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Learning to Learn A Strategy to Become Effective Learners

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นักวิชาการในหลายสาขาวิชามีความเห็นตรงกันว่า การศึกษาเรื่องการเรียนรู้วิธีการ เรียนรู้เป็นสิ่งจำเป็นต่อความสำเร็จในการเรียนรู้ของผู้เรียน และได้ทำการศึกษาค้นคว้าเพื่อทำความเข้าใจลักษณะและวิธีการที่ผู้เรียนใช้ในการเรียนรู้ เพื่อสร้างเป็นแบบจำลองหรือกลยุทธ์ในการเรียนรู้ โดยหากผู้เรียนรู้จัก เข้าใจและนำแบบจำลองหรือกล์ยุทธ์การเรียนรู้นี้ไปใช้ ก็จะสามารถเป็นผู้เรียนที่มีประสิทธิผลได้ บทความนี้นำเสนอความเข้าใจเบื้องต้นของแนวคิดเรื่องการเรียนรู้วิธีการเรียนรู้ ความหมายของการเรียนรู้วิธีการเรียนรู้ ประเภทของผู้เรียนและกระบวนการเรียนรู้ การศึกษาเพื่อที่จะเข้าใจวิธีการเรียนรู้ ประโยชน์และลักษณะเด่นของการเรียนรู้วิธีการเรียนรู้ และการนำการเรียนรู้วิธีการเรียนรู้มาประยุกต์ใช้ทั้งในด้านการศึกษาและการทำงาน

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Abstract

Researchers and practitioners from various disciplines contend that learning to learn is necessary for successful learning and attempts have been made to provide more understanding of how learners construe learning opportunities and tasks and to present models and strategies for teachers to use in implementing this concept. The purpose of this article is to provide an overview of the background of the concept, a basic understanding of definitions of "learning to learn" and its components, different types of learners and learning processes, learning to learn as the educational goal, its advantages or outstanding characteristics and strengths, and implications for practice, including guidelines for designing and implementing the learning to learn concept in different educational settings and workplaces.

Introduction

> *"The most socially useful learning in the modern world is learning about the process of learning, a continuing openness to experience and incorporation into oneself of the process of change."*
>
> Rogers, 1969

Learning to learn has emerged as a multifaceted concept incorporating various principles, processes and strategies. In a practical sense, the power and potential of the learning to learn concept goes far beyond the study boundary for learning how to be taught. By synthesizing much of what can be inferred from research, theory building, and practice, learning to learn serves as the link to empower learners to have greater control of their own learning while entering into an increasingly volatile and information-rich world (Smith, 1990).

The ultimate goal of learning to learn is to become a central purpose of education and an equal partner in the teaching-learning transaction. The promise of this intriguing concept lies in its practical application that helps foster initiative and self-directedness in learning for an individual to become a "self-regulated or expert" learner. This term refers to the learner who possesses a repertoire of systematic learning methods as well as the ability to monitor one's own comprehension, which is considered as a major factor generating and impacting expertise in learning.

Researchers and practitioners from various disciplines contend that learning to learn is necessary for successful learning, and attempts have been made to provide more understanding of how learners construe learning opportunities and tasks and to present models and strategies for teachers to use in implementing this concept (Smith, 1991; Krupp, 1991). The purpose of this paper is to provide an overview of the background of the concept, a basic understanding of definitions of "learning to learn" and its components, different types of learners and learning processes, learning to learn as the educational goal, its advantages or outstanding characteristics and strengths, and implications for practice including guidelines for designing and implementing the learning to learn concept in different educational settings and workplace.

Overview of the Background

The inception of the learning to learn concept dates back more than two decades ago. Its genesis was in the work of a group of researchers at the University of Michigan in the 1960s attempting to identify critical thinking skills common to successful learners. In brief, students were asked to talk aloud their thinking while they were engaged in a variety of academic tasks. The results revealed that successful learners could "program" their learning, breaking up large tasks and complex ideas into components; engage in a covert dialogue with the author or lecturer, reading or listening for confirmation; devise informal means of obtaining ongoing feedback on their learning progress; and focus on instructional objectives, directing their learning toward those objectives. The study group theorizes that variations of these skills are fundamental to all learning, both academic and nonacademic. They also believe that learning to learn is effective because "it teaches students to harness skills they have long been using in informal learning situations" (Heiman, 1985, p.227).

