/Writing: Communicating ideas that impact other ideas and views on how to live one's life

Producing art: the creation of new works

Creating Music: Producing pleasant sounds and meaning for appreciation

Acting/Storytelling: Sharing representations of life experiences via many forms of medium

Crafting: The production of substances and products that bring value and appreciation

Playing: Intentionally creating experiences that others and one's self can enjoy (e.g., parties)

Gardening: Cultivating new vegetation for beauty and bounty

Cooking: Preparing dining experiences of tasty delights

Domain 13: Legacy

People impacted: Children, Family, Friends, Mentees, Associates, Employees, Students, and other people one has helped to craft their own futures

Intellectual properties: Contributions that produce copyrighted material designed to improve the conditions of others

Arts/Crafts Artifacts: Tangible items that represent some aspect of who a person is that others value and appreciate their quality

Organizations/Community: Building something that continues to bring people together with common purpose and unity that increases quality to those involved

Systems/Processes: Building new structures that are so stable the outlast own involvement in their creation

Philanthropy: Setting up a foundation that provides means for ongoing support that increases the opportunities and conditions for others to have a better quality of life

Inheritance: Providing resources for others to have a greater QoL after one is gone

Domain 14: Life's Major Interventions

Potential Dimensions

Life challenges: The number of major life crises that has set back one's progress toward one's ideal self

Illness: The long-term status of health characterized by a continuing health problem (e.g. diabetes)

Major health issue: A serious health issue that needs to be addressed (e.g. heart operation)

Response to adversity: Life's quality is influenced by how one addresses these negative issues in a positive manner to effectively move forward to turn negatives into positives (i.e., make lemonade from lemons)

Customizing a Personalized QoL Framework for Self-Growth

The framework presented in Table 1 provides the structure an individual can use to create a personalized framework for their own self-growth. When selecting and defining one's own dimensions, two principles are in play. First, the only person that matters is the person themselves. It is their QoL. Second, the individual is the only one who can limit themselves.

The first part of the Self-Growth Methodology (Jain et al., 2020) involves clarifying values, needs, expectations, and criteria which can be personalized for an individual's self-growth. Developing a personalized framework is a prerequisite to future growth and self-growth development efforts. Developing a personalized index or measure of QoL that is useful in one's journey of self-growth. Effective use of the *QoL Framework Self-Growth* requires an individual to take the following four steps: examine the purpose of life, analyze one's values and needs, raise one's expectations for life, develop broad criteria for a quality life. Each of these steps are discussed in detail with suggestions on how to implement them.

Step 1: Examine the Purpose of Life

Collectively, the empirical studies and theoretical analyses of many thoughtful scholars and practitioners argue for a life-philosophy that includes taking stock of one's own values that have importance for choices related to meeting needs associated with being human and being an individual. Journalist David Brooks, for example, differentiates between "resume virtues" and "eulogy virtues." In his book, *The Second Mountain* (2019), Brooks emphasizes even more strongly the differences between living comfortably by adjusting to conventions of family, church, and society and learning that true meaning in life often requires one to climb a "second mountain," beyond achievement and status. In his book *Man's Search for Meaning*, holocaust survivor Viktor Frankl (1962) discovers meaning of life in every moment—he never ceased even in suffering and facing death at any time. He credits positive thoughts and images, such as of his beloved wife, for his survival.

Theological scholars, Martela and Steger (2016), describe the meaning in life as a trichotomy encapsulating coherence, purpose, and significance. They define *coherence* as a sense of comprehensibility that one's life makes sense; *purpose* as a sense of the core goals, aims, and direction in life; and *significance* as a sense of life's inherent value and that life is worth living." They conclude that for humans to comprehend the world around them, "they need to find direction for

their actions, and they need to find worth in their lives." Haidt (2012) distinguishes between the purpose of life and the purpose within life and examines the concepts of virtue, happiness, fulfillment, values, and meaning. In his 2012 book, *The Righteous Mind*, Haidt provides evidence for these five "foundation" values on which all other values are based: Care/harm, Fairness/cheating, Loyalty/betrayal, Authority/subversion, and Sanctity/degradation. Much like the Chinese yin and yang, Haidt suggests that finding balance across foundation values is important because values often conflict when situations present incongruities like two low-quality choices, two high-quality choices, or when one choice obstructs another that is equally desirable. Maslow's (1943) humanistic psychological perspective emphasizes that growth of an individual increases potential to find greater meaning in life, i.e., self-actualization. Differentiating lower-purpose and higher-purpose needs, he enumerates ten distinctions. Of these, the last—"growth-values"—is not only important for survival but also "to grow toward full humanness, toward actualization of potentialities, toward greater happiness, serenity, peak experiences, toward transcendence, toward richer and more accurate cognition of reality, etc."-

The Classification of Learning Skills (CLS), a framework that captures 509 learning skills, impacts a person's ability to live life in the way one chooses. The highest level in the CLS's affective domain, *Extending Beyond Self*, provides some essential performance skills for moving into deeper meaning and contributions with one's life (Leise et al., 2019). Clarity about the meaning of one's life is more effectively achieved by imagining how one would like to be remembered at the end of life than by thinking only about a list of achievements. Life needs to be considered holistically to bring meaning to the multitude of routine activities necessary to meet needs and to build conditions that make important outcomes possible. Many life experiences result in memories (meaning infused experiences—fundamental form of knowledge) that remain important for recognition of quality characteristics and criteria not just for a satisfying life, but one that will develop life far beyond current expectations. As self-growth occurs, values will correspondingly increase in variety and complexity to reflect quality improvements that become consciously enduring sources of satisfaction and meaning.

