Integration of the Buddhist Yonisomanasikara Thinking Framework with the Problem Solving Cycle: Phenomenological Research at Roong Aroon School

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Abstract: *Yonisomanasikara (Yo-ni-so-ma-na-si-karn) is a thinking framework that contains ten thinking elements. This study has two objectives. The first one is to explore the detailed application of Yonisomanasikara thinking elements. The second objective is to explore the possible pattern of integrating the Yonisomanasikara framework to the problem solving cycle. Understanding such issues may improve individual problem solving skills, which is the focus of HRD in developing human expertise. Since this study explored the essence of experience which is derived from memories and internal reflection, it required the phenomenological research strategy of inquiry. Roong Aroon School was one of the rare places that have a supportive context for implementing Buddhist concepts, especially the Yonisomanasikara framework. Therefore, Roong Aroon teachers were unique participants for this study. The results describe both the specific application of all 10 Yonisomanasikara thinking elements and the overall characteristics of the framework. The Yonisomanasikara framework has its own uniqueness, which comes from the linkage to values, culture, and to the religious concept, especially virtue. Most of all, the framework always focuses on the human factors, such as feelings and emotions. The analysis also reveals that there is no specific combination of the Yonisomanasikara thinking elements. It depends on the context of the problem. When integrated with the problem solving cycle, some Yonisomanasikara thinking elements may be repeatedly used in all five steps of the problem solving cycle, which is similar to a circular staircase that has an upward direction through five steps (levels) of the problem solving cycle. However, only one possible pattern is derived from the analysis.*

Keywords : Yonisomanasikara, Yonisomanasikarn, Thinking, Problem Solving, Buddhist, Alternative School

Introduction:

Everybody is born with problems to be solved. Every day, we face all kinds of problems. Therefore, it is very crucial for human beings to learn how to think and solve problems effectively. Moreover, problem solving is so important that it was addressed in the National Education Act of B.E. 2542 (1999) of Thailand. Problem solving is a component of human expertise, which is a key focus of Human Resource Development (Swanson & Holton, 2001). Three components are involved in effective problem solving. One is the individual's level of intellectual aptitude, which is native ability. Another is the individual's prior knowledge. The other is the thinking frame that an individual uses for dealing with a problem. However, an individual who has enough cumulative levels of thinking frame can compensate for a lack of knowledge. Therefore, to develop problem-solving skills, we should focus on not only knowledge, but also, on thinking frames (Perkins, 1987).

Problem solving is a process. It is an effort to overcome obstacles obstructing the path to a solution (Rubinstein, 1975; Watanabe, 2009; Isaksen, Dorval, & Treffinger, 2011). Key steps of problem solving cycle include problem identification, problem clarification, data & information analysis, solution selection, implementation, and evaluation (Bruning, Schraw, Norby, & Ronning, 2004; Sternberg, 2006; Fogler & Le Blanc, 1995; Rubinstein, 1975; Watanabe, 2009; Van Gundy, 1988; Hinthong, 2007).

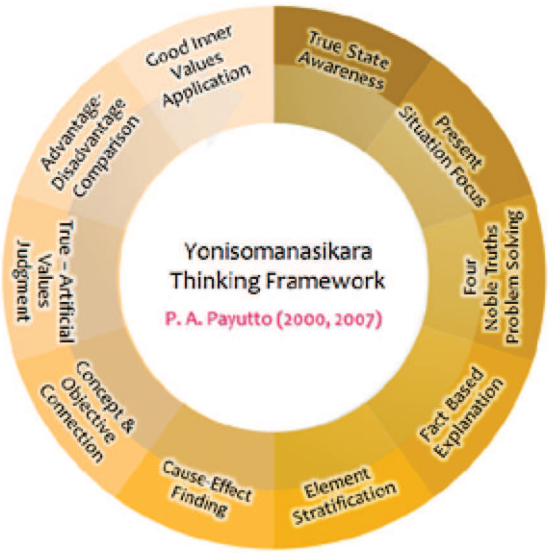

Figure 1 - Ten Thinking Elements of the Yonisomanasikara Framework

Yonisomanasikara is a thinking framework that was described in the Buddhist Tripitaka more than 2,500 years ago. It contains 10 thinking elements, including Good Inner Values Application Thinking, True State Awareness Thinking, Present Situation Focus Thinking, Four Noble Truths Problem Solving Thinking, Fact Based Explanation Thinking, Element Stratification Thinking, Cause-Effect Finding Thinking, Concept-Objective Connection Thinking, True-Artificial Values Judgment Thinking, and Advantage-Disadvantage Comparison Thinking as shown in Figure 1 (Payutto, 2000, 2007).

