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System Dynamics Approach to Applications of the Buddha's Dialogues

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ABSTRACT

This paper presents how to formulate the structure of the Buddha's teachings in the form of feedback loop and to investigate the use of this system as a solution to narcotic problems in a community. The Singalovada case study, one of the Buddha's dialogues from the Suttanta, is a teaching for every layperson on how to improve quality of life by peaceful methodology and resulting in sustainable development. The interactions between the key components of this dialogue such as bias, the defilement of action, the six roads to ruin, and the neglect of the six directions indicate the decay of the societies at present and the potential to get worse in the future, if the loops continue to imbalance. The Noble Eightfold Path components, the heart of Buddhist's practice to eliminate suffering, are included in this model to provide system balance. The use of system analysis to look at the teachings of the Buddha helps people gain more understanding into the mechanism of the system and the concept of the dialogues. This paper helps the reader better to appreciate how to apply the Buddhist teachings systematically to solve social problems.

Introduction

The complete Buddhist Scripture is called the Tripitaka meaning the "three baskets of discourses": Vinaya, Suttanta and Abhidhamma. The Vinaya includes all rules and regulations for being a pure monk. The Suttanta is a collection of dialogues given to particular persons on particular occasions while the Abhidhamma is pure technical summary of the Buddhist teachings.

Thus the case studies in the Suttanta are quite accessible dialogues for laypeople to follow and remember. The most interesting is that Buddhist teachings always indicate causes and effects based on the Law of Karma or the feedback system of actions. As shown in fig.1, the defilements, comprising greed, hatred and delusion [2:1092], cause the present action and the present action causes retribution or effect. This

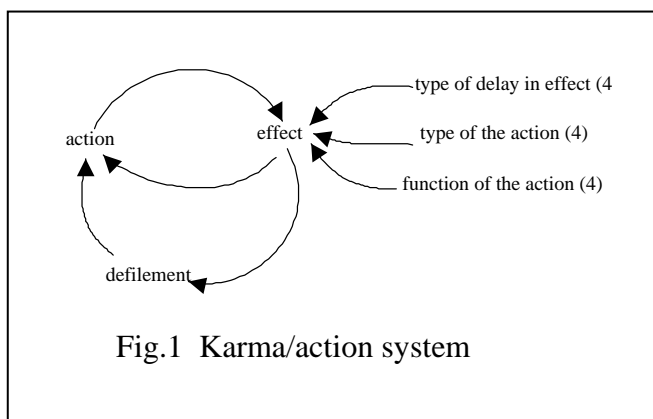


Fig.1 Karma/action system

would result in a worsening of the defilements and which will exacerbate the future actions while the effect itself also adds to the intensity of future actions. Good deeds always result in good effects and again together with a tendency to do more good deeds next time round

while bad deeds always cause bad effects together with a tendency to do more bad deeds next time round.

The main issues creating closed loop of actions is when the retribution comes full circle and combination of various karmic retributions and heaviness of the karma to retributational feedback from the corresponding previous action. The good and the bad tendencies always compete with each other for dominance in the system process. If the good deeds remain dominant in activating the system over time, the good effects will continue to dominate the system and the good behavior will be shown. However, bad retribution from the past has not altogether disappeared but still remains in the system, waiting to manifest itself as soon as the queue of good deeds becomes discontinuous. The magnitude of the effect will be based on the type and the function of past action, as well as the type of delay in effect. This is the basic concept of the Law of Karma system in Buddhism.

It is noted that the concepts in the Buddha's teachings are a dynamic feedback system. It provides changes, feedback patterns, concepts of dominance and delay. However all the doctrines were scripturally documented in the form of descriptive listings between which it is difficult to understand the relationships. This has led some Buddhists to take their religion more as a philosophy than something applicable to life. In order to implement the teachings in practice with a clear understanding of the causes and the effects of the system and to have awareness of its value, system analysis is needed. This paper aims to present how to formulate the structure of the Buddha's teachings – in particular the Singalovada Sutta, in the form of feedback loops; and to investigate the use of this system as a solution to narcotic problems in a community.