Step 2: Analyze One's Values and Needs

The self-growth journey starts by identifying and differentiating ten personal values that are especially meaningful in life and why. An examination of values

is important for defining who one is and who one desires to become. A clear sense of the top values they believe in is essential to their self-growth path because these are most likely to be truly motivating. Beaudoin and Sloman (1993) describe values as motivators when the gap between current self and ideal self is too large. Similarly, alarms and wants can be defined as gap-based motivators. Therefore, new values can be learned, and old values refined or done away with. Well-developed values influence present and future choices and actions toward the intended direction of self-growth.

A clear idea of an individual's top ten values and why each was selected is important to clarify when understanding their QoL. Values are associated with how one takes responsibility for others, achieves successes, and deals with tragedies and failures. The CLS affective domain's level 3, Clarifying, Building, and Refining Values, identifies 46 learning skills that strengthen all aspects of valuing life, such as Trusting Self. Valuing can be learned and improved through experiences and assessment. Many valuing skills, such as empathizing, being tolerant, accepting, or forgiving, are used to take care of the needs of others rather than oneself.

Needs are those things that, if left unfulfilled on a routine basis, leave a person functioning at a fraction of their capability. Needs can be viewed from three perspectives, First, the renewal of the body, mind, emotions, social connections, and spirit. Second the keeping up one's vitality. Third, providing time for appreciating life (e.g., smelling the roses). Many websites share practices and insights about renewal techniques. Renewal of the body includes sound sleeping, power napping, yoga, and hydrating. Renewing your mind includes learning, meditating, reading, and reflecting. Emotional renewal includes being positive, letting things go, affirming self, and visioning a better self. Renewing social connections includes enhancing relationships, playing sports, volunteering, and meeting a new person. Finally, renewal of spirit includes being in nature, praying, engaging in new experiences, and expressing oneself.

Vitality is the strengthening of oneself so one can stay whole, even in the toughest of life situations. Vitality also involves supporting all five domains. For example, exercising, growing, being mindful, networking, and seeking new spiritual truths. As important as the first two areas are, providing time for appreciating life is probably as, if not more, important. These activities include things like visiting gardens, exploring a new environment, going to a concert, or taking personal time. Analyzing how a person renews, maintains vitality, or does appreciation activities, can lead to many

new insights about how to recognize needs. Some specific suggestions that may help to identify top values and needs are presented in Table 2.

Table 2 Suggestions on How to Identify Top Values and Needs

- Brainstorm a list of what personally matters most
- Select 15-20 learning skills from Process 3 of the Affective Domain
- Search for applicable books and websites using the terms *values clarification*, *renewal*, *maintaining vitality*, and *QoL*
- Talk to a trusted person or mentor about one's initial list
- Write a brief blog about each value to clarify why it is important
- Settle on ten values—and set the list aside to allow time for additional insights
- Find the most critical needs and justify why they are not accommodations

When exploring needs, a person must not err by excessively expanding self-accommodation, wherein their standards begin to consume their waking moments. Instead of increasing growth and self-growth, excessive self-accommodation becomes an impediment and a self-imposed limit on growth and self-growth.

Step 3: Raise One's Expectations for Life

An expectation is a belief something can be achieved—most people rely upon past performances to determine prospects for themselves or others. Psychologist Jonathan Fader (2014) suggests using the power of positive self-expectancy to push oneself to the next level because self-expectancy and its accompanying real-world output are completely up to the individual. The military and competitive sports set expectations to a higher capability. President Kennedy raised the nation's expectations by saying, "We choose to go to the Moon in this decade and do the other things, not because they are easy, but because they are hard" (Kennedy, 1962, 22:59). Transformational life coach Stutz (Stutz & Michels, 2012) suggests five specific ways people can raise their expectations: do difficult things; expand their comfort zone; challenge themselves; take a survival course; and learn new things. The challenge is to raise self-expectations continually; this can be aided by improving self-challenge learning skills such as taking risks, being persistent, and leveraging failure. An individual takes control and is outrageous when they define and plan their life's outcomes so they can

prevent a self-limiting mindset that holds them back. The only person who can truly limit an individual is the individual themselves. An important strategy is to visualize one's ideal self in 20 years and to determine one's expectations based on the future-self's perspectives rather than the current-self's perspective.

Step 4: Develop Broad Criteria for a Quality Life

Primarily a subjective and multidimensional construct, successful life is a conventional measurement of the fulfillment of one's own and others' expectations. Society often guides one's thinking about what defines success—material possessions, social status, or physical and emotional well-being. The purpose of a QoL Framework for Self-Growth is not to help define success but to increase one's QoL. Since "success" in self-growth is the quality of life journey toward one's ideal self, broad criteria are developed to guide this journey. Development of general, broad criteria that guide one's self-growth journey requires researching and identifying what creates the quality of one's life. A cross-cultural phenomenon, the virtue of "goodness" remains a borderless, universal ideal that helps people improve themselves. Some may find spirituality the best approach by revisiting the Bible's Ten Commandments (Ex. 34:28). Or the enduring ethical teachings of Confucius from 500 BC regarding love, benevolence, humanity, perfect virtue, and true manhood may signify the ideal relationship (Ng, 2009). Among a select few other inspirations are the young Ben Franklin's unique chart of 13 virtues as a system for developing character (Franklin & Davidow, 1936) or Andy Andrews' (2014) seven decisions of success. Each of these seminal works provides timeless principles of honesty, integrity, fairness, and human dignity. The PE process of self-growth and its relationship to life success requires the development of criteria that continually guide the level of life performance (Myrvaagnes et al., 1999) from the current to an elevated level. One gets to identify their own critical rules of the game of life—those that matter the most and bring meaning and quality to one's own life; those that help guide them to be true to themselves, their vision, and their values.

