

# **Solutions Focused Learning (SFL) Student Guide**

## Section One

### *Objectives*

- 1.) Define and analyze Problem Based Learning (PBL)
- 2.) Define and analyze Solutions Focused Learning (SFL)
- 3.) Compare and contrast those learning models
- 4.) Examine the basis, context and expected outcomes of SFL

### *Lecture*

#### *Problem Based Learning*

PBL is a process of curriculum and instructional development intended to actively engage students in solving problems that mirror real-world issues and challenges. This process consists of three steps:

- Diagnosis
- Research
- Solution

PBL is built on an ill-structured problem. Students, through small group collaborative efforts, seek innovative means, rather than formulaic models, in their attempt to resolve that issue or situation. Learning occurs through construction, rather than instruction, because Faculty are coaches, or facilitators, rather than dispensers of knowledge. Their approach is to create and present experiential, rather than prescriptive, curriculum.

In an effort to increase student's ability to retain information and support the applicability and transferability of that knowledge, PBL was developed at McMaster University Medical School approximately 30 years ago. Today, PBL is utilized in grades K – 12 and in colleges and universities. "PBL prepares students to think critically and analytically, and to find and use appropriate learning resources." (Duch, n.d., ¶ 3)

There are international professional associations for those who research and practice the methodology, such as Asia-Pacific Problem-Based Learning Association (APBLA). And, there are many articles, papers, journals, monographs, books and newsletters written about PBL.

#### *Solutions Focused Learning*

Solutions focused learning (SFL) was developed by the Business Faculty of the College of Business & IT, in 2005. This process, a natural outgrowth of the traditional PBL teaching/learning methodology, and a solution to the gaps in the PBL model, consists of the following five steps:

- Diagnosis
- Research
- Solution
- Execution
- Evaluation

In addition, the five steps encompass the following six core factors, which are described in depth in Module Two:

- Team Project (scenario); personal project
- Teamwork
- Applicable strategic solutions
- Multi-tasking
- Actively engaged Faculty and students
- Evaluations

The principles and processes of the first three steps, as established in PBL are both relevant and applicable to SFL. And, the addition of the last two steps is an essential differentiating factor between SFL and PBL, as they address vital, current organizational and individual needs, and support and enhance the Argosy Advantage approach to learning. This learning methodology emphasizes interactivity – between students and the coursework, Faculty and the coursework and high level interaction between Faculty and students.

A second way the participative approach to learning is being met is through the Pinnacle Seminar, where each year, students have the opportunity to interact with a well-known scholar/practitioner in a residency course setting (S7200). This year's leading expert, during the October gathering in Atlanta is Dr. Margaret Wheatley, who exemplifies theory in practice.

A third way to promote interactivity necessary for SFL is the emphasis on action research (AR). The foundation of action research is collaboration and group/team work; all SFL courses contain and support these requirements and their concomitant skills. AR requires the perception of connections in content and context and their concomitant complexity. The SFL steps of execution and evaluation reinforce and reveal connections and support excellence in execution and outcomes.

Lastly, AR has three primary purposes:

- Knowledge generation
- Personal and professional growth
- Organizational, individual and community empowerment

The SFL process supports and reinforces those objectives as well. Stringer (1999) states:

...action research works on the assumption...that all stakeholders-those whose lives are affected by the problem under study-should be engaged in the processes of investigation...If an action research project does not *make a difference*, in a specific way, for practitioners and/or their clients, then it has failed to achieve its objectives. (pp. 10-11)

Herr and Anderson (2005) concur that the core goals of AR are congruent with those of SFL:

Action research is oriented to some action or cycle of actions that organizational or community members have taken, are taking, or wish to take to address a particular problematic situation. The idea is that changes occur either within the setting and/or within the researchers themselves...Like all forms of inquiry, action research is *value laden*. (pp. 3-4)

Finally, intentions, prior planning and reflection are necessary, in order to call a research project “action research.” These factors are key to the SFL process, also.