Definitions of Learning to Learn

Learning to learn is often used as a phrase to serve the objectives of widely differing educational ideologies. For some, learning to learn is a process; others see it as a product. Some people view it as a relatively applied, instrumental concept for use in limited educational settings. Others view it as an integrated and unified development of the whole person leading to goals as self-actualization and self-fulfillment (Candy, 1990).

Learning to learn can appear under various labels or terminologies. Some authors may refer this idea to metacognitive training or metalearning. Metacognitive training focuses on improving strategies people use in planning, monitoring and revising instructional experience, while learning to learn spans a much larger territory. The terms *learning to learn* and *metacognitive* are therefore used more or less interchangeably to refer to knowledge, processes, and procedures by which people come to and are assisted to make appropriate educational decisions and carry out instrumental tasks associated with successful lifelong learning (Smith, 1990).

Other related terms also include self-directed learning, self-regulated learning, self-monitoring learning, small-group learning, and transpersonal learning. In this paper, however, learning to learn will be used predominantly since it implies a continuing process as opposed to the static goal of attainment. Moreover, this terminology also conveys the clear meaning of the method of how to learn as the central theme which is more important than *what, why, when, where,* and *whether* to learn.

According to Heiman (1985), learning to learn is a system of critical thinking skills that students apply directly to their work in academic courses. Smith (1982) sees learning to learn involve "possessing or acquiring the knowledge and skill to learn effectively in whatever learning situation one encounters" (p.19). In his work on learning styles, Kolb (1981) states that "continuous lifelong learning requires learning to learn, and this involves appreciation of and competence in diverse approaches to creating, manipulating and communicating knowledge" (p.8). Collett (1990) relates the learning to learn process as an agent helping students tailor their activities finely to the competing demands of all forces in order to become expert learners.

The learning to learn skills are those which facilitate learning of all types (Marzano, 1986). The basic assumption underlying the learning

to learn skills is that learning within a classroom setting is a function of generalized competencies that are used in all learning situations--not just those related to school. If students are taught or made aware of these generalized competencies, they can use them in any situation--school related and non-school related.

According to Kaplan (1990), learning to learn skills prepare students to plan, monitor and assess their own thinking about learning as they become developmentally ready. Under the developmental scheme, an idealized condition of learning to learn is described as that of the person who has become an active, confident, flexible learner by the time full maturity is reached, one who possesses considerable insight into self-as-learner and a broad repertoire of learning-related understandings and strategies. This is a person who can learn effectively and meaningfully for a wide variety of purposes in a wide number of contexts (Smith, 1990).

In sum, apparent features pertaining to the learning to learn concept include the following:

- it is a lifelong process;
- it is a developmental process in which people's conceptions of learning evolve and become consciously available to systematic analysis and review;
- it involves the acquisition of a repertoire of attitudes, understandings and skills that allow people to become more effective, flexible and self-organized learners in a variety of contexts;
- it occurs both prior to, and coincidental with, learning endeavors;
- it may be enhanced through processes of formal schooling and the way in which the curriculum is constructed and is therefore a viable--perhaps crucial--objective for educational systems at all levels;
- it involves entering into the deep meaning structures of material to be learned and, in its most advanced forms, may lead to critical awareness of assumptions, rules, conventions and social expectations that influence how people perceive knowledge and how they think, feel and act when learning;
- it has both generic and context-specific components; and
- it is a multidimensional entity whose meaning varies according to the meaning given to the word learning.

Components of Learning to Learn Strategy

Learning to learn is viewed as a complex matter comprising a set of interrelated subprocesses. As a process, learning to learn refers to both the acquisition and the fostering of attitudes, understandings and skills associated with effective participation in education and the carrying out of learning-related tasks. According to Smith (1990), a variety of interrelated intrapersonal and interpersonal processes are involved. The process dimension relates to how certain abilities and competencies are acquired and employed, ways of facilitating their acquisition and employment, and what happens when facilitation is undertaken. It is noted that though the process of reaching this state can be varied among individuals, certain skills that must be attained include critical thinking; basic communication and computation skills, including computer literacy; some subject matter mastery; and awareness of a great variety of resources for learning. For example, individual learners will know how to pose and solve problems, learn from peers and mentors, conduct a personal learning project, and develop the crucial abilities of self-monitoring and lifelong process of learning how to learn independently.