Future Research

Using *QoL Framework for Self-Growth* an individual can create a QoL Index. Using the *Framework for Self-Growth*, and individual would identify and select important dimensions to be included in their customized QoL framework. Once finished with this selection, the individual would explore which dimension(s) of their QoL are missing and need to be added. From the set of original and added

dimensions, the individual should choose the most important and valuable dimension that outranks all the other dimensions. In analyzing each additional dimensional contribution to QoL, determine the relative valuing of each dimension as a fraction of the chosen most important dimension. For instance, determine if it is one-half, one-third, or one-fourth of the most important dimension. This relationship among the dimensions should be reviewed every five years, if not annually, because these ratios will change. These ranked dimensions will provide guidance to elevate one's QoL in the critical dimensions as one designs their growth plan. An important consideration is the interplay of the QoL of self and the QoL of others. The growth and self-growth plans integrate QoL pursuit into one's life journey, not just its destination. Future research will explore how this way of thinking is used daily to support improved QoL decision making.

The next stage of the research is to create a tool and embedded process. A QoL Artificial Intelligence Coach would walk an individual through this process of creating an individualized QoL Index. This tool would allow individuals and researchers to develop and track QoL to measure the impact that PE self-growth practices have on increasing QoL. Major issues associated with the development of this tool would likely include creating objective and subjective ordinal scales capable of measuring improvement of QoL for each dimension, formalizing the weightings among the dimensions, defining methods to adjust the content and structure of the index when there are changes in one's ideal self, life plan, etc. leading to changes in their QoL, and using the tool in research to generalize across self-growth populations.

Conclusion

Quality of life has been explored, analyzed, and modeled by some of the greatest minds over time and more recently by hundreds of QoL researchers. QoL frameworks have been created to clarify important domains of life. As researchers have described their domains, their frameworks have identified unique characteristics which are defined as dimensions. Fifteen of the most appropriate QoL Frameworks, that support the goals of PE's self-growth approach, were synthesized into the *QoL Framework for Self-Growth* to support the self-growth journey of individuals toward their ideal self. The *Framework* has 14 domains with 68 dimensions that contribute to a self-grower's QoL. The descriptions of each domain and its dimensions help an individual to ascertain the weightings needed to produce a qualitative determination of a personalized QoL measurement. Consequently, building QoL Indices using the *QoL Framework for Self-Growth* will help advance the scholarship and tools necessary for quantifying the subjective measurement of QoL.

References

- Andrews, A. (2014). *The seven decisions: Understanding the keys to personal success*. HarperCollins Christian Pub.
- Apple, D., Ellis, W., & Hintze, D. (2015). Learning to learn camps: Their history and development. *International Journal of Process Education*, 7(1), 63-74. <https://www.ijpe.online/2015/camps.pdf>
- Apple, D. K., Ellis, W., & Hintze, D. (2016). 25 years of Process Education. *International Journal of Process Education*, 8(1), 3-153. http://www.ijpe.online/8_1.html
- Apple, D. K., Ellis, W., & Leasure, D. (2018). *The professional's guide to self-growth*. Pacific Crest.
- Apple, D. K., Morgan, J., & Hintze, D. (2013). *Learning to learn: Becoming a self-grower*. Hampton, NH: Pacific Crest.
- Beaudoin, L. P., & Sloman, A. (1993). A study of motive processing and attention. In A. Sloman, D. Hogg, G. Humphreys, D. Partridge & A. Ramsay (Eds.), *Prospects for artificial intelligence, Proc. AISB'93*. IOS Press, Amsterdam.
- Bowling, A. (1995). What things are important in people's lives? A survey of the public's judgements to inform scales of health related quality of life. *Social Science & Medicine*, 41(10)1447-1462. [https://doi.org/10.1016/0277-9536\(95\)00113-L](https://doi.org/10.1016/0277-9536(95)00113-L)
- Brooks, D. (2019). *The second mountain: The quest for a moral life*. Random House.
- Busseri, M. A., & Sadava, S. W. (2010). A Review of the Tripartite Structure of Subjective Well-Being: Implications for Conceptualization, Operationalization, Analysis, and Synthesis. *Personality and Social Psychology Review*, 15(3), 290-314. doi:10.1177/1088868310391271
- Camus, A. (1955). *The myth of Sisyphus and other essays*. Alfred A. Knopf.
- CDC. (2018, October 31). *About CDC's HRQOL Program*. Retrieved September 02, 2020, from <https://www.cdc.gov/hrqol/about.htm>
- Center for Health and Wellbeing. (2021). <https://yourhealthandwellbeing.org/>
- Centre for Welfare and Labour Research. (2020). <https://www.oslomet.no/en/about/sva>
- Community Living British Columbia. (2018). <https://www.communitylivingbc.ca/>
- Costanza, R., Fisher, B., Ali, S., Beer, C., Bond, L., Boumans, R., Danigelis, N. L., Dickinson, J., Elliott, C., Farley, J., Elliott Gayer, D., MacDonald Glenn, L., Hudspeth, T. R., Mahoney, D. F., McCahill, L., McIntosh, B., Reed, B., Abu Turab Rizvi, S., Rizzo, D. M., . . . Snapp, R. (2008). An integrative approach to quality of life measurement, research, and policy. *Surveys and Perspectives Integrating Environment and Society*, 1(1), 11-15. doi:10.5194/sapiens-1-11-2008
- Deaf Health Communication and Quality of Life Center. (2020, August 27). Retrieved September 02, 2020, from <https://deafhealthequity.com/>
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95(3), 542-575. doi:10.1037/0033-2909.95.3.542
- Diener, E., & Suh, E. (1997). Measuring quality of life: Economic, social, and subjective indicators. *Social Indicators Research*, 40(1-2), 189-216. <https://doi.org/10.1023/A:1006859511756>
- Efklides, A., & Moraitou, D. (2013). Introduction: Looking at quality of life and well-being from a positive psychology perspective. *A Positive Psychology Perspective on Quality of Life Social Indicators Research Series*, 1-14. doi:10.1007/978-94-007-4963-4_1
- Elger, D. (2007). Theory of performance. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.). *Faculty guidebook: A comprehensive tool for improving faculty performance*. (4th ed.). Lisle, IL: Pacific Crest.
- Eshoj, H., Kongsgaard Nielsen, L., Frederiksen, H., Vestergaard, H., Jepsen, L. Ø., Danbjørg, D. B., & Abildgaard, N. (2018). *Quality of Life Research Center, Department of Haematology, Odense University Hospital*. Retrieved from <https://portal.findresearcher.sdu.dk/en/publications/quality-of-life-research-center-department-of-haematology-odense->