Therefore, if we can find a proper way to integrate the Yonisomanasikara thinking framework into the process of problem solving, the result may enhance human problem solving skills and unleash human expertise, which is the focus of human resources development.

Literature Review

There were more than fifty research studies related to the Buddhist's Yonisomanasikara thinking framework. Some research papers focused on the teaching of the Yonisomanasikara thinking framework, which were stand-alone programs, to students. The other research papers focused on the use of the Yonisomanasikara teaching approach, which integrates the Yonisomanasikara thinking element into teaching programs to teach other subjects to students. Only a few studies focused on using the Yonisomanasikara framework to develop students' problem solving skills.

Although almost all of the previous research indicated that the Yonisomanasikara thinking framework could promote learning achievement, thinking ability, and problem solving skills in students (Hinthong, 2007; Phromchana, 1998; Pongsuwansin, 1999; Prommasen, 2002; Sukkajang, 2005; Thuengprasert, 2006), there are some deficiencies among these studies. One key deficiency of these research papers, which will be the focus of this research, is that these research studies of the Yonisomanasikara did not focus on the key process of problem solving. Even though, the three studies of Hinthong (2007), Pongsuwansin (1999), and Sukkajang (2005) identified the key steps or processes of problem solving, they did not focus on the combination or sequence of all Yonisomanasikara thinking elements in the problem solving process.

Roong Aroon School and the Yonisomanasikara Framework

Roong Aroon School had a strong mission of becoming a Buddhist learning school and it has implemented many Buddhist principles. Despite the fact that the school had no explicit procedures for applying the Buddhist principles, especially the use of the Yonisomanasikara thinking framework,

there is strong evidence that the Roong Aroon School teachers know, practice, and apply the Buddhist principles and the Yonisomanasikara thinking elements in their daily work. The school has unique leadership, culture, policies, and procedures that follow Buddhist principles, including the Yonisomanasikara framework. Phra Brahmagunaphorn (Payutto) who is one of Thailand's Buddhist scholars leads the school advisory board. The school director strongly leads the school to follow the Buddhist way of learning by implementing many Buddhist principles. She applied key Buddhist principles in the school, including teacher development plans, organization culture, school curriculum design, and so on. The school director and other two school principals are always role models and coach other teachers to use and apply Buddhist concepts, including the Yonisomanasikara framework. The school director also embedded the Buddhist principles in many circumstances. For example, she let teachers practice thinking using Yonisomanasikara in the meeting circle, training, teaching plan presentations, and so on. Sending all teachers to practice with the well-known Dhamma teacher outside the school is another example of integrating the Buddhist concept into the teacher development program. For the school curriculum design, the school director not only integrated the Yonisomanasikara framework into the designing template, but also, during the teaching plan presentations, she always asks the teachers to think and link teaching objectives to outcomes (Roong Aroon School, Working is Dhamma practicing, 2001).

OBJECTIVE AND RESEARCH QUESTIONS

The objective of this study is to identify the essence of Roong Aroon teachers' experiences concerning the applications of the Yonisomanasikara thinking elements and the integration of Yonisomanasikara thinking elements with the problem solving cycle. Based on the objective of this study, research questions are defined as follows:

1. What are the interpretations and applications of each Yonisomanasikara thinking element which teachers at Roong Aroon School have?

2. What are the perceptions and recommendations of those teachers in applying the 10 elements of the Yonisomanasikara thinking framework to the problem solving cycle?