#### *Purpose of SFL: Basis, Context & Expected Outcomes*

About the same time that PBL was developed, educators Argyris, Bateson and Schon were formulating their theories of learning systems. They introduced concepts and models for double-loop learning, organizational learning, action learning and action research.

One of their goals was to move the information chain beyond finding solutions; their premise was that answers are only part of an ongoing process of learning. In reality, solutions should lead to more solutions, through the system of execution and evaluation (double-loop learning).

These evaluation models encourage people to give more attention to regular incremental improvement. In general, the means which so far suggest themselves are...

- Making provision for ongoing monitoring whenever plans are being developed or decisions made;
- Setting up organizations [sic] or groups or programs as self-improving systems, by ensuring that the most relevant performance feed back is available, without threat, to those who can best use it to change their performance. (Dick & Dalmau, n.d., p. 25)

SFL is also based in the research and application contributed by Senge and Wheatley, both of whom are scholars and practitioners currently actively applying the theories developed by Argyris, Bateson and Schon. They strengthen and build on the original models through their work in organizational and human development. An article in Senge’s Society for Organizational Learning newsletter, Reflections, clarifies their premises. “The result of a great ST (systems theory) project is not a set of elegant causal loop diagrams, but a new capacity for reflective dialogue, deep insight, and shifting entrenched mental models” (Seligman, p. 7, [online version]).

Another important factor which added to the need the COBIT Faculty sensed for transforming PBL to SFL is the prominent and promising focus on organizational teamwork. Collaboration is essential in a learning system. “The purpose of creating collaborative teams is to build ownership of the team’s operations and to ensure the alignment of its members with the strategic direction of the company” (Marshall, 1995, p. 114).

And, the move toward globalization and diversity within organizations, communities and nations adds to the need for broadening and deepening learning processes. This factor led to the development of triple loop learning, which will be addressed in Module 5. Nadler and Hibino (1990) reinforce the necessity for diversity in finding, implementing and evaluating solutions: “Outstanding problem solvers are *diverse people who seek many different sources of information* in their problem-solving efforts” (p. 35).

#### *Expected outcomes for students*

The expected outcomes of the SFL coursework are for Argosy students to engage in their workplaces, in ways that are meaningful for both the organizations and themselves. Individual and organizational growth and sustainability are dependent on these principles and practices.

Ross Ashby’s “Law of Requisite Variety” is one of the most famous systems principles. In essence, the law says that for a system to survive, it needs to be at least as complex as its environment. As the environment becomes more complex, the system – whether an organism or an organization – learns and adapts, handling more complexity. Otherwise, sooner or later, it dies. (Lipnack & Stamps, 2000, p. 281)

#### References

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Lipnack, J., Stamps, J. (2000). *Virtual teams*. New York: John Wiley & Sons.

Nadler, G., Hibino, S. (1990) *Breakthrough thinking*. Rocklin, CA: Prima Publishing.

Stringer, E. T. (1999). *Action research* 2<sup>nd</sup> Ed. Thousand Oaks, CA: Sage.

##### ***Articles***

Duch, B *Problem-based learning*. Retrieved June 11, 2006, from <http://www.pkal.org/documents/ProblemBasedLearning.cfm>

Seligman, J. *Building a systems thinking culture at Ford Motor Company*. Reflections. (Vol. 6, No 4/5). Downloaded May 23, 2006 from <http://www.reflections.solonline.org>.

##### ***Websites***

<http://www.edel.edu/pbl/>

<http://www2.imsa.edu/programs/pbln/tutorials/intro/intro>

<http://www.infed.org/thinkers/et-schon.htm>

<http://www.margaretwheatley.com>

<http://www.mcli.dist.maricopa.edu/pbl/info.html>

<http://www.samford.edu/pbl/comparison.html>

<http://www.solonline.org>

<http://www.scu.edu.au/schools/gcm/ar/arp/argyris2.html>

## Section Two

### *Objectives*

- 1.) Analyze the six foundational aspects of SFL courses

### *Lecture*

There are six core factors that every SFL course must actively contain:

- Team Project (scenario); personal project
- Teamwork
- Applicable strategic solutions
- Multi-tasking
- Actively engaged Faculty and students
- Evaluations

All aspects must be interrelated and interact – behavior indicative of a system.