- Expert Group on Quality of Life Indicators. (2017). *Final Report 2017 Edition*. European Union. Luxembourg: Publications Office of the European Union. doi:10.2785/021270 Retrieved from <https://ec.europa.eu/eurostat/documents/7870049/7960327/KS-FT-17-004-EN-N.pdf/f29171db-e1a9-4af6-9e96-730e7e11e02f>
- King James Bible (1989). Project Gutenberg. Retrieved from <http://www.gutenberg.org/files/10/10-h/10-h.htm>
- Fader, J. (2014, September 16). *Expect More from Yourself-You'll Get It!* Psychology Today. <https://www.psychologytoday.com/us/blog/the-new-you/201409/expect-more-yourself-you-ll-get-it>
- Ferriss, A. L. (2004). The quality of life concept in sociology. *The American Sociologist*, 35(3), 37-51. doi:10.1007/s12108-004-1016-3
- Frankl, V. E. (1962). *Man's search for meaning: An introduction to logotherapy: A newly rev. and enl. ed. of From death-camp to existentialism*. (I. Lasch, Trans.) Beacon Press. (Original work published 1946.)
- Franklin, B., & Davidow, L. S. (1936). *The autobiography of Benjamin Franklin*. The Spencer Press.
- Haidt, J. (2012). *The righteous mind: Why good people are divided by politics and religion*. Vintage Books.
- Hancock, P. A. & Drury C. G. (2011) Does human factors/ergonomics contribute to the quality of life?, *Theoretical Issues in Ergonomics Science*, 12:5, 416-426, DOI: 10.1080/1464536X.2011.559293
- Haraldstad, K., Wahl, A., Andenæs, R., Andersen, J. R., Andersen, M. H., Beiland, E., Borge, C. R., Engebretsen, E., Eisemann, M., Halvorsrud, L., Hanssen, T. A., Haugstvedt, A., Haugland, T., Johansen, V. A., Larsen, M. H., Løvereide, L., Løyland, B., Kvarme, L. G., Moons, P., . . . Helseth, S. (2019). A systematic review of quality of life research in medicine and health sciences. *Quality of Life Research*, 28(10), 2641-2650. doi:10.1007/s11136-019-02214-9
- Hindelang, R. L., Schwerin, M. J., & Farmer, W. L. (2004). Quality of life (QOL) in the U.S. Marine Corps: The validation of a qol model for predicting reenlistment intentions. *Military Psychology*, 16(2), 115-134. doi:10.1207/s15327876mp1602_3
- Ivana, I., Ivona, M., & Arandjelovic, M. (2010). Assessing quality of life: current approaches. *Acta Medica Medianae*. 49(4). https://www.researchgate.net/publication/49604059_ASSESSING_QUALITY_OF_LIFE_CURRENT_APPROACHES
- Jain, C., Apple, D. K., Ellis, W., Leise, C., & Leasure, D. (2020). Bringing self-growth theory to practice using the self-growth methodology. *International Journal of Process Education*, 11(1), 73-100. <http://www.ijpe.online/2020/sgmethodology.pdf>
- Kammann, R., Farry, M., & Herb, P. (1984). The analysis and measurement of happiness as a sense of well-being. *Social Indicators Research* 15(2), 91-115. doi:10.1007/BF00426282
- Kane, R. A. (2003). Definition, measurement, and correlates of quality of life in nursing homes: Toward a reasonable practice, research, and policy agenda. *The Gerontologist*. Vol. 43, Issue suppl_2, April 2003, 28–36. https://doi.org/10.1093/geront/43.suppl_2.28
- Kennedy, J. F. (1962, September 12). *Address at Rice University on the nation's space effort* [Speech audio recording]. The Space Educator's Handbook. <https://er.jsc.nasa.gov/seh/ricetalk.htm>, <https://er.jsc.nasa.gov/seh/jfkru56k.asf>
- Krumsieg, K., & Baehr, M. (2000). *Foundations of learning* (3rd ed.). Pacific Crest.
- Lambiri, D., Biagi, B., & Royuela, V. (2006). Quality of life in the economic and urban economic literature. *Social Indicators Research*, 84(1), 1-25. doi:10.1007/s11205-006-9071-5
- Leasure, D., Apple, D., Beyerlein, S., Ellis, W., & Utschig, T. (2020). System for learning by performance (LxP). *International Journal of Process Education*, 11(1), 101-128. <http://www.ijpe.online/2020/lxp.pdf>
- Leise, C. (2020, June). Psychology of growth and self-growth. [Paper presentation]. Process Education Conference 2020, online.
- Leise, C., Litynski, D., Woodbridge, C., Ulbrich, I., Jain, C., Leasure, D., Horton, J., Hintze, D., El- Sayed, M., Ellis, W., Beyerlein, S., & Apple, D. (2019). Classifying learning skills for educational enrichment. *International Journal of Process Education*, 10(1), 57-104. http://www.ijpe.online/2019/cls_full1.pdf