Research Methodology

This research focuses on exploring the essence of Roong Aroon teachers' experiences concerning the applications of the Yonisomanasikara thinking framework and its integration with the problem solving cycle. Therefore, this research is constructivism and uses a qualitative approach. The strategy of inquiries used in this research is phenomenological research. Phenomenological research is the strategy that focuses on exploring and identifying how informants interpret their experience concerning phenomenon under study (Cresswell, 2003; Patton, 2002). This strategy studies a small number of informants to develop patterns and relationships of meaning of phenomenon under study (Cresswell, 2003). This requires researchers to identify, capture, and comprehensively describe the human experiences concerning a phenomenon, which provides the basis for a reflective structural analysis that describes the essences of the experience (Creswell, 2003; Patton, 2002; Moustakas, 1994). Researchers have to conduct in-depth interviews with informants who have direct experience with the phenomenon of interest. The phenomenon that is the focus of a study can be an emotion, a relationship, a job, a program, an organization, or a culture (Patton, 2002). Then, researchers have to interpret the original description of the situation or experience and determine the underlying structures of that experience (Moustakas, 1994).

Teachers at Roong Aroon School are unique informants for this study. The sampled teachers had to have a certain level of experience of using the thinking framework. Therefore, the snowball sampling technique was used. The semi-structured interview technique was the key tool for collecting data. For the designing of the interview questions, researcher modified questioning patterns from Patton (2002). The Yonisomanasikara framework of Phra Brahmagunaphorn (Payutto) (2000, 2007) was used for designing the detailed questions. This study focuses on how the Roong Aroon Schoolteachers interpreted, used, and applied the Yonisomanasikara thinking framework. The

goal of this research was to make the Yonisomanasikara thinking framework easier to understand. Therefore, the focus of this study was not on the feelings of informants while experiencing the Yonisomanasikara, but on the aspect of the informants' actual uses, actual applications, interpretations of individual thinking elements, and perceptions of integrating the thinking elements with the problem solving cycle. The Roong Aroon Schoolteachers were not only the informants of this research, but also, the co-researchers, who verified and commented on the analysis reports. This was part of the analytic triangulation to ensure the research trustworthiness.

Table 2 – Key focus, analysis methods, and conceptual framework of each research question

Research Question	Key Focus	Analysis Methods	Conceptual Framework for Analysis	
			Yonisomanasikara Framework (Payutto, 2000, 2007)	Problem Solving Cycle
1. What are the interpretations and applications of each Yonisomanasikara thinking element which teachers at Roong Aroon School have?	Use of the Yonisomanasikara Thinking Element	Phenomenology Analysis (Moustakas, 1994)	X	n/a
2. What are the perceptions and recommendations of those teachers in applying the 10 elements of the Yonisomanasikara thinking framework into the problem solving process?	Integration with the Problem Solving Cycle	Tabular & Frequency Analysis	X	X

After interviews, all interview data were organized and transcribed. Then, the phenomenological data analysis was based on Moustakas (1994) and was used to analyze the transcribed data. Each research question had different focus, which required different analysis methods and conceptual frameworks as shown in Table 2.

Moustakas (1994) described that the phenomenological research analysis, using the modification of the VAN KAAM method, has eight steps, which are shown in Table 3.

Table 3 – Key steps of the phenomenological research analysis (Moustakas, 1994)

Step	Details
1	List and preliminary group every expression relevant to the experience (Horizonalization)
2	Reduce and eliminate expressions that do not contain a moment of experience and cannot be abstracted or labeled.
3	Cluster and group the Invariant Constituents into a theme. These are core themes of the experience.
4	Validate the Invariant Constituents and Themes against the complete transcriptions.
5	Construct an Individual Textural Description of the experience. The research should include the verbatim examples from the transcribed interview.
6	Construct an Individual Structural Description based on the Individual Textural Description and Imaginative Variation.

Step	Details
7	Construct an Individual Textural-Structural Description of the meaning and essences of the experience, incorporating the invariant constituents and themes.
8	Develop a Composite Description of the meanings and essences of the experience, representing the group as a whole.

Summary of Key Findings and Discussion

For the first research question that focused on the uses of the Yonisomanasikara Thinking Element. The analysis results showed that each Yonisomanasikara thinking element has its own special characteristics. More details of each thinking element based on the analysis are described in Table 4.