Learning to learn can be viewed from the perspective of the life of an individual which does not automatically increase with age. In this light, it represents in part a developmental process which includes the ability to be aware of and reflect on one's own processes while undertaking to learn develops (Schmitt & Newby, 1986). Some people reach adulthood without having acquired such crucial skills for learning (Campione, Brown & Ferrara, 1982). To illustrate, Kaplan (1990) provides the metaphor of a knowledge bank. Actually, learning to learn skills do not develop naturally but are acquired. To encourage students to think, teachers need to promote the value of lifelong learning by emphasizing that they have to accumulate knowledge just as people save money in a bank. Learners "deposit" information to "withdraw" later when they need it.

Effective learning to learn strategies have been developed by many researchers and practitioners. Marzano (1986) presents an effective learning to learn strategy which has the following components:

1. **Attention Control**

Attention control involves voluntary attention which occurs when an individual willfully shifts attention or maintains attention on a specific stimulus. It is to provide students with an awareness of when they are and are not attending to a task and a set of strategies for shifting attention when they desire.

2. Goal Setting

Goal setting is the skill of identifying an explicit outcome and planning activities to accomplish that outcome. The researchers found that successful students tended to set explicit goals that were challenging but reasonable.

3. Monitoring Attitudes

After goal setting, a student will generally consider some high level controlling attitudes relative to the goal. A high level controlling attitude is a basic operating principle which governs behavior. It helps monitoring personal beliefs about: (1) control of and responsibility for the task and (2) the need for the utility of intense and extended effort.

4. Self-Evaluation

Effective learners commonly engage in self-evaluation techniques in which they identify what is working and what is not, relative to the goal. Students can monitor the effectiveness of their activities while they engage in a task or after they have completed the task.

Three Domains of Learning to Learn

Gibbons (1990) points out three domains--technical, social and developmental--that involve an essential and unique manner of learning to learn. The *technical domain* embodies all of the learners' efforts to achieve instrumental control over their environment. These efforts include, for instance, practical activities as learning to grasp and walk, using tools and engaging in work, and conducting research. In this domain, *doing is learning, and learning how to do is learning how to learn.*

The *social domain* embodies all aspects of learners' diverse interactions with others. The range of activities involved in this domain covers, all communicative exchanges and relationships (for example, all of their casual, friendly, leisure contacts and their meetings in groups & communities) understanding, cooperation, and frustrations. Learning to learn, therefore, involves learning from social interactions about how to improve the ability to communicate and interact openly, cooperate, negotiate fairly, and decide democratically so that people achieve deeper mutual understandings.

The *developmental domain* embodies the learners' efforts to achieve personal control over their own experience. These efforts include the attempts to achieve the freedom and the means to develop fully as a

person. Learning to learn is generating through learning how to free themselves to pursue ever greater possibilities in their lives, to become fully functioning adulthood in which they are capable of fulfilling their needs, interests and purposes free from misconceptions.

The "Thinking" Curriculum

Nowadays, thoughtful educators everywhere are calling attention to the importance of developing students' thinking skills through their experiences in school. Today's graduates must not only be literate, they must also be competent thinkers. Recent research has provided a new perspective on how people learn to think. One of the most significant ideas is that the mental processes we have associated with thinking are not restricted to some advanced or "high order" stage of mental development. Instead, "thinking skills" are intimately involved in successful learning of even elementary levels of reading, mathematics and other subjects (Resnick and Klopfer, 1989).

Different Types of Learners and Learning Processes

To answer the question of whether learning to learn can be taught, it would be helpful to understand first the notion of learning and, furthermore, how people become effective learners. Saljo (1979) approached the issue by asking people, "What do you actually mean by learning?" The answers he found reflect the following: (1) learning as the increase of knowledge that can be accumulated; (2) learning as memorizing, involving the transferring of units of information from a source outside the learner into the learner's head; (3) learning as the acquisition of knowledge that can be retained and/or utilized in practice; (4) learning as the abstraction of meaning, moving away from a view of learning as primarily a matter of reproducing aspects of an outside reality to one of abstracting meaning from what is seen and heard; (5) learning as interpretive process, aimed at understanding reality, which is by far the most sophisticated conception of learning, emphasizing the relationship between the learner's valuation system and the outside world.