- Lercher, P. (2003). Which health outcomes should be measured in health related environmental quality of life studies? *Landscape and Urban Planning*, 65(1-2), 63-72. doi:10.1016/s0169-2046(02)00238-4
- Longitudinal Aging Study Amsterdam. (2014). *Important aspects of life*. <https://lasa-vu.nl/topics/important-aspects-of-life/>
- Lucas, M. (2010). Paul Thagard, The brain and the meaning of life. *Society*, 47(5), 471-473. doi:10.1007/s12115-010-9360-0
- Martela, F., & Steger, M. F. (2016). The three meanings of meaning in life: Distinguishing coherence, purpose, and significance. *The Journal of Positive Psychology*, 11(5), 531-545. doi:10.1080/17439760.2015.1137623
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-396. doi:10.1037/h0054346
- McMahan, E. A., & Estes, D. (2011). Hedonic versus Eudaimonic conceptions of well-being: Evidence of differential associations with self-reported well-being. *Social Indicators Research*, 103(1), 93-108. doi:10.1007/s11205-010-9698-0
- Minderhout, V. (2007). Creating a facilitation plan. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Morris Stroud III Center for Study of Quality of Life in Health and Aging. (2018, December 11). *Overview*. Retrieved September 02, 2020, from <https://www.columbiapsychiatry.org/research/research-centers/morris-stroud-iii-center-study-quality-life-health-and-aging>
- Mulligan, G., Carruthers, J., & Cahill, M. (2004). Urban quality of life and public policy: A survey. *Contributions to Economic Analysis* (266), 729-802. doi: 10.1016/S0573-8555(04)66023-8
- Murray, A. (2019). Student perceptions of skill acquisition in a Process Education learning to learn camp. *International Journal of Process Education*, 10(1), 15-24. <http://www.ijpe.online/2019/llc.pdf>
- Myrvaagnes, E., Brooks, P., Carroll, S., Smith, P. D., & Wolf, P. (1999). *Foundations of problem solving*. Pacific Crest.
- Ng, R. M. C. (2009). College and character: What did Confucius teach us about the importance of integrating ethics, character, learning, and education? *Journal of College and Character*, 10(4). doi:10.2202/1940-1639.1045
- Nussbaum, M. C. (1988). Non-Relative virtues: An Aristotelian approach. *Midwest Studies In Philosophy*, 13(1). 32-53. doi:10.1111/j.1475-4975.1988.tb00111.x
- Pacione, M. (1982). The use of objective and subjective measures of life quality in human geography. *Progress in Human Geography*, 6(4), 495-514. doi:10.1177/030913258200600402
- Pavot, W., & Diener, E. (2008). The satisfaction with life scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology*, 3(2), 137-152. doi:10.1080/17439760701756946
- Pietersma, S., de Vries, M., & van den Akker-van Marle, M. E. (2014). Domains of quality of life: Results of a three-stage Delphi consensus procedure among patients, family of patients, clinicians, scientists and the general public. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, 23(5), 1543–1556. <https://doi.org/10.1007/s11136-013-0578-3>
- ProQOL Team. (n.d.). Professional Quality of Life Measure. <https://www.proqol.org/>
- QoL Research. (2021). QoL Research. <https://www.qol-research.com/>
- QoL Research Unit, University of Toronto. (n.d.). <http://sites.utoronto.ca/qol/>
- QoL: Quality of Life. (n.d.). QoL Technologies. Retrieved September 01, 2020, from <https://www.qualityoflifetechnologies.com/qol-lab/about-the-lab/qol-quality-life/>
- Quality of Life Plus. (n.d.). <https://qlplus.org/>
- Quality of Life Research Center OUH. (2019, February 07). Odense University Hospital. Retrieved September 02, 2020, from <http://en.ouh.dk/research/quality-of-life-research-center-ouh/>