### *Project/Scenario*

The project, or scenario, is the primary focus of an SFL course; the ill-structured problem sets the tone and the activities. Organizations and individuals face a variety of challenges every day. Each course scenario must reflect these real life situations and, as in life, the projects must offer opportunities for discovering multiple solutions. In SFL, there is no one right way to achieve outcomes, there is no guessing which answer the instructor believes is correct. Senge, Laur, Schley and Smith (2006) elaborate on the power of scenarios in the learning process.

...a valuable third step is to create scenarios that portray a set of imaginative but plausible stories about the varied ways in which the world might turn out tomorrow. This step allows your team to combine the implications of several driving forces into distinct stories. You are then free to imagine how multiple forces might interact systemically within one possible future, in line with how the real world actually works. (pp. 39-40)

The goal is to encourage students to be engaged in the outcomes, to believe they bring value to and have an impact on the solutions. Students are to understand and be supported in discerning how to create, implement and evaluate their solutions. They must be given an environment in which they can both set the scenario expectations and the outcomes. Indeed, McNiff and Whitehead (2006) state, “Practitioner knowledge is central to practical and theoretical sustainability” (p. 18).

### *Teamwork*

Working in teams provides opportunities to enhance individual learning. Teams are...wonderful sites for learning – for expanding one’s knowledge, acquiring new skills, and exploring perspectives on the world that differ from one’s own. Teamwork also can engender feelings of belonging, providing members a secure sense of their place in the social world. (Hackman, 2002, pp. 28 – 29)

Teamwork collaboration and self-directed learning develops and strengthens individual and organizational commitment and performance. Accountability and responsibility are fostered, as well as the sense of interdependence – characteristics necessary to support a system.

### *Applicable Solutions*

The focus on organizational intellectual capital is intensifying. Nearly ten years ago, Edvinsson and Malone (1997), in their book *Intellectual Capital*, expressed their views that the intellectual capital model was entering a second phase, “that of application and capitalization...hundreds of thousands of companies, large and small, throughout the world will adopt Intellectual Capital as a way of measuring, visualizing, and presenting the true value of their businesses” (p. 19).

The ability to research, to discover sources of solutions is essential to SFL. Finding, analyzing and applying appropriate resources must be encouraged throughout a SFL course. In organizations, the appropriate utilization of intellectual capital is key to sustainability and success. SFL courses offer students the opportunity to develop both their knowledge base and their knowledge-base building skills, through application, rather than only through theory. Thus, they develop essential organizational and personal skills and practices. The course learning holds value to them and their present and future employers.

### *Multitasking*

In SFL, students are expected to work on two levels - both as team members, solving scenarios and as individuals, completing various assignments. This is another real-world, applicable aspect of the course, as employees, managers and leaders are expected and required to:

- Do several tasks at the same time
- Be responsible for several jobs and/or assignments
- Possess and utilize diverse skills, appropriately and optimally

As in the workplace, students will be evaluated on their individual and teamwork abilities and participation. This aspect of SLF coursework is challenging and requires a systems approach to best ensure appropriate and effective outcomes.

I have felt the frustration that comes from trying to craft a group product that all members find acceptable. And I know from research and...experience, that teams can stress their members, alienate them from one another and undermine their confidence in their own abilities...The challenge is to generate ways of understanding, designing, and managing teams that help them meet or exceed...criteria. (Hackman, 2002, pp. 29-31)

### *Student Role*

In a student-centered, versus a prescriptive, curriculum, coherent and relevant information is developed and shared throughout the system, in a process of double-loop learning. Students learn about the course from the Faculty, who, in turn, learn about the



course from the students. Senge (1990) reminds us that this back and forth style of learning is a foundational aspect of systems thinking. “It [feedback] means any reciprocal flow of influence. In systems thinking it is an axiom that every influence is both *cause* and *effect*. Nothing is ever influenced in just one direction (pp. 74-75).