A background to the Singalovada Sutta [1:44-45]

The Lord Buddha gave a lecture to Singala, a young man born in a rich family. Singala promised his father before he passed away, to respect the six directions every day. One day while the Buddha was on almsround in Rajagaha, he saw Singala paying respect to the six compass points: North, South, East West, above and below, and realized that he did so with no idea of the meaning. Instead of criticizing him, the Buddha explained with kindness, a more fruitful way of paying respect to the six directions based on the social environment.

Discussion of key variables in the Singalovada Sutta

The key variables included in the dialogue are bias, defilement of action, the six directions and the six roads to ruin. The definition and the relevance are as follows:

Defilements :

Definition: polluted elements, that exist within our minds since our birth, classified into three categories- greed, hatred and delusion. Normally the defilements have three levels in effect- 1) latent level, 2) as yet untriggered expressed defilements; and 3) already active defilements. The latent level is that the defilement is embedded in the mind and ready to express themselves at anytime if it is stirred up by the external six sense-fields (images, sounds, smells, tastes, tangible objects and mind-images) in the absence of sense-restraint.

The root of these defilements is ignorance. Thus the defilements in the system counted as a stock is taken for working purposes as ignorance.

Relevance: The more penetrating a defilement is, the more bias is developed.

The bias

Definition : prejudice of the mind towards somebody or something because of love or hatred or delusion or fear. In this paper, each form of the bias has been considered as equal effect on the actions. Then only the bias will be counted as a stock in the system.

Relevance : The bias is developed by the defilement. It has an effect on actions both verbal and bodily ones.

The defilements of action (DoA)

Definition : the impure verbal and bodily actions, influenced by bias, can be classified into four form of behavior namely 1) killing and hurting people or animals, 2) stealing or taking what is not given, 3) adultery or sexual intercourse outside marriage, and 4) telling lies and false speech. The defiled actions will be considered as the bad actions, ignoring behavior type, counted as a stock.

Relevance: The defiled actions interact with the bias as positive closed loop system. The more bias, the more defiled actions. The more defiled actions will result in the worse bias.

The six directions

Definition : the six social groups : 1) our parents 2) our teachers 3) our spouse 4) our friends 5) our employees and servants and 6) our spiritual mentors or monks.

Relevance: Our six social groups may react to us in harm or good depending on the treat from us. The treat with bias will result in the harm of six directions and has tendency to increase the defiled actions.

The six roads to ruin

Definition : defined as the six forms of behavior which destroy a person's wealth – 1)consumption addictive intoxicants, 2) the roaming the street at unseemly hours, 3) frequenting shows, 4) gambling, 5) association with bad company and 6) laziness to work for a living.

Relevance: The access to the six roads to ruin depends on friend associations and the treat from six directions. If we associate with bad friends, there is a tendency to access to the six roads to ruin. In contrast, with true friends or good friends, they will protect us from the six roads to ruin.

True friends

Definition: The true friends based on Buddha's teachings can be classified into four groups. Each group has significant characteristics as shown in the Table 1.

Relevance: The more we associate with the true friends, the less we have a chance to fall in the six roads to ruin; and the more we are involved in the six roads to ruin, the less we can have true friends.

Table 1 . Type of true friends and their characteristics [1:88-89]

1. The helpful friend	2. The constant friend	2. The friend of wise counsel	4. The sympathetic friend
<ul style="list-style-type: none"> -He protects you even when you are of your guard. -He help protect your property even when you neglect it. -He is your refuge in times of dhatred. -He always provides you with twice as much as you asked. 	<ul style="list-style-type: none"> -He confides in you. -He keeps your secrets -He does not abandon when you face hard time -He would even die for you. 	<ul style="list-style-type: none"> -He warns you from doing bad -He encourages you for doing good. -He tells the new good things -He points the direction to heaven 	<ul style="list-style-type: none"> -He sympathies with your misfortunes. -He congratulates on your good fortune. -He speaks out against anyone who maligns you -He thanks for those who speak well of you.