- Quality of Life Research Center. (n.d.). Claremont Graduate University. Retrieved September 02, 2020, from <https://www.cgu.edu/center/quality-of-life-research-center/>
- The Quality of Life Research Center. (n.d.). Quality of Life. Retrieved September 02, 2020, from <https://qualityoflife.dk/the-quality-of-life-research-center/>
- Research. (n.d.). QoL Technologies. Retrieved September 02, 2020, from <https://www.qualityoflifetechnologies.com/qol-lab/research/>
- Enhancement of QOL. (n.d.). Gunze. Retrieved September 02, 2020, from <https://www.gunze.co.jp/english/technology/qol/>
- Ryff, C. (2019, January). *Linking education in the arts and humanities to life-long well-being and health*. The Andrew W. Mellon Foundation. <https://mellon.org/news-blog/articles/linking-education-arts-and-humanities-life-long-well-being-and-health/>
- Schalock, R., Verdugo, M., Jenaro, C., Wang, M., Wehmeyer, M., Jiancheng, X., & Lachapelle, Y. (2005). Cross-Cultural study of quality of life indicators. *American Journal of Mental Retardation: AJMR*. 110. 298-311. 10.1352/0895-8017(2005)110[298:CSOQOL]2.0.CO;2.
- Schwarz, N., & Strack, F. (1991). Evaluating one's life: A judgment model of subjective well-being. In F. Strack, M. Argyle, & N. Schwarz (Eds.), *International series in experimental social psychology, Vol. 21. Subjective well-being: An interdisciplinary perspective*. Pergamon Press.
- Seligman, M.E.P. (2002). *Authentic happiness*. The Free Press
- Shermer, M. (2015). *The moral arc: How science and reason lead humanity toward truth, justice, and freedom*. Macmillan.
- Sirgy, M. J., Michalos, A. C., Ferriss, A. L., Easterlin, R. A., Patrick, D., & Pavot, W. (2006). The quality of life (QoL) research movement: Past, present, and future. *Social Indicators Research* 76, 343–466. Springer DOI 10.1007/s11205-005-2877-8
- Smith, M. E. (2019). Quality of life and prosperity in ancient households and communities. In C. Isendahl & D. Stump (Eds.), *The Oxford Handbook of Historical Ecology and Applied Archaeology*, 485-505. Oxford University Press. doi:10.1093/oxfordhb/9780199672691.013.4
- Smith, P., & Apple, D. K. (2007). Facilitation methodology. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Smith, P., & Leise, C. (2007). Constructive intervention techniques. In S. W. Beyerlein, C. Holmes, & D. K. Apple (Eds.), *Faculty guidebook: A comprehensive tool for improving faculty performance* (4th ed.). Lisle, IL: Pacific Crest.
- Strack, F. (1996). *Subjective well-being an interdisciplinary perspective*. Franklin Book Comp.
- Stutz, P., & Michels, B. (2012). *The tools: Transform your problems into courage, confidence, and creativity*. Random House of Canada.
- Sydney Quality of Life Office. (n.d.). The University of Sydney. Retrieved September 02, 2020, from <https://www.sydney.edu.au/science/our-research/research-areas/psychology/sydney-quality-of-life-office.html>
- Tunstall, D. (2016). Exploring the philosophical foundation of Process Education [Workshop]. Process Education Conference 2016, Grand Valley State University, Allendale, MI.
- Uysal, M., Sirgy, M. J., Woo, E., & Kim, H. (2016). Quality of life (QOL) and well-being research in tourism. *Tourism Management*, 53, 244-261, doi:10.1016/j.tourman.2015.07.013
- Van Slyke, A., & Utschig, T. (2020, June). Developing tips for performance mentoring [Workshop]. Process Education Conference 2020, online.
- Veenhoven R. (2015) The Overall Satisfaction with Life: Subjective Approaches (1). In: W. Glatzer, L. Camfield, V. Møller, & M. Rojas (Eds.), *Global Handbook of Quality of Life. International Handbooks of Quality-of-Life*. Springer: Dordrecht. https://doi.org/10.1007/978-94-017-9178-6_9

- Ventegodt, S., Andersen, N. J., & Merrick, J. (2003). Quality of life philosophy I. Quality of life, happiness, and meaning in life. *The Scientific World Journal*, 3, 1164-1175. doi:10.1100/tsw.2003.102
- Wac, K., Rivas, H., & Fiordelli, M. (2017). Quality-of-life technologies. *Computer*, 50(3), 14-19. doi:10.1109/mc.2017.89
- Watts, M. (2016). The learning process methodology: A universal model of the learning process and activity design. *International Journal of Process Education*, 9(1), 41-58. http://www.ijpe.online/9_1.html
- Watts, M., & Perkins, W. (2019, June 24). The impact of learning to learn (Learning to learn math camp). [Paper presentation]. Process Education/CoTL Conference, Mobile, AL.
- Wenner, W., Soman, S., Stevenson, R., & Apple, D. (2019). Building institutional support for a recovery course for academically dismissed students. *International Journal of Process Education*, 10(1), 1-14. <http://www.ijpe.online/2019/recovery.pdf>
- Windle, G., Joling, K. J., Howson-Griffiths, T., Woods, B., Jones, C. H., van de Ven, P. M., Newman, A., & Parkinson, C. (2018). The impact of a visual arts program on quality of life, communication, and well-being of people living with dementia: A mixed-methods longitudinal investigation. *International Psychogeriatrics*, 30(3), 409-423. doi:10.1017/s1041610217002162