Smith (1991) explains how the process works. Deliberate efforts, according to Smith, involve action, reflection, and self-monitoring. In this regard, ideal learners are viewed as

> *active, confident, self-aware learners who carefully monitor learning related activities and continually reflect*

> *on outcomes and possible adjustments in tactics. They demonstrate flexibility, sensing when to take or relinquish control and when to modify plans. Furthermore, ideal learners know when to employ a variety of strategies, regardless of the context. They are open to new ideas and experience...skilled in transferring what is learned to other situations* (p.11).

Implicit in learning to learn is the notion of gradually becoming more efficient and effective in managing all types of learning activities. Students learn to learn when they become more aware of themselves as learners and consumers of education and more active in examining what happens as they learn. Such awareness, according to Smith (1991), can take many forms. Learning is variously assumed to be, in the order of sophistication: (1) any increase in knowledge; (2) memorizing information; (3) acquiring knowledge for practical use; (4) abstracting meaning from what is seen and heard; and (5) an interpretive process directed to the understanding of reality.

Weinstein and Stone (1993) summarize major variables that differentiate experts and novices. Experts not simply know more, but their knowledge is better organized and more integrated. They have more effective and more efficient strategies for getting to their knowledge, using it, applying it and integrating it, and they have different motivations to do things in a more self-regulated manner.

According to Weinstein and Stone, expert learners should possess *four types of knowledge* which interact: knowledge about themselves as learners (their preferences, strengths, weaknesses, study habits); knowledge to accomplish different tasks (the requirements, different kinds of educational, instructional and evaluation tasks); knowledge about a wide variety of strategies, tactics and study skills (repertoire of studying and learning strategies); and knowledge about content (prior or existing knowledge that helps learners acquire and understand new information).

In addition to these knowledge categories, expert learners must also know how to monitor their own comprehension, meaning how to use self-assessment or self-testing to determine whether they are meeting their learning goals. Moreover, effective learning requires the will or motivation to learn and the executive control whereby students orchestrate and manage their learning. It includes the following steps: creating a plan, selecting the specific strategies, implementing the method selected to carry out the

plan, monitor and evaluate, modifying, if necessary, and making overall evaluation.

Gibbons (1990) suggests three distinctive forms of learning: natural, formal and personal. Natural learning is described as a spontaneous form of learning, an unexpected collusion between inner readiness and environmental opportunity. It can occur at any time throughout life. Formal learning refers to learning events in which a structured sequence of content is presented to students in some way designed to help them learn. Personal learning equates with self-directed learning events in which learners consciously pursue a course of study and action following a pattern of their choice and design, usually in response to a personal interest or necessity.

A comparison of aspects of a learning act in the three basic kinds of learning is shown in the following table:

	Natural	**Formal**	**Personal**
Type of learning	Interactive: Individual interacts spontaneously with environment	Directed: Individual is directed through learning procedure	Self-initiated: Individual designs desired learning procedure
Source of content	Available: Content selected by interact from available environment	Assigned: Content assigned by educational and organized by authority	Chosen: Content selected by learner
Method of instruction	Transactional: Process occurs between accidental influence and inner state	Presented: Content presented systematically to student for learning	Enacted: Individual enacts and monitors own learning procedure

From these three positions, learning how to learn processes are summarized as follows (Gibbons, 1990):

Under the natural situation. Learning to learn is enhanced from interaction with others, from the stimulation of the environment, from exploring the environment, from practice and from the teacher within.

Under the formal situation. Learning to learn is derived from instruction, from performing an assigned task, from learning basic skills, and from learning how to generalize a learning activity.

Under the personal situation. Learning to learn requires the following skills: learning to decide what to learn, learning how to manage one's own learning, learning how to learn from experience, learning to be an intentional learner, and learning to take action.