Table 4 – Detailed applications and characteristics of the Yonisomanasikara framework

Thinking Element	Application & Characteristic	
Good Inner Values Application	focuses on the person's mind guides thinkers to look at issues or problems without bias guides thinkers to think about virtue requires core values, common beliefs, or religious principles	is used at all times by the thinker serves as a basis for other thinking elements is a non-procedural mode
Present Situation Focus	is always used at the starting point or even before problem solving actually occurs controls thinker's consciousness to focus on the current issue	is used as the basis for other thinking elements is both procedural and non-procedural modes considers the issue or problem by using a time series
True State Awareness	creates an understanding of natural characteristics of an issue	is a non-procedural mode requires knowledge or experiences
Four Noble Truths Problem Solving	describes the process or four steps for solving a problem guides thinkers to set goals to solve problems	controls the uses of other thinking elements in the problem solving process
Fact Based Explanation	describes many dimensions of truth, which are consolidated from other thinking elements	guides the thinkers to think in many specific dimensions
Element Stratification Thinking	can be applied to all types of issues can be applied at many levels of factors	requires knowledge or experiences can be used alone or followed by other thinking elements
Cause-Effect Finding	is the core thinking for analysis requires knowledge or experiences is a procedural mode	guides thinkers to get to the root causes of problems can be used alone or combined with other thinking elements
Concept-Objective Connection	can be used in many steps of the problem solving process is used for selecting the best-fit solution(s) is a procedural mode	guides the thinkers to aware of the concept and objective of actions requires a goal or an objective

Thinking Element	Application & Characteristic	
True-Artificial Values Judgment	makes judgment if the value of result is a true value or an artifact value	requires a clear framework or context for judgment
Advantage-Disadvantage Comparison	is a procedural mode	requires a clear framework for identifying the advantage(s) and disadvantage(s)

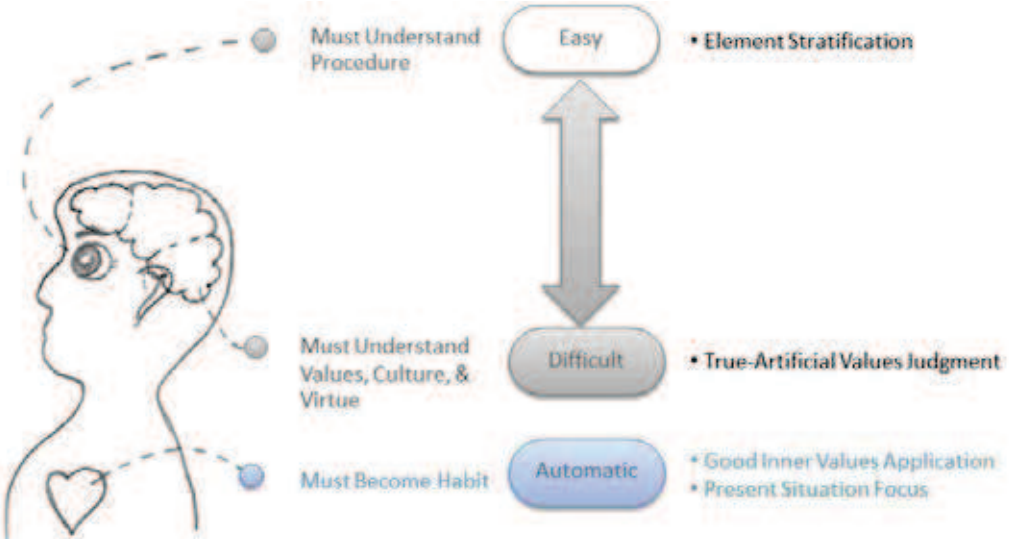

Figure 5- Difficulty level of applying the Yonisomanasikara thinking elements

Based on the analysis results, all 10 thinking elements have their own characteristics and procedures. Some thinking elements, such as Element Stratification thinking and Cause-Effect Finding thinking, are easy to use because of their straightforward procedures. Some thinking elements, such as True-Artificial Values Judgment thinking, are difficult because of values or cultural based judgments.. However, the most difficult thinking elements are the Good Inner Values Application thinking and Present Situation Focus thinking. The concept or procedure of these two thinking elements is not difficult. However, for effective use, they have to be used automatically all the time to maintain consciousness. This indicates that they have to be embedded into users' or thinkers' minds or habits as shown in Figure 5.

