

## Transforming Learning for the Future

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Chi-Ming Chung\*

*Tamkang University, Taiwan*

Flora C. I. Chang\*\*

*Tamkang University, Taiwan*

### *Introduction - Knowledge and Technology*

In the time between late eighteenth century and early nineteenth century, the culture of most Asian societies was still agricultural. The natural resources on the ground decided a country's competitive capability. From the early nineteenth century to late twentieth century, the culture of society transferred to an industrial civilization, which a country's competitive capability depended on the mine underground and the technical skill. The twenty-first century will be an era of post industrial society or intelligent society wherein intellectual power decides a country's competitive capability. So the more the creativity, intelligence, and analytic capacity a country has, the stronger its competitive level in the world knowledge economy.

Michio Kaku (1998) claims that "Knowledge and technology" will become the only determining resource in a nation's competitive capability. Clearly, education affects the quality of knowledge and technology - education is the "the fountainhead of the brain". Therefore, a country's competitive capability depends on the level and quality of education. If the speed of evolution of education cannot catch up with society's reformation, the competitive capability of country and people will be declined. In other words, a country will lose its capacity to transform from within.

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\* **Correspondence:** Department of Information Engineering, Tamsui Campus, Tamkang University, Tamsui, Taipei, Taiwan.

Email: cmchung@mail.tku.edu.tw

\*\* **Correspondence:** Graduate Institute of Educational Policy & Leadership, Tamsui Campus, Tamkang University, Tamsui, Taipei, Taiwan.

Email: fcic@mail.tku.edu.tw

Promoting learning outcomes and quality have become the main purposes of educational reform. In this article, we propose new learning methods in order to establish a new learning model for people to become aware of their own learning results. Challenging the hegemony of the IQ test, and the principle of knowledge gradation - which help learners organize their learning process to achieve speed learning - will also be addressed. Speed-learning methods play an important role in today society because of their amazing affect on learning result and quality.

Noguchi (1997), a Japanese Scholar, developed *Chou Benkyou-Hou*, a new speed learning method which intends to achieve excellent results in learning English and Math. Many people who have used this learning method also indicate that their learning speed and outcomes showed distinct improvements (Noguchi 1997). Moreover, Mitsu Aki Yama Moto, the former director of Japanese Private Education Research Institute, has developed a "super-speed learning method." Students who had been trained in this learning method made a marked improvement of learning in one month. In addition, Akira Tago, former professor in Tokyo Industry University, established the "fast learning method," which also helps students to improve their learning effectively.

In Chi-Ming Chung's (1999), *The Marvelous Methods for Language Learning*, he also develops a new speed learning method, and advocates that "all of us have the ability to acquire and speak a new language fluently in six months." As the result, most people using this speed-learning method introduced in this book can not only acquire a new language, but also learn how to have essential conversations with those specific language speakers.

Finally, a new educational model - the EASY UP mold will be presented in this article. The subsequent section illustrates several highly effective learning methods, such as accelerated learning method, exquisite learning method, and managing our intelligent quotient (I.Q.), emotional quotient (E.Q.), and even comprehensive quotient (C.Q.). The skills that a teacher should possess is presented in at the end of this essay.

## ***Evolution of Education***

### ***1. Breaking the misleading hegemony of the IQ test***

IQ (intelligence quotient) is not the only factor that decides a person's intelligence. Using IQ model to test a person's intelligence has been a popular trend since 1940, short after Professor Lewis Terman proposed

it. According to Terman's theory (1916), people are born with intelligence and this innate ability can be determined through specialized tests. The assumption in IQ dominated educational theory is that higher the IQ, the more efficient learning is possible. However, even IQ proponents admit that a student possessing a low IQ value will not necessarily be a loser in today's competitive society, and moreover, that teachers, parents or students themselves do have the responsibility for their learning.

IQ judgment does not fully exhibit a person's capability, such as linguistic intelligence, dimensional and vision intelligence, sporting intelligence, and musical intelligence?, etc. In other words, people have several different aspects of capability, and they will be misjudged by the IQ test alone. Only a small percent can get a good score in IQ test (Fig.1). However, others who do not have a good score in IQ test may be doing well in another aspects of capability. For example, A-Mei may or may not have an high IQ test but certainly she is a genius when it comes to singing in Taiwan. Conclusively, people would be judged fairly through various quotient tests (Fig. 2). According to Breum's research, 95% learners receive a highly effective learning result irrespective of the IQ score they received. While only 25% students in a class can get a high score when applying traditional learning method, more than 75% students in a class can get a high score when applying mastery learning method as developed by Breum. Thus intelligence can be learned. It would be quite easy to learn twenty different kinds of language in no time if people could develop up to 30% of their, as most people use only 10% of brain in learning. However, the impact of learning will be lower if they apply the incorrect learning method. We thus need to challenge the hegemony of the single intelligence model IQ test as well as focus educational reform on new learning methods.