Appendix A Sample of QoL Research in Different Disciplines

(Discipline / Abbreviated Reference)

Archaeology	Smith (2019). Quality of Life and Prosperity in Ancient Households and Communities.
Computer Science	QoL: Quality of Life. (n.d.).
Economics	Lambiri et al. (2006). Quality of Life in the Economic and Urban Economic Literature.
Environment Science	Lercher (2003). Which Health Outcomes Should be Measured in Health-Related Environmental Quality of Life Studies?
Ergonomics	Hancock & Drury (2011). Do Human Factors/Ergonomics Contribute to the Quality of Life?
Humanities	Ryff (2019, January 09). Linking Education in the Arts and Humanities to Life-Long Well-Being and Health.
Military	Hindelang et al. (2004). Quality of Life (QOL) in the U.S. Marine Corps: The Validation of a QOL Model For Predicting Reenlistment Intentions.
Psychology	Efklides & Moraitou (2013). Introduction: Looking at QoL and Well-Being from a Positive Psychology Perspective. A Positive Psychology Perspective on Quality of Life Social Indicators Research Series.
Sociology	Ferriss (2004). The Quality of Life Concept in Sociology.
Technology	Wac et al. (2017). Quality-of-Life Technologies.
Visual Arts	Windle et al. (2018). The Impact of a Visual Arts Program on Quality of Life, Communication, and Well-Being of People Living with Dementia: A Mixed-Methods Longitudinal Investigation.
Health Sciences	Haraldstad et al. (2019). A Systematic Review of Quality of Life Research in Medicine and Health Sciences.
Geography	Pacione (1982). The Use of Objective and Subjective Measures of Life Quality in Human Geography.
Leisure	Uysal et al. (2016). Quality of life (QOL) and Well-Being Research in Tourism.

Philosophy	Ventegodt et al. (2003). Quality of Life Philosophy I. Quality of Life, Happiness, and Meaning in Life.
Public Policy	Mulligan et al. (2004). Urban Quality of Life and Public Policy: A Survey

Appendix B Examples of QoL Research Centers

(Name of Center / Host and Location / Reference / URL)

Centre for Welfare and Labour Research [Oslo Metropolitan University (Oslo, Norway)]

Storby universitetet, O. (n.d.). Centre for Welfare and Labour Research.

Available at: <https://www.oslomet.no/en/about/sva>

Deaf Health Communication and Quality of Life Center [Gallaudet University, Deaf Health Communication and Quality of Life Center (Washington D.C., USA)]

Deaf Health Communication and Quality of Life Center. (2020, August 27).

Available at: <https://www.deafhealthqol.com/>

Enhancement of QoL [Gunze (Kyoto, Japan)]

Research & Development: GUNZE LIMITED. (n.d.).

Available at: <https://www.gunze.co.jp/english/technology/qol/>

HRQOL Program [Center Disease Control and Prevention (Atlanta, USA)]

About CDC's HRQOL Program. (2018, October 31).

Available at: <https://www.cdc.gov/hrqol/about.htm>

Morris Stroud III. Center for Study of Quality of Life in Health and Aging [Columbia University Department of Psychiatry (New York, USA)]

Available at: <https://www.columbiapsychiatry.org/research/research-centers/morris-stroud-iii-center-study-quality-life-health-and-aging>

Professional Quality of Life Measure [Non-profit (Idaho, USA)]

ProQOL Team. (n.d.).

Available at: https://www.proqol.org/About_us.html

QoL Research Center [Business]

QoL Research

Available at: <https://www.qol-research.com/>

QoL Research Center [Claremont Graduate School (Claremont, California, USA)]

Quality of Life Research Center · Claremont Graduate University. (n.d.).

Available at: <https://www.cgu.edu/center/quality-of-life-research-center/>

QoL Research Center OUH [Odense University Hospital (Svendborg, Denmark)]

Quality of Life Research Center OUH. (2019, February 07).

Available at: <http://en.ouh.dk/research/quality-of-life-research-center-ouh/>

QoL Research Unit [University of Toronto (Toronto, Canada)]

QoL Research Center, University of Toronto. (n.d.).

Available at: <http://sites.utoronto.ca/qol/>

QoL Technologies [University of Geneva, Center for Informatics (Geneva, Switzerland)]

Quality of Life Technologies, Geneva Switzerland. (n.d.).

Available at: <https://www.qualityoflifetechnologies.com/qol-lab/research/>

Quality of Life Plus [Non-profit]

Quality of Life Plus. (n.d.).

Available at: <https://qlplus.org/>

Quality of Life Research Center (QOLRC) [University Copenhagen Medical School (Copenhagen, Denmark)]

The Quality of Life Research Center. (n.d.).

Available at: <https://qualityoflife.dk/the-quality-of-life-research-center/>

Sydney Quality of Life Office [University of Sydney (Sydney Australia)]

Sydney Quality of Life Office. (n.d.).

Available at: <https://www.sydney.edu.au/science/our-research/research-areas/psychology/sydney-quality-of-life-office.html>

Appendix C Studies that are the Basis for the QoL Framework for Self-Growth

(Framework Title, [Author/Source] / Purpose / Domains/Dimensions / URL)

A Survey of the Public's Judgements to Inform Scales of Health-Related Quality of Life [Bowling A. (1995)]

National British Survey to determine what people value in quality of life. (Comparison to standard domains people value domains outside of standard models provided.)