Argosy’s teaching philosophy is that Faculty is facilitators of knowledge – both their own and the students. They are expected to provoke critical thinking and draw forth deep learning. Students are expected to display evidence of both, as a result of taking each required and elective course and as an outcome of completing a degree program.

Each week, students are given additional information regarding the scenario, which, as in real situations, will cause them to alter their internal and/or external strategic plans. Thus, as in real situations, high level communication is essential. Faculty disseminate information regarding the who, how and what of a module, or assignment, in order for students to implement and execute for success. Students:

- Should understand the key factors to be evaluated in a specific plan of execution;
- Are given clear and delineated assessment guidelines – for example, in the case of mid-term, project or final papers, two parameters would be termed “well-documented research” and “APA style and format are required.” Both those guidelines are applicable, fulfillable and measurable;
- Are provided Faculty office hours and both email and phone contact information, in case communication regarding clarification is needed.

The ability to explore the space of possibility can be found in a corporation’s ability to engage in dialogue. Irrespective of its many forms, dialogue’s sole purpose is to create something that has not previously been thought by any individual prior to the dialogue. Its purpose is not to share information but to create information, to explore *information potential* beyond what exists as “facts” and to let go of, or recombine, what is already known or what might be known. (McMaster, 1996, p. 145)

In SFL courses, with Faculty coaching, each student personally constructs his/her knowledge by actively engaging in the process of information gathering, data analysis, creating and testing hypotheses, implementing decisions, evaluating outcomes and interacting with classmates, team mates and Faculty. “Because identifying and challenging assumptions, and exploring alternatives, involve elements of threat and risk taking, the... support provided by a group of others... is a powerful psychological ballast to critical thinking efforts” (Brookfield, 1987, p. 79). Particularly in the graduate level courses, Faculty coach students to examine and describe their rationale for making a particular choice over another.

### *Evaluation*

Observing outcomes and considering them, utilizing critical thinking and reflection are basic to assessing for improvement, a foundational factor of SFL. Therefore, each SFL course contains three evaluation methods:

- public/class discussion
- team/collaborative problem solving
- individual assignments

Students are expected to participate in discussing a topic posed by the Faculty and provide quality responses. The discussion portion of the coursework offers students the opportunity to view other students' perspectives, which most likely are different, in varying degrees, from their own.

Students are divided into teams, each of which will work on diagnosing, researching, solving, implementing and evaluating the project. Each team will be measured on their collaborative efforts, with the majority of the assessment focused on their execution of the solution/s. Team contracts and evaluation rubrics are two SFL tools included in many of the syllabi.

Individually, students must demonstrate they understand and are able to appropriately apply the course content to a personal or work-related project. Again, in this type of course, knowledge is self-created and the student is evaluated on his/her critical reflection and application abilities.

## References

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McNiff, J., Whitehead, J. (2006). *All you need to know about action research*. London: Sage.

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Senge, P., Laur, J., Schley, S., Smith, B. (2006). *Learning for sustainability*. Cambridge, MA: SoL.

### ***Websites***

<http://www.udel.edu/pbl/>

<http://www2.imsa.edu/programs/pbln/tutorials/intro/intro>

<http://www.mcli.dist.maricopa.edu/pbl/info.html>

<http://www.samford.edu/pbl/comparison.html>

## Section Three

### *Objectives*

- 1.) Analyze appropriate SFL course and module expectations for optimal learning
- 2.) Explore module tasks
- 3.) Examine appropriate individual and team feedback

### *Lecture*

#### *Setting and Demonstrating Course and Module Expectations*

From the beginning of an SFL course, students are apprised of what type and level of performance is expected of them. Actions, focused on and based in specific, measurable outcomes, are most effective. More likely than not, with those parameters present, students' efforts and activities result in efficient and effective learning, successful outcomes that support them, their current and future organizations and Argosy, as well.