Figure 1: People Performance Judged by IQ test

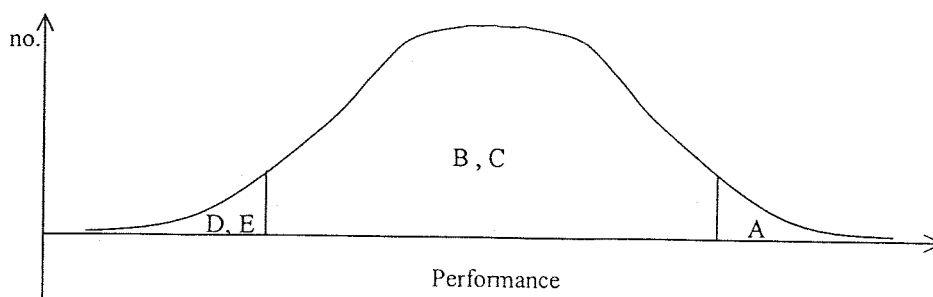
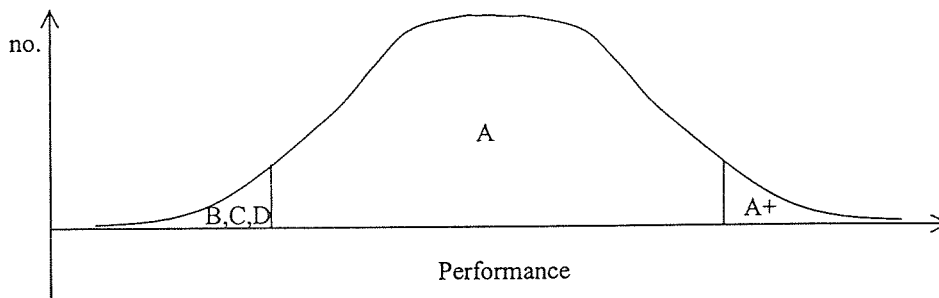


Figure 2: People Performance Judged by Various Quotient Test



## 2. Knowledge gradation (DIKI)-from Data to Intelligence

Basically, knowledge can be distinguished into four levels. They are (DIKI) - 1. Data, 2. Information, 3. Knowledge, and 4. Intelligence. Understanding this gradation helps learners to organize their learning process and to achieve the speed learning.

Datum is the most original material of knowledge, and it can be searched from libraries, books, or Internet. It is also the lowest level of knowledge, and thus, if people study only by cramming the data, they will have a low or even no competition with others. As to the Information, it is formed by comprehending and analyzing the meanings of data. It is the second level of knowledge and is more powerful than data. The upper level of information is knowledge. It is the result of analyzing Information. And then, intelligence is the highest level of this gradation. People of high intelligence use knowledge very well, and are capable of creating new ideas. Additionally, they also know how to organize their learning process to achieve speed learning.

Using a typical Chinese history class, as taught by Chung, as an example to illustrate this knowledge gradation can help us more understand what we mean. When we learn about the Opium War, we have been taught to memorize each event of the war, for instance, the personage, the cause, the time, the place and the treaty, signed as a result of the war. Though these materials can help us get an extremely high score on history test, they are mere data, belonging to the lowest gradation of knowledge. Any person with a history book can easily search out the data. Memorizing data won't strengthen our capacity to learning and our place in the world's emerging knowledge economy.

Students typically ask Chung with respect to the Opium war, “what is Information in this point of view?” We usually respond by asking: “Is the affect of the Opium War positive or negative to China?” However, there are always two different answers for this question. One is that since it is a war and causes the import of opium legally, and, is, of course, negative to China. Contrarily, the other view is that this war makes Chinese awake from its weakness and thus it is positive to China. After students show their opinions, Chung would tell them that what they have answered previously is “Information”, which comes from the data analysis. Continuously, he would ask them another question “If the Opium War happened fifty years later, how would China be?” At this time, almost every one of them answers that “China would be carved up and die out”; meanwhile, those who think this war has a negative effect to China also change their viewpoint about it. Afterwards, Chung explains that we could build our knowledge by collecting data and analyzing information.