<https://pubmed.ncbi.nlm.nih.gov/8560313/>

Assessing Quality of Life: Current Approaches [Ivana et al. (2010)]

Comparison of five frameworks

https://www.researchgate.net/publication/49604059_ASSESSING_QUALITY_OF_LIFE_CURRENT_APPROACHES/figures?lo=1

Cross-Cultural Study of Quality of Life Indicators [Schalock et al.(2005)]

Model for use in intellectual disabilities (8 domains 24 dimensions)

https://www.researchgate.net/publication/7801771_Cross-Cultural_Study_of_Quality_of_Life_Indicators

Domains of Quality of Life: Results of a Three-Stage Delphi Consensus [Pietersma et al. (2014)]

Survey analysis and procedure among patients, family of patients, clinicians, scientists and the general public (64 domains/dimensions)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4031380/>

Final Report of the Expert Group on Quality of Life Indicators [Expert Group on Quality of Life Indicators, European Union (2017)]

2017 edition (8 Domains, 1 Overall)

<https://ec.europa.eu/eurostat/documents/7870049/7960327/KS-FT-17-004-EN-N.pdf/f29171db-e1a9-4af6-9e96-730e7e11e02f>

Important Aspects of Life [Longitudinal Aging Study Amsterdam: LASA]

To determine what people value in life, especially when aging (9 Domains)

<https://lasa-vu.nl/topics/important-aspects-of-life/>

Integrative Model of QOL [Constanza et al. (2008)]

Overall model of QoL (11 Domains)

<https://journals.openedition.org/sapiens/169>

Principles of Support Areas for Well-Being [Center for Health and Wellbeing]

Have programming to support increase in wellbeing (7 domains)

<https://yourhealthandwellbeing.org/>

QoL Conceptual Framework [University of Toronto/QoL]

Provides Generalized QoL framework (9 Domains, 35 Dimensions)

http://sites.utoronto.ca/qol/qol_model.htm

Quality of Life Domains [Community Living British Columbia]

Social Services; Govt (8 domains)

<https://www.communitylivingbc.ca/>

Quality of Life Measures for Nursing Home Residents [Kane (2003)]

Provide a QoL framework for Nursing home residents (11 domains)

<https://academic.oup.com/biomedgerontology/article/58/3/M240/684127>

Quality of Life Technologies [Wac et al. (2017)]

To highlight technologies that improve quality of life (4 Domains, 24 Dimensions)

<https://doi.org/10.1109/MIC.2015.52>

Synthesis of Positive Psychology for the Most Important Things in Life [Analyzed ten sites to accumulate the union of most important things in life]

Different perspectives in what makes life valuable (Top 10 Domains: family, friends, purpose, positive, health, gratitude/giving, education, love, passion, productivity)

Variety of web sites with search “most important aspects of life”

Ten Basic Capabilities [Nussbaum (1988)]

What are the key capabilities for every person (10 domains)

<https://plato.stanford.edu/entries/capability-approach/>

Appendix D Sources for Quality of Life Research

Websites

Addition Research Center

Retrieved November 28, 2020, from <https://arc.psych.wisc.edu/self-report/>

Center for Survey Research and Methodology/Social Indicators Department at University of Mannheim, Germany

Retrieved November 28, 2020, from <http://www.zumamannheim.de/data/social-indicators>

Institute for Social Research, York University, Canada

Retrieved November 28, 2020, from <http://www.math.yorku.ca/ISR/menu.htm>

Institute for Social Research and Evaluation, University of Northern British Columbia, Canada

Retrieved November 28, 2020, from <http://www.unbc.ca/isre>

International Society for Quality-of-Life Studies

Retrieved November 28, 2020, from <https://isqols.org/Bibliographic-Resources>

Subjective Well-Being Laboratory, University of Illinois-Urbana, USA

Retrieved November 28, 2020, from <http://www.psych.uiuc.edu/~ediener>

The Australian Center on Quality of Life, Deakin University, Australia

Retrieved November 28, 2020, from <http://acqol.deakin.edu.au/index.html>

The Center for Survey Research at Virginia Tech, USA

Retrieved November 28, 2020, from www.vt.edu:10021/centers/survey/index.html

The Global Development and Environment Institute, Tufts University, USA

Retrieved November 28, 2020, from <http://ase.tufts.edu/gdoe>

The Happiness Research Institute

Retrieved November 28, 2020, from <https://www.happinessresearchinstitute.com/happinessresearch> Stand alone

The QOL Research Institute, University of Girona, Spain Girona

Retrieved November 28, 2020, from <http://www.udg.es/irvq>

The World Database of Happiness, Erasmus University, The Netherlands

Retrieved November 28, 2020, from, <http://www.eur.nl/fsw/research/happiness>

Journals

ISQOLS JOURNAL: Applied Research in Quality-of-Life (ARQOL)

Retrieved November 28, 2020, from <https://isqols.org/ARQOL>

Journal of Patient-Reported Outcomes

Retrieved November 29, 2020, from <https://www.isoqol.org/journals/>

Quality of Life Research

Retrieved November 28, from <https://www.springer.com/journal/11136>

Quality of Life Research Journal

Retrieved November 29, 2020, from <https://www.isoqol.org/journals/>