The core of Buddha’s teachings in the Singalovada Sutta

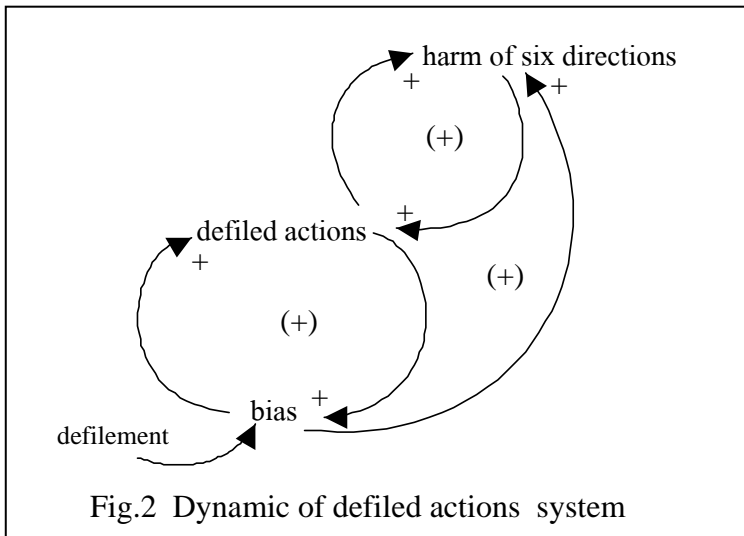
The Singalovada Sutta is the discourse on management of daily life for every layperson. The core of the teachings includes three responsibilities that individual should be aware of and actions which need to be taken for the sustainable development of quality in life. The teachings highlight two essential responsibilities/duties, for oneself and one’s social environment. These responsibilities are as indicators for measuring the peacefulness within oneself and the society. It is one’s responsibilities/duties to regulate oneself the defilement and to perform noble association to each of the six directions. Normally everyone regardless nationality, religion, race, creed or language, is born with defilement and surrounded by six directions. Thus, if these responsibilities have been carried out individually after birth, a peaceful environment certainly will be brought about within an individual, a family, a society, a country and the world. Another aspect dealt with in this teaching is economic one, for sustaining natural resources or earned individually. He pointed out that the wealth can only remain for individuals and society, if everyone takes part in this responsibility- to keep a way from the six roads to ruin- six forms of behavior which destroy a person’s wealth.

The first essential responsibility/duty is to reduce or eliminate from oneself defilement causing bias and defiled actions namely the actions under the control of greed, hatred or delusion in the mind. The second essential responsibility/duty is to pay respect to one’s six directions or to associate, in a noble way, with the six social groups. The third responsibility that is to keep oneself from the six roads to ruin, should be encouraged and facilitated by the society. This third responsibility can impossibility be implemented unless the individual and family responsibilities have already been fulfilled. For example if the leaders of the families, communities and countries care for their own individual responsibilities, they will be unlikely to create policies, plans and projects to provide the access to the six roads to ruin.

However, the responsibilities generally focused on in our society concern merely Law and Orders for civil citizens in a certain political boundary, profession, position elected and position appointed in the workplace while the two individual duties mentioned earlier have been ignored. The benefits and the losses from creating the activities in a society are generally evaluated in isolation. The present way to manage the society financially, is to

derive revenue from enterprises/projects in society (even bad ones) and this revenue is used for improving the quality of life. For example, a case in Thailand, some of benefits resulting from legally gambling (lotteries) have been allocated to the poor students for supporting higher education (without encouraging the society to perform their essential responsibilities). It is noted that the diffusion of material culture without paying attention to the responsibilities that used to go with them, the social, economic and environmental problems in any countries, continue to get worse at present and in the future. Thus the Singalovada Sutta is quite appropriate discourse to be reviewed as a model for training children in every household to achieve the target responsibilities.