In this example, the knowledge we develop is that if a country seals off itself and does not receive new cultures or new things, it would die out very soon. In the past time, Japan was a country that had been willing to pursue new civilization from China and new technology from West - absorb others' cultures. Similarly, this Knowledge can be used in our learning attitude. If we do not keep on developing new knowledge and trying to innovate, we will be eliminated through social evolution. Therefore, teachers who apply the teaching method, which makes learners study by only data memorization, will gradually lose their roles in the field of education. Unfortunately, institutional power in many countries currently allows them to continue, but as we move more and more to a knowledge economy, rote learning and systems that encourage rote learning will likely diminish in power.

### 3. *Super-speed learning*

As we well know, Einstein didn't do very well in his math course in high school. If the faculty believed Einstein's IQ showed that he had no promise and forced him to drop out from school, we wouldn't have his numerous contributions to science today. In other words, the effectiveness of learning does not only depend on our IQ value but also the method of learning. Educators are responsible for developing new learning methods and reforming traditional learning methods in order to improve learning outcomes.

Below are some super speed-learning methods that have been elaborated or examined by linguists and researchers (Vos and Dryden 1994):

(1) Dr. George Rosendale developed the theory of Accelerated Learning, and in his research, learners who had participated in this program can memorize new words of a foreign language very easily and effectively. The percentage of successfully memorizing 1000-1200 words in one day is 96%.

(2) Bradley Moor High School in United Kingdom has applied the Accelerated Learning method in their German class, and the result was astonishing. In this language research program, students were divided into two groups. The first group learned German by Accelerated Learning method, whereas the other group took the traditional learning method. The comparison of these two groups were significantly different and the result of the students using Accelerated Learning method were six to ten times higher than that of the control group.

(3) Speed learning is also used by the American army. Dr. Dhority, who was in charge a language-learning program at Fort Devens, applied speed-learning method to teaching German. Dr. Dhority divided the soldiers into two groups. One group used traditional learning methods, and the other one used the speed-learning method. After this program, the learning results of those two groups were remarkably different. The result of the group using speed-learning method was 6.61 times higher than that of the group using traditional method.

(4) Iowa State University in U.S.A. used the speed-learning method to teach Spanish and as well conducted extensive research on this program. The final report showed that the result of using speed-learning method to make students study Spanish four hours a day for ten days was 20 times higher than that of using traditional method to learn this language for one year.

(5) Beverly High School in Sydney, Australia drew into the speed-learning method from U.K. They shortened a three-year French language program into eight weeks. A French linguist who examined the program calimed that the new learning method was 15 times more effective than that of the traditional one.

(6) Professor Smith teaching at Texas State University in U.S.A. used music and mind-inspirer method to inspire learning. This special learning method not only aroused learners' eagerness, but also improved their results 5 to 20 times better than they were before.

While we may contest these findings, certainly the use of new learning methods is an important trend that may have a dramatic impact on education reform.

#### 4. *EASY-UP*

In the traditional teaching method, the teacher is the instructor and students are all listeners. It never cares about the personal difference and gives appropriate to develop their learning interests and capabilities. As we know, the learning method we use affects a person's learning result. People receive the information through the five senses, such as visual organs, hearing organs, touching organs, and the action of body. Understanding functions of different learning organs is the first thing of having effective learning result (Vos and Dryden 1994). So a new teaching method should be followed: The teacher should understand the learning organs and their functions, analyze students' characteristics, understand their learning styles, and help students choose appropriate learning methods.

In this dramatically transformative era, developing a new learning theory is absolutely essential for social and national development. In the past, it is a widespread notion that "teachers teach the lessons, and students study what had been taught." As for the method of teaching and learning, we have not paid much attention to them. However, recently, many education experts point out that both the methods of teaching and learning are very significant to learning process. Therefore, it is necessary for us to explore new teaching and learning methods, which are distinct from the old ones.

Chung points out EASY UP - a new learning model - that advocate thinking before learning. There are six steps of EASY UP.

1. Equipment, that means to know our learning equipment.
2. Analyze or Acknowledge, which means analyzing our individual learning style.
3. Study, that means studying fast learning methods.
4. Yes, which means "yes, you can start learning now".
5. Use, that means using or describing frequently whatever you have learned.
6. Put, which means putting and linking new information to the existing, well-learned database.

The following paragraphs are the details of EASY UP (Chung, 2001).