Argosy courses are structured so that the course objectives reflect the course descriptions, which are mapped to the POS outcomes. Course goals are formulated from the specific details in each course description. Each aspect of a course description must be covered within the modules, to varying degrees, with more emphasis placed on the most vital learning.

The language and structure of the outcomes is important; using the appropriate terminology, in the correct context is necessary. Bloom's taxonomy is utilized in developing course objectives. His six levels of cognitive domain are utilized to both set and structure course outcomes. Requiring students to recall information is at the lowest level; expecting and supporting students to assess, absorb and apply knowledge is the highest.

Students are assigned roles as problem-solvers, within the context of the scenario, as experiencing that their input has value in resolving the issue/situation is a core aspect of SFL. Experiencing the course as student-centered, coherent and relevant is essential to this level of learning, as well.

Lastly, whatever materials are used to support the scenario project are cohesive, relevant and applicable. The system is interrelated, in order to produce the most valuable and viable solutions.

#### *Describing Module Tasks*

Again, the use of Bloom's Taxonomy is necessary to assist students in accomplishing the course outcomes and achieving their personal goals. Are students being asked to attain knowledge or comprehension? Are they required to demonstrate application or employ analysis? Are students to create syntheses, or appraise or calculate evaluations?

Each task is related to the whole, organized within the whole. The level of coherence with the program and course objectives intensifies knowledge acquisition and absorption within SFL.

### *Providing Feedback*

Appropriate and applicable feedback is essential to double-loop learning. Using an analogy of a map, when students have the names of both streets at an intersection, finding out how to get where they need to go is easier.

The evaluation portion of a course is essential to the success of the whole SFL process. In essence, evaluation, or assessment, or analysis of the outcomes, creates the next step, the next diagnosis, which leads again and again, to the following steps of the loop (Diagnosis; Research; Solution; Execution; Evaluation).

Argyris explains double-loop learning as a means to adapt and modify governing values, to create a new paradigm, to think out of the box. Senge uses the term “mental models” to describe the fixated concepts and approaches underlying learning that should be examined and re-examined, for new learning, or what he terms “transformation” to occur.

Communicating specific strengths and weaknesses to each student, regarding their individual and team efforts is essential. Students are provided clear, applicable and relevant feedback; students are given the opportunity to review their work within the context of the program, the course, a module and a specific assignment. “The interdependence of teams in systems underscores on omnipresent issue: Teamwork is about responsibility. It’s about the parent organization’s responsibilities to the team and about the team members’ responsibilities to one another, to their team, and to the parent organization” (Lumsden & Lumsden, 2004, p. 61).

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### ***Texts***

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### ***Websites***

<http://www.scu.edu.au/schools/gcm/ar/arp/argyris2.html>

<http://rubistar.4teachers.org/index.php?screen=WhatIs&module=Rubistar&PHPSESSID=35e81395c23c93f1292e286f5bc9cd8b>

## Section Four

### ***Objectives***

- 1.) Examine the SFL requirements for the scenario project, particularly emphasizing the focus of the final outcomes
- 2.) Analyze the course closure/debrief process

### ***Lecture***

#### *Projects (Individual & Group/Team)*

Course projects, both individual and group/team, are intended to implant and elicit learning about the nature of business. “Students learn best by constructing solutions to open-ended, complex, and problematic activities with classmates, rather than listening passively to lectures” (Problem-Based, 2001, p. 3). Students have opportunities to examine and illustrate what they already know and discover what they have to learn. Both types of projects are based on ill-structured problems that either exist (for individual work) or portray (for group/team work) real life situations and circumstances and fulfill a personal and/or professional need.

Weekly progress on the group/team project is important and the process for and the outcomes of the actual solution, execution and evaluation is vital. In both types of projects, the theory-to-practice aspect of the work, the applicability and practicality of the strategic planning and results, matter most. Students are measured on the degree of excellence in the execution of their policies and procedures.