The structure of Singalovada Sutta in feedback loops



As mentioned, the two main components of the Singalovada Sutta, as social indicators, are the defiled actions and the six directions. Here in the loop, the six directions by means of the six groups of people to deal with in society, are applied to the harm of six directions. Another component involved in the dynamic of defiled actions is the bias affected by defilement. As shown in fig.2, there are three positive feedback loops: the rise of the defiled actions

will cause an increase in bias and the harm of the six directions. The growth of bias also increases the defiled actions for oneself, and others indulging in the harm of the six directions. A rise in the harm of the six directions also increases in the defiled actions. This system provides the growth of defiled actions.

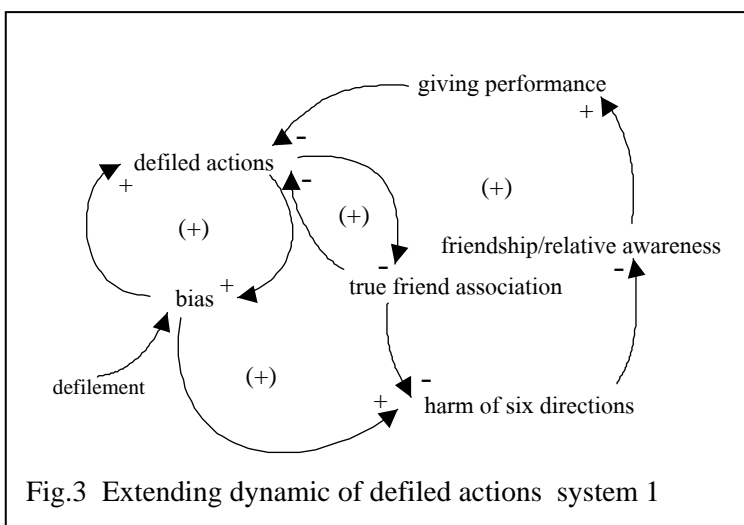


Figure 3 shows the enlargement of an association between the harm of six directions and the defiled actions. An increase in the harm of six directions or six groups of people will result in a decrease in relative/ friendship awareness and this will reduce the degree of sharing towards those friends and relatives until finally there will be an increase in the defiled actions. While the rise of the defiled actions will reduce true friend association and this will feedback to the

further increase of the defiled actions and also result in the rise of the harm being carried in the six directions. It can be observed that the system at this level would provide the growth of the defiled actions resulting in social decay.

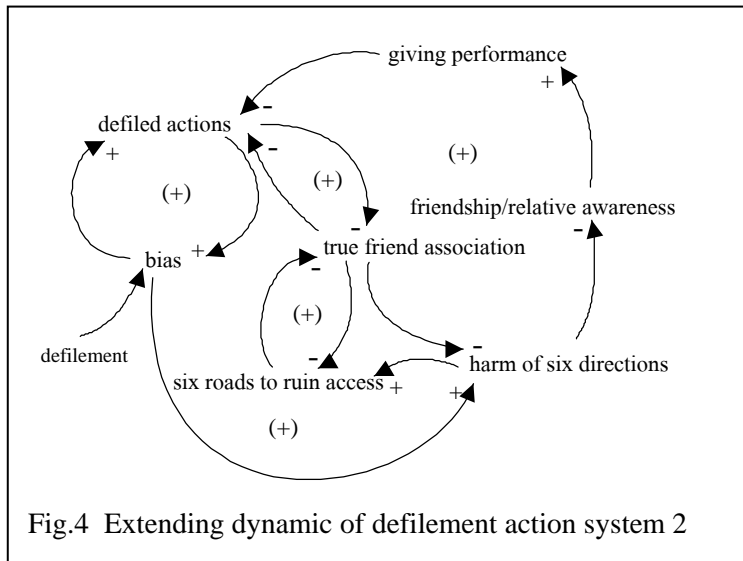


Fig.4 Extending dynamic of defilement action system 2

Figure 4 extends the system to include the six roads to ruin access.