Learning to Learn as the Educational Goal

Learning to learn has gained growing acceptance as a goal for educational systems and programs. Cross (1984) contends that the most important lesson to help educate people to live in a rapidly changing world is to teach them the skills and attitudes that will be required of lifelong learners. In *Models of Teaching*, Joyce and Weil (1986) assert the importance of learning to learn as the basic skill that should take its place with the basic skills of reading and arithmetic and as the key to a productive lifetime of personal growth.

Learning to learn has appeared as a goal for adult education ever since the end of the first World War. In the statements put forth by Lindeman (Stewart, 1987), a renowned architect of adult education, the educated person is described as one to whom a valid learning method has become so natural and congenial as to be applicable to all experience. Stewart (1987), Lindeman's interpretive biographer, further states that "learning to learn and to continue learning is as important as learning a particular subject matter" (p.229).

The desired outcomes of learning to learn in colleges and universities are increasingly seen as far more than the enhancement of study and survival skills. They often include helping students to develop more sophisticated conceptions of learning and knowledge itself, clarification of the demands and requirements of learning-related tasks, and deeper approaches to learning and study (Gibbs, 1981; Marton, Hounsell, and Entwistle 1984).

For older and more mature college students, learning to learn is linked to empowerment--enabling students to become more sophisticated and assertive consumers of education, and even agents of change within the institution. The college-educated person should be able to go forth to learn with understanding and critical reflectivity when the institution has taken seriously the responsibility for learning to learn. Even when that institution proves stagnant, complacent or unresponsive to the needs of its clientele, the students can become, according to Schlossberg, Lynch, and Chickering (1989), "advocates for their own learning process...[a]

proactive process...In fact, self-empowerment of adult learners through metalearning could revolutionalize higher education" (p.205).

Advantages of Learning to Learn

Major advantages of learning to learn skills are attributed to their perceived strengths of helping students become active, rather than passive, learners. They help students gradually realize that learning is within their control (Kaplan, 1990). Application of learning to learn concept can result in a variety of benefits for educational institutions, agencies and programs and for those whom they serve (Ostrander & Schroeder, 1979). Students can be helped to move away from the surface processing associated with rote learning to the deep processing associated with more meaningful learning (Biggs, 1987).

According to Smith (1990), learning to learn activities have the following strengths: (1) increasing the individual's self awareness and capacity for self-monitoring and reflection when engaged in educational activity; (2) helping people to become more active learners and to assume an appropriate amount of control of learning-related activity; (3) broadening the individual's repertoire of learning strategies; (4) preparing people to accommodate the requirements of different delivery systems, methods, and subject areas; (5) enhancing learner confidence and motivation; (6) compensating the metacognitive deficiencies (for example, improving adolescents' ability to think conceptually and analytically); (7) improving group inquiry and problem-solving skills; (8) helping students to make sound choices among the educational programs and resources available to them; and (9) fostering organizational learning.

Implications for Practice

Advancement of learning to learn concept requires significant changes in perspective. It is increasingly evident that education becomes a process of not only arranging environments and conditions for learning to occur, but, equally important, for learning to learn to take place (Smith, 1990). Though these changes may not come easily, gradually it is expected that students will become more aware and knowledgeable partners in the teaching-learning transaction.

Learning to learn and adult education

Many authorities in adult education often stress self-directed or learning to learn strategy as the major objective in every adult-education program. For example, in *A Philosophy for Adult Education*, Bergevin (1967) emphasizes learning to learn as a global goal for adult education. Tough (1971) has identified specific objectives for evaluating the extent to which participation in an educational program enhances capacities for self-planned learning. Knowles (1980) encourages the increase of learners' ability to engage in *self-directed* inquiry.

Krupp (1991) sees *self-esteem* as a major element enhancing adults learn to learn. Adults with high self-esteem utilize this knowledge to grow, improve interpersonal relationships, handle adversity effectively, gather information to make appropriate decisions, and function as responsible persons in a democratic society. To nurture self-esteem, Krupp suggests the following: (1) build in success experiences; (2) give students responsibility for their choices; (3) offer massive earned positive feedback; (4) build positive self-attitudes by focusing on a person's strengths, setting high standards, and rewarding improvement; (5) have a discussion of values; (6) encourage learners to use their support socialization system; (7) help students feel connected and accepted by knowing their names; (8) set measurable and achievable goals with each learner and help them reach these goals; (9) help students feel special and unique by asking them to share an area of their expertise; and (10) model the values and beliefs inherent in learning to learn.