The analysis also reveals that the Yonisomanasikara framework might look similar to or overlap with other thinking frameworks. However, the Yonisomanasikara framework has its own uniqueness, which comes from the linkage to values, culture, and the religious concept, especially virtue. Most of all, the framework always focuses on the human factor, such as feelings and emotion. The thinking elements that make the Yonisomanasikara framework unique are Good Inner Values Application thinking, True State Awareness, and

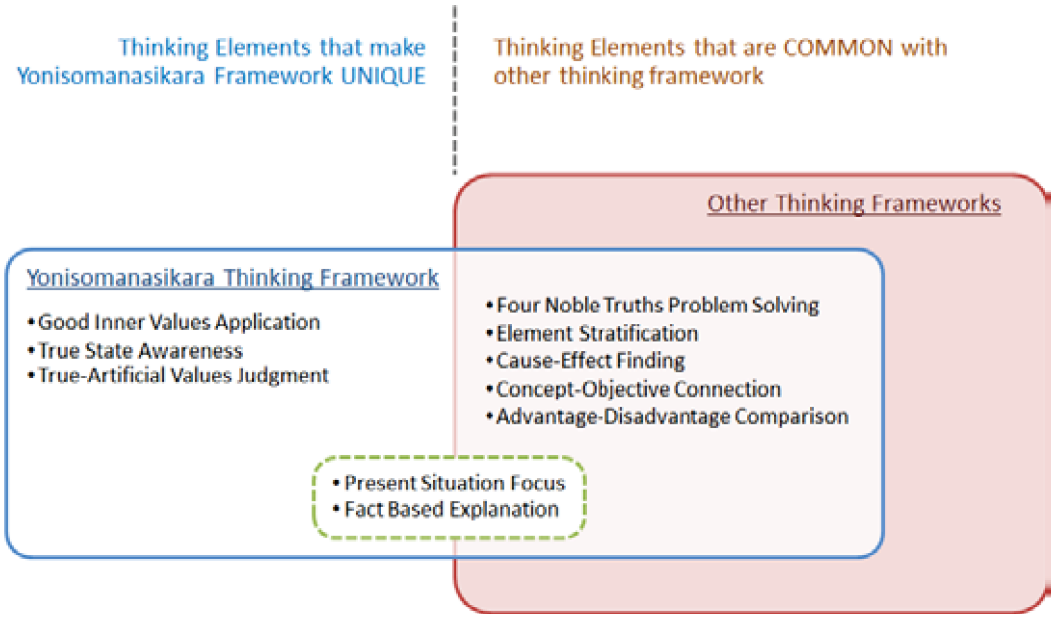

Figure 6 Thinking Elements that make Yonisomanasikara unique

True-Artificial Values Judgment thinking. However, some specific thinking elements have parts in common with other thinking frameworks, and some parts make Yonisomanasikara unique. These thinking elements include Present Situation Focus thinking and Fact Based Explanation thinking as shown in Figure 6.

Table 7 – Characteristics, enhancing factors, and combination types of Yonisomanasikara thinking elements

General Application	Enhancing Factors	Sequencing & Combination
Yonisomanasikara can be applied for both internal (feeling & emotion) and external (objects) problems	Strong leaders, who acted as coaches and role models	Type 1: Continuous Awareness
	Shared values and culture, especially those linked to religious concepts	Type 2: Bias Elimination
Each thinking element has its own special characteristics	Policies and procedures that support the learning and uses of the Yonisomanasikara framework	Type 3: Process Controller
		Type 4: Data Consolidator
- Procedural Based		Type 5: Judgment Basis
- Cultural Based		Type 6: Companion Set
- Knowledge Based		

The analysis results from this study indicate that there are certain characteristics of each Yonisomanasikara thinking element. Moreover, to be able to use Yonisomanasikara in an organization effectively, the enhancing factors have to be in place. Finally, the analysis shows that many thinking elements can be used together. Seven types of combinations of Yonisomanasikara thinking elements were derived from the analysis. The details of characteristics, enhancing factors, and combination types are shown in Table 7.