“The six roads to ruin means specifically the six forms of behavior which lead to the inadvertent erosion of our wealth. Literally, these six forms of behaviour were referred to as ‘portals to destruction’destroy a person’s wealth ...the whole economic infrastructure of a country or a society too..... [1:56-59]

As shown in fig.4, a rise in the harm of six directions results in an increase in the six roads to ruin access while the growth of true friend association tends to reduce the access to the six roads to ruin. Then the rise of six roads to ruin access also tends to decrease the true friend association. The system at this level indicates a vicious cycle showing the continuous rise in the defiled actions, bias, six roads to ruin access, and the harm of six directions.

From the loop structure, it can be observed that the true friend association is very important to system that can reduce the defiled actions, the harm of six direction and the six roads to ruin. If every family has the children trained how to select friends or be true friend to the others, this will reduce the defiled actions, the harm of the six directions and the access to the six roads to ruin. However, considering the root to achieve this, the children must be trained and keep in mind that it is their duties to abstain from their owns defilement and to behave correctly towards the six groups of people. This will result in an increase of good people and environment in a society. This will ensure the society help encourage the members to refuse the accessibility to the six roads to ruin.

The Noble Eightfold Path as a strategic management for balancing the system

In order to keep the system balanced, negative feedback loops are included as shown in fig. 5, and should dominate the system behavior that can provide a decrease pattern in the defiled actions. A rise of the defiled actions will increase suffering resulting in an increase in the need of the Noble Eightfold Path knowledge that is the knowledge for the cessation of suffering. The Noble Eightfold Path, one of the Four Noble Truth enlightened by the Buddha, consists of 1) right view, 2) right intention, 3) right speech, 4) right action, 5) right livelihood 6) right effort, 7) right mindfulness, and 8) right concentration [2:1093]. The more knowledge of the cessation of suffering learned, the more practices of Noble Eightfold Path be encouraged. This will reduce one’s defilement causing a decrease in defiled actions, and the bias. However, the ones who can teach how to practice the Noble Eightfold Path normally are the monks. Then, it should be aware that an increase in the harm of six directions (the monks), can decrease the practice of the Noble Eightfold Path.