1. *Equipment*. To know the functions of our learning equipment help us learn fast and efficiently. Choosing the "right" learning equipments is the first step and also the most important step for effective learning. Eyes and ears are the most super learning equipments of human beings. We can use our eyes as the super scanner and ears as the super recognizing and memorizing machine of our learning process. Because both of them are very sensitive to the incoming information, they, thus, play a very important role during our learning. If we can train and develop the amazing capabilities of these two equipments, we

can not only capture any piece of the information in an instant, but also differentiate million kinds of the tiny sounds. These two abilities will allow us to achieve a very complete and accurate learning. Moreover, speaking of our brain, its storage capacity is unbelievable huge and the network is also an amazing masterpiece by nature. We can make use of this vast network to connect our prior knowledge and the incoming information to open up our potential energy.

2. *Analyze or Acknowledge.* Recognizing our individual learning style help us find out the best learning method for ourselves. Generally speaking, there are three types of learning style. The first type is learning by the sense of sight. People with this kind of learning style learn through the eyes. They rely on pictures or images to decipher new information. The second type is learning by hearing. This kind of people depends on listening the dictation to understand the information. The third one is learning by actions. People who learn this way need a lot of realia and lively teaching materials to absorb information. However, most of us use the mixed type of learning style, and the only difference between us is that some people have a stronger sense of sight, and others are more sensitive in hearing when they are learning. Therefore, analyzing our individual learning style will help us find out which learning method is best to us, and thus, we can learn much more effectively and cheerfully.
3. *Study.* Studying fast learning methods and strategies is a trend for this fast change society. Many experts have developed different kinds of fast learning methods. These innovative learning methods help us learn much fast and efficiently. If we can study these methods before learning, and pick up the best one to make a use of, we can find that our learning ability has much improved. It becomes much easier and faster.
4. *Yes, ready to learn.* Yes, we can start to learn in this stage. But before we step out, we have to prepare three works, which Chung names as POP. They are Pick, Optimizing, and Pick.

#### POP

- (1) Pick the most efficient learning equipment.
- (2) Optimizing your study style.
- (3) Pick the best fast learning method.

We use language learning as example. The first thing we should do is to pick the most efficient learning equipment, eyes, ears, mouths, and situational memory.

We use our eyes as the scanner to scan the situation, and use ears to listen and recognize the sounds of words, and also use our mouths to practice speaking, and finally remember and storage the language into our situational memory.

5. *Use.* Use and describe whatever you learned. We input the new information to our brain through learning equipment, and then we absorb, digest, organize, and code them. Therefore, this new information becomes useful and meaningful knowledge for us. To achieve this goal, the most important thing we

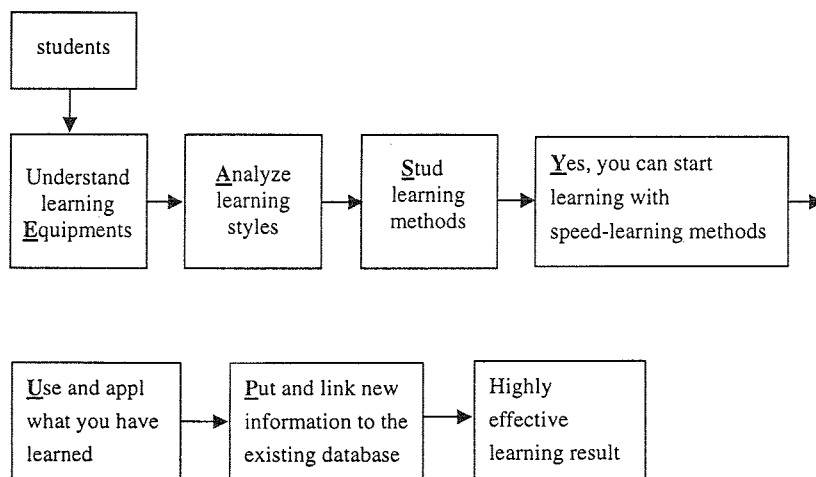


have to do is try to use and describe whatever we learned to others as often as possible. This learning strategy allows us to inspect what we have learned, and to review and re-organize whole incoming material, and further, to make it become our real knowledge. Additionally, this strategy can develop a stronger interconnection between our brain and any related information, and thus, make us easily create new things. An example of this learning strategy is that when we want to encourage people, we could tell them these words “Our greatest glory consists not in never falling, but in rising every time we fall.” which is a world famous saying by Oliver Goldsmith who was an English poet, dramatist, and novelist in eighteen century. By saying these words to encourage people, we can reinforce the memory of this world famous saying again and again.

6. *Put*. Putting and linking what we learned to existing, well-learned information/databases. Putting and relating new information to our prior knowledge and the existing database help us link the related information together and build a stronger network to connect new knowledge with the old one. Therefore, we can not only strengthen the learning efficiency, but also develop a more complete knowledge system. For example, when we read this Chinese proverb, “There is a will, there is a way”, and this famous saying by Napoleon Bonaparte, “Victory belongs to the most persevering,” we can find that the cultures of these two countries are very similar. Chinese people and French may have the same belief in willpower. We can make many connections just like this one by linking all the related information together, and at the same time, we can also reinforce the prior knowledge.