Learning to learn and the workplace

Mounting interest in learning to learn is evident outside classroom boundary and in the workplace. *Active learning* as well as promoting *live and learn* in an "Information Age" are becoming the key to unlock future success. *Workplace Basics: The Skills Employers Want* by Carnevale & et al (1988) identifies knowing how to learn as the foundation and the most basic of all skills to help individual achieve competency in all basic workplace skills from reading through leadership. Important elements in organizational learning require that people be willing to acknowledge uncertainty, admit error, respond to the future, and acquire such skills as listening, problem posing, and nurturing (Bennis & Nanus, 1985). To illustrate, a manager who has learned to learn knows the stages in the process and understands his or her own preferred approaches to it; he or she can identify and overcome blocks to learning and bring understandings from off-the-job learning to on-the-job situations (Mumford, 1986).

Cheren (1990) sees today's workplace in great demand for skilled, motivated learners. A range of efforts is therefore underway to develop learning management competence in organizations emphasizing training and learning related to learning to learn. In an article summarizing the results of the American Society of Training and Development (ASTD) and the U.S. Department of Labor study, learning to learn is identified as the first of thirteen "new basic" and is defined as: *the ability to acquire the knowledge and skills needed to learn effectively, no matter the situation.*

Nesbit (1991) considers learning to learn as crucial to labor education process. As workers re-enter education after a long absence, they commonly have a low opinion of their educational abilities and of education in general. The courses therefore start with learners' experiences and attitudes, develop self-confidence, knowledge, and skills, and encourage the immediate application of what is being learned. Learning in this circumstance is not a passive absorption, but an active process using small group activities and encouraging students to, for example, work collectively, compare experiences, challenge assumptions, explore new ideas, and devise strategies for actual workplace.

Implementation of Learning to Learn

Realizing the effectiveness of learning to learn strategy is not sufficient without the knowledge of how to actually put it into action. Hammond (1990) describes some major design and facilitation principles for the learning to learn concept.

(1) Maintain a learner-centered orientation. The individual and how he or she experiences education and learning become the starting point for learning to learn efforts;

(2) strengthen the foundations of learning to learn which consist of an awareness and understanding of self as learners, the ability to monitor one's learning processes and to reflect on them, and the ability to access and utilize a wide variety of modes, resources, and strategies for learning;

(3) make the idea of learning to learn understandable and palatable;

(4) establish and maintain a climate conducive to change; and

(5) adopt, adapt, and improvise training activities to suit one's purpose.

Learning to learn essentially involves the process to build a better thinker--a state-of-the-art instructional question that focuses on understandings of both cognitive and metacognitive processes. The cognitive part includes basic mental skills and processes of thinking: for instance, simple recall, analyzing the parts of a whole, recognizing cause and effect, comparing and contrasting, grouping and classifying, conceptualizing, problem-solving, and decision-making. The metacognitive, on the other hand, involves the higher order of thought that involves planning, monitoring, and assessing one's own thinking. This metacognition, sometimes referred to as thinking about thinking or learning to learn, thus serves as the foundation for students' understanding of their thinking process.

The next issue evolves around certain *traits* or *dispositions* that enable students to think better. These traits include, for instance, tolerance for ambiguity, respect for evidence, willingness to search for reasons and alternatives, willingness to withhold or reverse judgments based on facts, open-mindedness, and sensitivity to others. On the contrary, there are certain *negative* traits that can be roadblocks to thinking. Such factors, according to Vail (1990), include learning style, fatigue and hunger, family history, and the limbic system of the brain.