For the second research question, which focused on the integration of Yonisomanasikara thinking elements with the Problem Solving Cycle. The analysis reveals that, when integrated with the problem solving cycle, the integration is similar to a circular staircase that has five circles (stories) of problem identification, problem clarification, information analysis, solution selection, and implementation and evaluation. Some thinking elements may be used only once in a specific circle. However, some thinking elements may be repeatedly used in more than one circle until the problem is solved.

From the analysis, Roong Aroon teachers recommended to integrate all thinking elements of Yonisomanasikara into the problem solving cycle as shown in Table 8. For the first step - Problem Identification – Roong Aroon teachers strongly agreed to use True State Awareness Thinking and Present Situation Focus Thinking for identifying and screening problems that need to be solved. For the second step - Problem Clarification, three thinking elements highly agreed with describing the details of a problem and set a target for solving such a problem. These three thinking elements are Present Situation Focus Thinking, Four Noble Truths Problem Solving Thinking, and Fact Based Explanation Thinking. For the third step – Data Analysis, Four Noble Truth Problem Solving Thinking, Element Stratification Thinking, and Cause-Effect Finding Thinking were strongly agreed with for organizing related data and information, which would help to identify potential root cause(s) of such problem. For the fourth step - Solution Selection, Roong Aroon teachers strongly agreed to use five thinking elements for identifying and comparing all possible options for solving such problem and selecting the best solution. These five thinking elements are True State Awareness Thinking, Four Noble Truths Problem Solving Thinking, Concept-Objective Connection Thinking, True-Artificial Values Judgment Thinking, and Advantage-Disadvantage Comparison Thinking. For the final step of the problem solving cycle - Implementation-Evaluation, Good Inner Values Application Thinking and Four Noble Truths Problem Solving Thinking were strongly agreed for comparing the problem solving result with the set goal without any bias.

Table 8 - Integration pattern between Yonisomanasikara thinking elements and the Problem Solving Cycle.

Step in Problem Solving Cycle / Yonisomanasikara Thinking Element	1. Problem Identification	2. Problem Clarification	3. Data Analysis	4. Solutions Selection	5. Implementation-Evaluation
Good Inner Values Application					X
True State Awareness	X			X	
Present Situation Focus	X	X			
Four Noble Truths Problem Solving		X	X	X	X
Fact Based Explanation		X			
Element Stratification			X		
Cause-Effect Finding			X		
Concept-Objective Connection				X	
True-Artificial Values Judgment				X	
Advantage-Disadvantage Comparison				X	

The analysis shows that Four Noble Truths Problem Solving Thinking was strongly recommended to be used in many steps of the problem solving cycle, including Problem Clarification, Data Analysis,

Solutions Selection, and Implementation-Evaluation. Even though, the analysis results in the first part indicated that Good Inner Values Application Thinking, True State Awareness Thinking, and Present Situation Focus Thinking were foundation thinking of all other thinking elements, the second part indicates that these three thinking elements were highly recommended for use in certain steps of the problem solving cycle. The Good Inner Values Application Thinking highly agreed with using the Evaluation step to ensure bias free judgment. True State Awareness Thinking was recommended for use with the Problem Identification step to ensure that only significant issues are selected for solving and in the Solution Selection step to ensure that the life cycle and natural characteristics of the root cause(s) were considered in selecting the right solutions. Present Situation Focus Thinking was recommended for Problem Identification and Problem Clarification to ensure that the problem solvers were aware of the current status of the problem.

Conclusion:

For the first research question, which focused on the interpretations and applications of each Yonisomanasikara thinking element, the researcher concluded that thinking has many purposes. It can range from the thinking to find the truth of a concerned issue to the thinking for solving a problem (Figure 9). The Yonisomanasikara framework can be applied to all levels of thinking processes. If the purpose of thinking is to find the truth or to have a better understanding, using only one single thinking element may fulfill such a purpose. However, when the concerned issue escalates to become a problem, which is ranked from an easy problem to a complex problem, a combination of more than one Yonisomanasikara thinking element is required to achieve such a purpose. The levels of combination are also varied from a basic combination to an integrated model with problem solving.