Chung names this new learning mold as EASY UP because it is easy to memorize, and it can indicate that we can succeed easily by using this learning mold. (Fig. 3)

Figure 3: A New Educational Model



### *Highly Effective Learning Methods*

Thomas A. Edison had been thought to be a foolish student by his teacher in school, but he became great inventor in the world. He gained effective learning through his mother's teaching method created by her own. The learning evaluation function should include learning method and learning time. It is noted that the learning result was mainly a function of intelligence quotient based on the same learning time spending. That is:

Learning result =  $F(IQ)$   
where  $IQ$  : intelligence quotient

But, we have mentioned in the earlier that the intelligence quotient is not the only key to evaluate a person's learning result. Alternately, we can apply the learning result function stated below to do evaluation.

Learning result =  $F(LM)$   
where  $LM$  : learning method

A person who knows his own learning style and uses appropriate learning skill which fits him will save a lot of time and get an excellent learning effect under a better environment. For example, the learning effect of a person who learns under a better learning environment for half a year may gain the same result of that the person spends three years in normal condition. Suppose there are several learning methods, learners will get different accomplishment per unit time when applying different learning method in learning, in other word, there is a learning function as follows:

Learning result :  $F(LM1) = 1 \ a/t$   
 $F(LM2) = 2 \ a/t$

...

$F(LMk) = k \ a/t$

where  $LM_i$  : the  $i$ th learning method ,  $i=1$  to  $k$   
 $a/t$  : accomplishment per unit time

Obviously, we will choose learning method  $k$  from all the learning methods in order to get the highest learning result. We can see the importance of choosing an appropriate learning method and better learning environment.

### *The Abilities a Teacher Should Possess*

A modern teacher has to possess various abilities so as to cultivate students who have several different characteristics. And, it's surely a trend that teacher should persistently learn to enhance their own abilities to meet the society's need. Finding an appropriate learning method that fits the teacher so as to improve learning result is the most important factor to be successful in this highly competitive society. The abilities a future teacher should possess are as following:

#### *1. The ability of understanding the various of fast learning methods*

The teacher should be familiar with several learning skills in order to help students find out the best learning way that suits their own characteristics. Choosing the right learning skill will achieve maximum results with little effort.

#### *2. The ability of knowing students' learning style*

Everyone has his own learning style, such as learning through visual, auditory learning, etc. The teacher should be able to figure out an individual student's learning style. To choose the best learning mechanism will help the student learn more efficiently.

#### *3. The ability of developing students' capabilities of analysis, judgment, and creation*

In this fast developing society, speed and accuracy are both the essential elements to every event of our life. Having the abilities to analyze, judge, and create is important to achieve these two elements for success. Therefore, future teachers should have the ability to develop these capabilities for students, and also, of course, for themselves.

#### *4. The ability of applying student-centered teaching method*

How to construct a student-centered educational environment and teaching method is a new challenge to future teachers. Designing appropriate courses and environment to help students learn cooperation, searching for the answer through their learning, bringing their creativity into full play are all important tasks for a future teacher.

#### *5. The ability of teaching with new technology*

A future teacher needs to possess the ability of applying new technology to enhance their ways of teaching. The Ministry of Education points out that the government should offer the following things to enhance a teacher's ability of apply new technology:

- a. offering the hardware and software equipment and training
- b. offering teaching model of applying technology to help teacher's application in their teaching
- c. helping teacher design more effective teaching skills through technology and supporting the hardware and software they need
- d. helping maintain and update new technological teaching equipment

6. *The ability of directing students' potential for independent learning*

Future teachers need to design appropriate curricula or educational environments to train students' independent learning ability. It's more and more important in future's life-long learning society. A graduate without independent learning ability will lose his learning competitive capability in this social school when he cannot obtain any teacher's guide.

7. *The ability of directing learning skills and diagnosing learning problems*

Good learning methods will improve students' learning efficiency. So the teacher should possess the ability of directing students' appropriate learning skills according to their characteristics. With the students who have learning problems, the teacher should also possess the ability of finding the reason of their problems in order to help students improve their learning skills.

### Conclusion

In order to improve the competitive capability in a country, education evolution has been widely investigated and studied. There are more and more governments that are aware that "knowledge and technology" will become the only critical resource in determining a country's competitive resources.

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