Designing and implementing learning to learn skills is another area of concern. As a start-up state, Kaplan (1990) outlines 12 steps, referred to as a *Think First Reminder Chart* to enhance learning to learn skills. They include:

(1) *Think about what the lesson means to students*. Help students connect what they are learning to experiences in their daily lives;

(2) *Estimate how long it will take students to do the lesson or project.* Students need to make realistic appraisals of the time a task will require;

(3) *Transfer what students have learned to other situations*. Teach students to look for continuity between previous learning and new learning by asking questions such as *where, how,* and *why* does it fit?;

(4) *Push students' thinking to the limits and take a chance*. Encourage students to try new tasks, to take risks and accept that "failing" at a new task is also possible;

(5) *Organize a task into its essential parts*. This coping skill helps students manage their work step by step and helps keep them from feeling overwhelmed;

(6) *Determine what materials students will need for an assignment before they start it.* Have students identify and obtain the required materials ahead of time;

(7) *Decide how students can collaborate with their classmates and build a personal support system.* Explain that everyone has different strengths, and give students permission to get help on a project or task from a friend who is particularly knowledgeable about the subject;

(8) *Learn to work for themselves--not the teacher or their parents--and become self-motivated.* Help students take pride in a job well done;

(9) *Stop and regroup if students are feeling frustrated.* Help students understand that frustration is a part of learning. Emphasize that they should not feel unworthy because they sometimes have to struggle to learn;

(10) *Know that they have choices when they get stuck.* Make students aware that they have three options when they face obstacles--they can run away from it, they can go around it, or they can go through it. Help them assess each option and the consequences in which they have freedom to make those choices;

(11) *Remember that discussion is a give-and-take process.* Help students understand that discussion and debate involve listening to other points of view as well as stating and standing up for their own ideas; and

(12) *Separate their self-worth from their work.* Tell and show students that they are worthy of respect and love just from being themselves--with their weaknesses as well as their strengths.

What follows the above steps is the scope and sequence for facilitating the skills. Some experts may favor infusing the skills into all subject areas while some prefer to see the combination of separate and infused activities. While no consensus can be found toward any of these two approaches, teachers are reminded by simple guideposts by Costa (1985): *Believe all students can think, not just the gifted ones. Let students know that thinking is a goal and create the right climate and model it.*

The new teaching paradigm requires that teachers begin to teach more interactively, to challenge themselves and learners to raise questions and examine assumptions, to pose and solve problems (Smith, 1991). Under this mode of teaching and learning focusing on meaning and understanding, students are led to the limits of their knowledge and

helped to find aspects that are especially interesting and meaningful. The desired outcome is to enable students to understand the structures of knowledge, to interact with content, to anchor new content in prior knowledge, and to acquire the skills to transfer.

According to Weinstein (1982), teaching students ways to acquire and process knowledge more effectively is a metacurriculum that can be included in any content-area course. Under the new conception, students are characterized as active information processors, interpreters, and synthesizers. They can be taught learning to learn competencies simultaneously with the course content. Such competencies include *information-processing* (requires a learner to create some type of symbolic construction related to previous knowledge which makes new information more meaningful and easier to learn and remember), *active study* (involves using information processing strategies as part of an organized system for studying), and *self-management* (manages their own cognitive and emotional environment such as learning stress and test anxiety).

Heiman (1985) divides the instruction of learning to learn skills, which cover both general and subject-specific skill areas, into three stages: input, organization, and output. The *input stage* includes: (1) generating questions from lecture notes; (2) reading to answer questions I: Nontechnical textbooks; (3) reading to answer questions II: Reading without heading and subheadings; (4) reading as problem solving; (5) reading graphs, tables, and diagrams; (6) reading for examples; and (7) developing editing checklists. The *organization stage* includes: (1) flowcharting (giving complex assignments for students to construct flowcharts to sequence their work activities); (2) information mapping (allowing students to compare items with respect to questions generated from notes and readings); (3) scheduling in which students perform weekly homework analyses by converting assignments into a series of small tasks. The *output stage* consists of: (1) writing to answer questions; (2) systematic problem solving; (3) analyzing exams; and (4) writing mock exam.

Heiman (1985) further notes that as students work, they learn to recognize two basic skills: generating questions and breaking down complex ideas and tasks into manageable elements. The desired result is evident when their learning becomes more goal-directed, and they are able to assess their own progress. More importantly, learners can see the skills as tools that become automatic and are integral to learning in and outside of school.

Discussion

The writer tends to see the learning-to-learn concept as the best learning tool that, once employed, will effectively lead learners to explore independently the treasure world of knowledge throughout their lives. With many promising applications to higher education, substantial benefits of learning-to-learn skills do not fall only on the learners but also on the society at large, especially in the knowledge-based society where level of knowledge possession determines success.