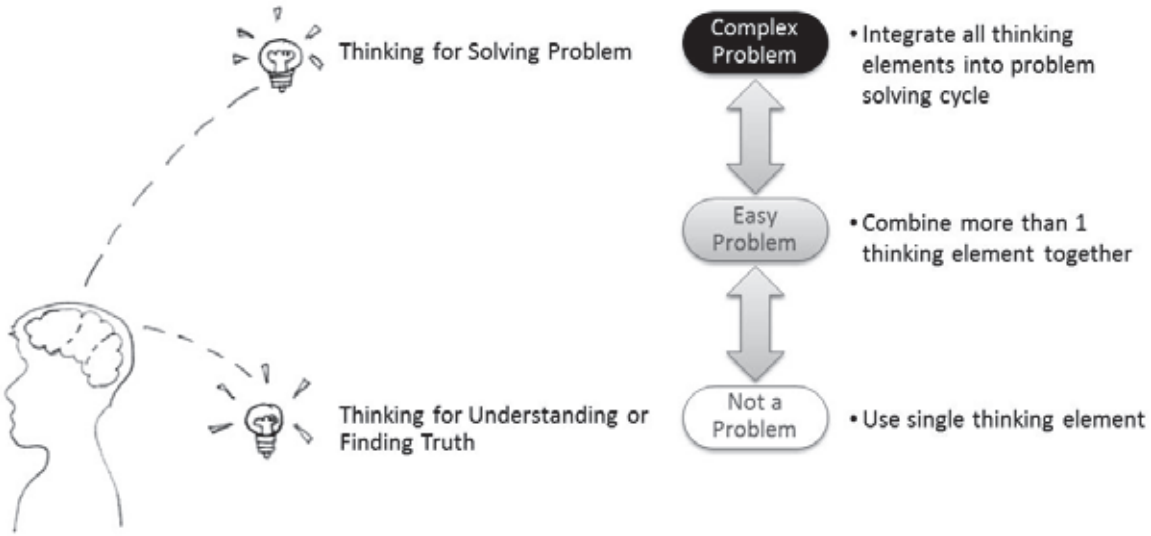

Figure 9 Thinking purposes, problem complexity, and combination of Yonisomanasikara thinking elements

Moreover, to effectively use Yonisomanasikara in daily working life, we have to understand the meaning and characteristics of each thinking element. Moreover, we have to build enhancing factors in an organization that promote the continuous uses of the Yonisomanasikara framework in daily working life. These enhancing factors include leadership commitment, leadership as a role model, organization culture and core values, and working procedures that embed the Yonisomanasikara framework.

For the second research question that focused on the integration of Yonisomanasikara thinking elements with the Problem Solving Cycle, the researcher concluded that the Yonisomanasikara

Problem Solving Model looks like a circular staircase that circles up for five levels, including identifying the problem level, clarifying the problem level, analyzing the data level, determining the solution level, and implementing and evaluating the result level. The Four Noble Truths Problem Solving is the core thinking element that control other thinking elements in the Yonisomanasikara Problem Solving Model.

For broader application in daily life, the Yonisomanasikara thinking elements can be grouped based on their purposes and characteristics, which are the consciousness controlling, problem screening, foundation, controlling and reporting, analysis group, and solution selection groups. Some groups have to be embedded into the thinkers or users' habits for use in daily working life. Some groups are used at the moment users or thinkers confront an issue that creates some difficulty. Other groups are be used for solving problems. These groups of Yonisomanasikara thinking elements are shown in Figure 10.