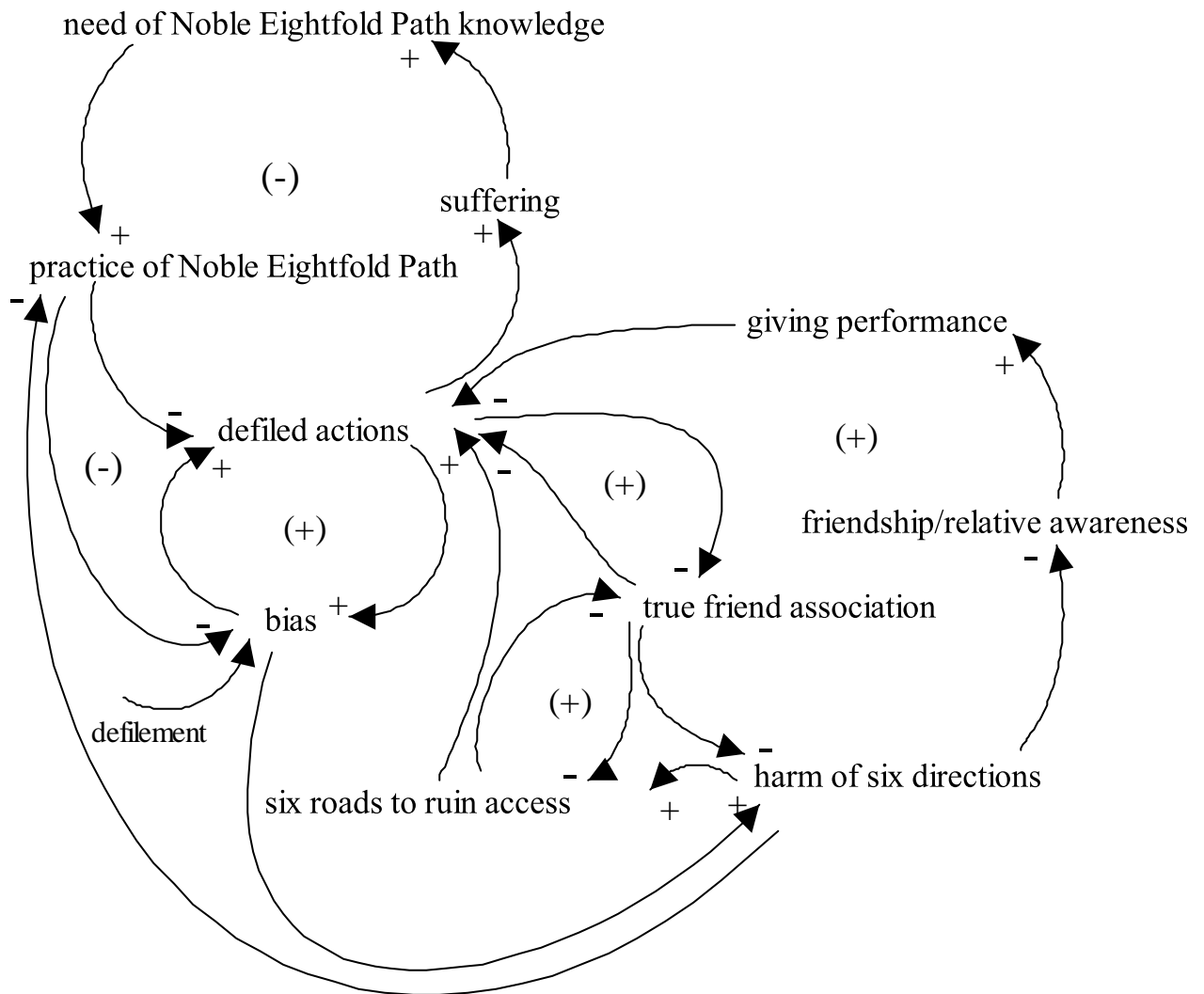


Fig. 5 Balancing feedback loops of defiled action system

An application of the Singalovada Sutta as a model for fighting back against narcotic problems in a community.

As presented earlier, the most important and well-known value of the Buddha’s teachings is the clear identifications of the causes and the effects of responsibility for an event/ action with implications of feedback relationships over time from the past to the future without time frame. When studying the structure of the Singalovada Sutta case study in the form of dynamic feedback loops instead of content listings in verbal form, critical dynamic system thinking can be rapidly developed. It can persuade people to follow and participate in decision-taking as well as practice. The balanced feedback loops integrating the Singalovada Sutta components and the Noble Eightfold Path, have been applied as a model for preventing the children and the youth from narcotic addiction entitled “The project for freedom from narcotic addiction.” This learning model is included in the decision supporting system for local and provincial development planning; and used as a tool for training the heads of local administrative organizations and the community leaders, in

designing the strategic development project in order to fight in the war against narcotic as shown in fig 6. The details of simulation model will not be discussed here but are available on request. This helps the trainees participate in exchanging their experiences with cooperative learning in how to design the activities, the databases including the relevant data for analysis, the significant data for monitoring and the indicators for evaluation [3]. In addition, this loop structures also help design the curriculums: “How to sow the seeds of responsibilities”; and the computer game : “Look for kalyanamittata (good friends) ” as shown in fig.7 for teaching the responsibilities in schools and communities.