Many researchers contend that learning-to-learn skills help assist students to mature to a higher level of their cognitive development. Given that students enjoy their learning with positive experiences of success, learning-to-learn skills consequently contribute to the increase of students' graduation rate. In the larger perspective, the end result will benefit the society with a more effective workforce and more responsible citizenry.

Learning to learn can be implemented as an integral part of higher or adult education programs. In some colleges and universities, provision takes the form of special courses, seminars, or learning centers while in others the process of learning to learn has been infused into subject matter areas (Lynch, 1990). For example, Mentowski and Doherty (1984) describe Alvino College in Milwaukee as the beacon in learning to learn. Its programs evolve around the notion that learning to learn seems to occur as the learner encounter three basic issues: (1) that learning is a change in itself; (2) that newly learned abilities can be adapted to varying situations, where they have the power to change the environment; and (3) that one can take charge of the learning process, integrate and, to some extent, direct the changes in one's self and one's world.

In the writer's opinion, the learning-to-learn concept has not received much emphasis in the post-secondary level of education in Thailand. There seem to be a few learning centers and academic support programs available to help students to overcome learning deficits or to excel in their learning endeavors. Thai students can enter most public universities only through the highly competitive, nation-wide entrance examination. After managing to pass this first and most important barrier, these students try their best to survive through the four-year program and most of them are able to make it. Personally, learning-to-learn skills in the Thai context are somewhat stimulated by the students' concern and

anxiety to cope with the pressing needs to graduate. Under this circumstance, the writer sees greater need to implement the learning-to-learn concept in Thai universities to make learning a pleasure and not a pressure for Thai students.

To implement this approach, academic and student development departments should work cooperatively to structure programs and services to serve and assist students to have a smooth movement from their entry to departure. Programs such as an orientation course and those offered by the learning support center, can be available to help students build solid relationships with the institution. As they move through the institution, cohesive programs such as academic advising, career development, residential life can be incorporated to support students with multiple purposes. Not to overlook the important aspect of assisting students as they move on into the world of work, post orientation courses, as well as the development of mentors who may make referrals to career planning and placement, are also needed. The writer believes that the above mentioned steps will not only help students integrate their learning and make important decisions about their future but also better serve the goals of learners, institutions, and society.

Conclusion

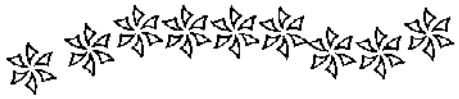
The versatility of learning to learn goes far beyond being a concept but represents a goal, a process, and an area of inquiry (Smith, 1990). The learning to learn goal challenges educators to foster individual learners to acquire the skills and understanding necessary to learn effectively in whatever learning settings they are involved. Essentially, the desired result is to create effective learners who know that they possess potentially useful knowledge within them and are well aware of their motives, purposes, and goals for learning.

As a process, learning to learn consists of a set of interrelated components, including self-monitoring and reflection (intrapersonal), and deliberate efforts of learners to improve other skills for learning (interpersonal). In many more years to come, learning to learn will remain a popular topic and yield a body of subject matter with important implications for educational practice and policy.

Several learning tips to enhance learning to learn skills are inspirational and designed to help learners understand their strengths and weaknesses. Close to being more process-oriented and inclined toward

the pragmatism school of philosophy, learning to learn skills encourage students to learn through experiences of the real world. Such skills also help students cope with frustration by realizing that they can experience peaks, valleys, and plateaus but they can learn from the valleys.

It may be useful for educators to keep a model of the ideal learner in mind. Though good teaching supports learning to learn, good teaching from the learning to learn perspective will definitely produce a far better result. Helping students become effective thinkers and learners, therefore, poses a new opportunity, not a threat, for the teacher to turn the challenge and the promise to reality. As effective thinking is particularly important for contemporary democratic society, *learning to learn should be considered as a means, as well as an end*, with the embedded good habits of thoughts for the development of people who can make wise choices from among the many options that will confront them as adults in the learning society in order to gain both wisdom and joy in their learning endeavors.



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