#### *Course closure/debrief*

To complete the process of double loop learning for the course in general, an evaluation of the overall course learning is essential. Faculty need to know what gaps exist, and how large they are, between the targeted POS and course outcomes and the actual performance of the course. The purpose is to expand Faculty’s, Argosy’s and student’s capabilities by actively participating in the organizational development process of double loop learning.

Students are expected to practice: 1.) are problems being posed before answers? 2.) is the focus on eliciting the most appropriate student-generated solutions, rather than the traditional, right, rote responses? Students want to know if and how their investment in the coursework adds personal and professional value to their lives. Therefore, a last assignment, designed as a course/POS debrief is included in the SFL coursework.

This final step of critical reflection on the part of the students reinforces the underlying principles of SFL; this assignment is one last aspect of what Bateson termed “learning to learn”. Students continually construct their evaluation, both internal and external, of the time spent on and the knowledge gained from the course. Senge et al. (2006) remind us: “The sustainability agenda is inherently ambiguous because it incorporates two distinct aspirations: reducing unsustainability (by improving practices

that are dangerous and wasteful) and creating generative sustainability (innovating toward a world that ensures human and natural systems can flourish together” (p. 8).

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### **Websites**

<http://www.learningandteaching.info/learning/learnlea.htm>

<http://tip.psychology.org/manage.html>

<http://www.lesley.edu/journals/jppp/2/sugarman.html>.

<http://www2.imsa.edu/programs/pbln/tutorials/intro>

## Section Five

### **Objectives**

- 1.) Analyze leading edge knowledge basis of SFL to strengthen this course learning.
- 2.) Explore further SFL concepts to enhance learning and develop skills.

### **Lecture**

There are several different concepts, theories and models that support and enhance the SFL process. Some of them were mentioned in the first four sections; this section offers an opportunity to gain a deeper and broader view of the following knowledge and tools:

- Double- & Triple-Loop Learning
  - Teamwork
  - Diversity
- Mental Models
  - Ladder of Inference
- Appreciative Inquiry (AI)
- Emotional Intelligence (EI)
- Participatory/Shared/Servant Leadership

Each of the topics is one aspect that either forms, and/or supports the complexity of systems learning/thinking. As would be expected in systems theory, each of the topics is interdependent and interrelated.

Many of these concepts, theories and/or models were developed a minimum of 15 years ago, as in the case of EI, and some 40 years ago, when Argyris, et al. developed double loop learning, then the ladder of inference. Nearly 20 years ago, Senge built his mental models approach from the knowledge gained through the application of the ladder of inference. And, triple loop learning is a relatively recent outgrowth out of the double-loop learning model. As a point of interest, Dr. Margaret Wheatley, the visiting Professor for the first Pinnacle Seminar in October, 2006, has an article about triple-loop learning on her website, which is listed in the references.

This section provides students with text, article and website resources for each of the topics. They can be utilized in strengthening knowledge of SLF for aiding students to better understand and utilize systems learning coursework. There is no separate reference page for this section of the Guide.

### **I. Double- and triple-loop learning, teamwork and diversity**

#### **Texts**

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[http://www.effectingchange.luton.ac.uk/approaches\\_to\\_change/index.php?content=ol](http://www.effectingchange.luton.ac.uk/approaches_to_change/index.php?content=ol)

<http://www.learning-org.com/02.09/0040.html>

<http://www.learning-org.com/02.09/0042.html>

<http://www.int-learning.com/doublelooplearning.htm>

<http://www.sociocracyinaction.ca/tripleloop.htm>

<http://azla.aznet.org/azla/Archive/Dream/dream.html>

## **II. Mental Models and the Ladder of Inference**

### **Texts**

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<http://news.ala.org/ala/acrl/acrlvents/conteh-morgan.PDF>



<http://www.executiveforum.net/pdfs/turner.pdf>

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### **III. Appreciative Inquiry**

#### ***Texts***

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#### **IV. Emotional Intelligence**

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