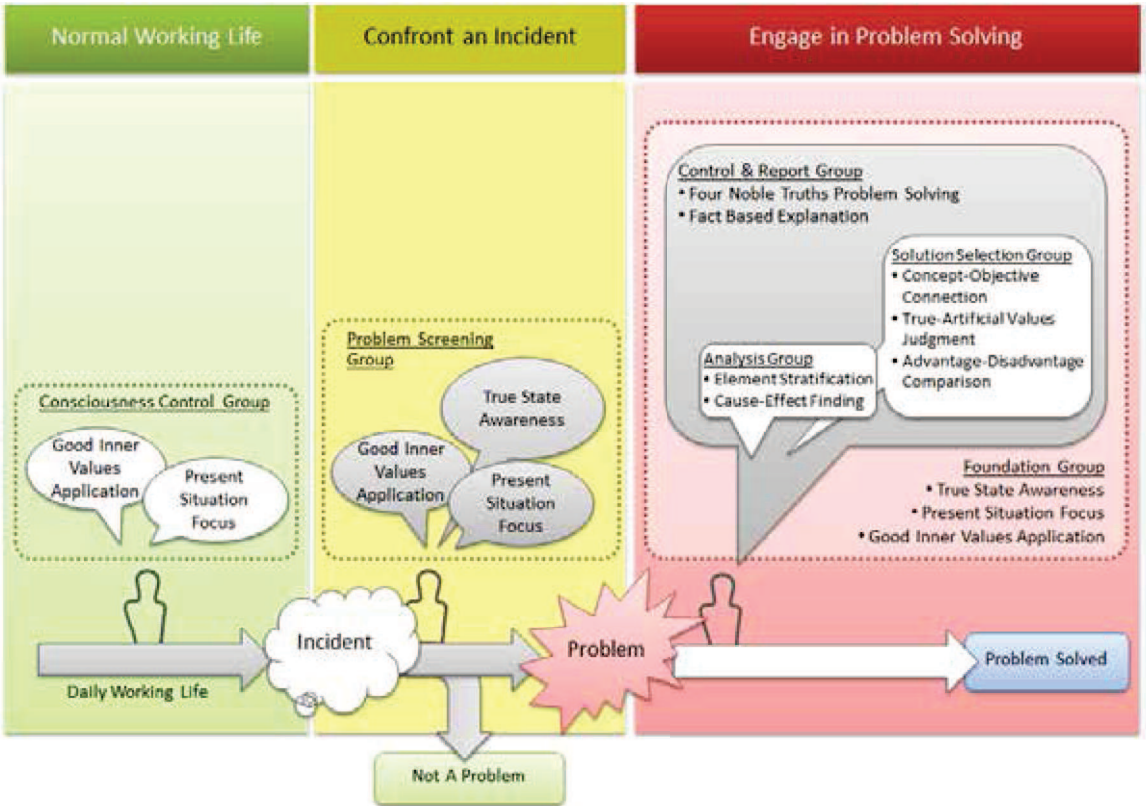

Figure 10 - Grouping of Yonisomanasikara Thinking Element in Normal Working Life and Problem Solving

Recommendations

This section contains recommendations for four groups of audiences, including individuals, HR practitioners, organization leaders, and other researchers.

Recommendations for individuals

For individuals who are interested in using Yonisomanasikara, they have to study the meaning of each Yonisomanasikara thinking element and try to use them all the time. After becoming familiar with the meaning and purpose of all thinking elements, they can start using the Integrated Yonisomanasikara Problem Solving Model.

Recommendations for HR practitioners

HR practitioners should train the concept of the Yonisomanasikara framework to their employees and management. Later, the HR practitioners may design problem-solving sessions that use the Integrated Yonisomanasikara Problem Solving Model. Moreover, they should develop the Yonisomanasikara Coach and Coaching Session to help employees to learn and continuously apply the framework in real working conditions. The key reason for all of these actions is to build the organization culture that promotes the daily uses of the Yonisomanasikara thinking framework.

Recommendations for organization leaders

Organization leaders have to learn and practice all elements of the Yonisomanasikara framework first. Then, they have to be role models in using, communicating, and coaching others to use the Yonisomanasikara framework. The leaders should set a policy, especially a training policy, and working procedures that support the daily uses of the Yonisomanasikara framework.

Recommendations for other researchers (future research)

This study focuses on the general applications of the Yonisomanasikara thinking framework and one possibility of the integration model of the Yonisomanasikara framework and the problem solving cycle at the Roong Aroon School. This implies that the results of this study may be directly applicable to schools that have Buddhism as the main religion. However, even if this study has such limitations, the findings serve as a starting point for more detailed studies. Many interesting issues require further study of the Yonisomanasikara thinking framework, including specific application of each thinking element, application of the Yonisomanasikara framework in a business context, application of the Yonisomanasikara framework in other schools that Buddhism is not the main religion, effectiveness of the Yonisomanasikara Problem Solving Model, variations of the Yonisomanasikara Problem Solving Models, and comparing the Yonisomanasikara Problem Solving Model with other problem solving models

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