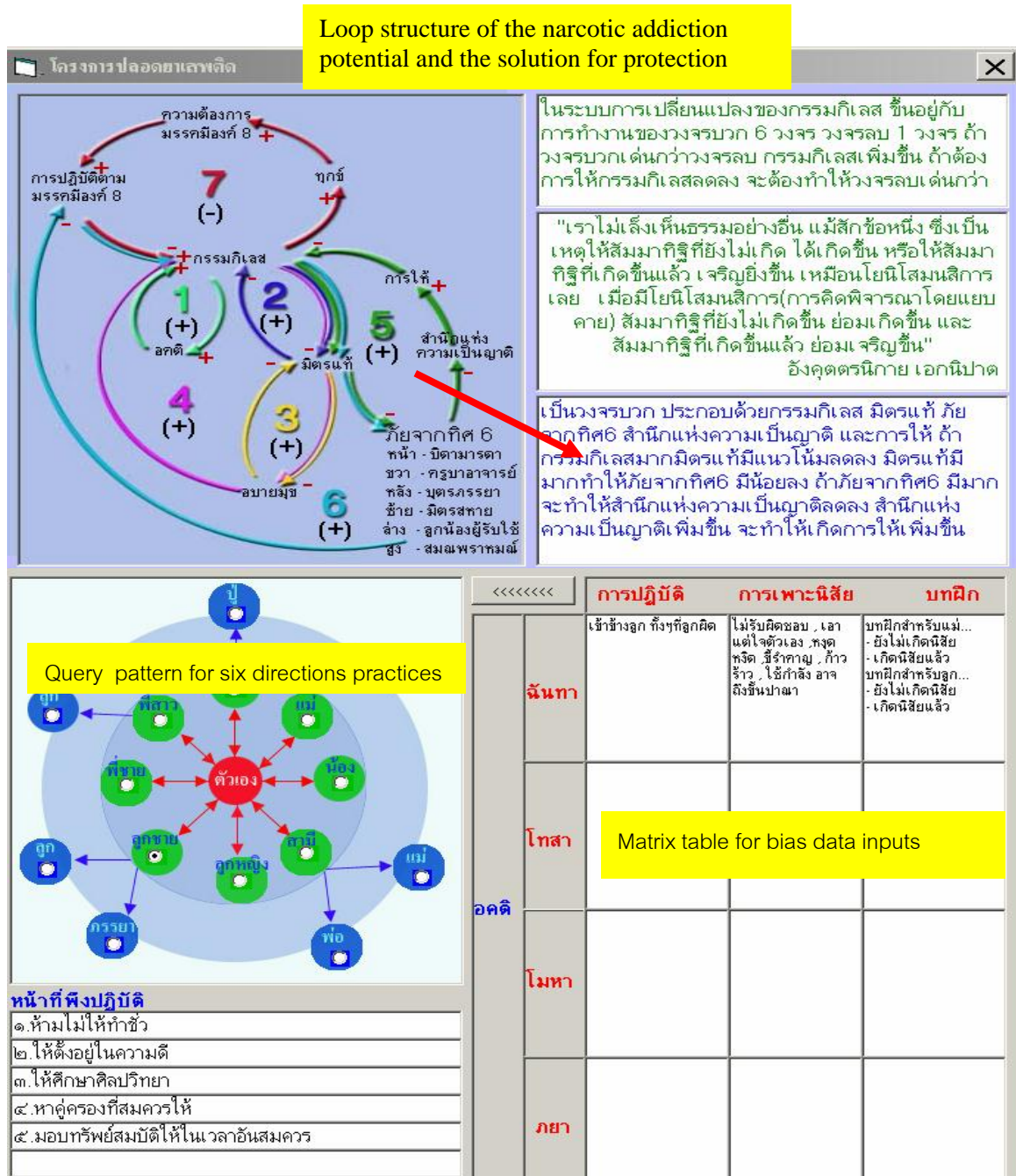


Fig. 6 An example of self learning model in narcotic addiction protection (an application of Singalovada Sutta)

How to sow the seeds of Responsibilities :

Self-reliance training program

The self-reliance training program was designed for training the children and the youth to realize the important of good friend association. Good friend association has two points, one is how to be good friend to the others and another is how to select the good friend. Self-reliance here means an achievement of a person to control his defilement by himself, The training program comprises the three main activities: 1) Playing computer game- “Look for kalyanamittata (good friends) ” 2) Meditation practice and 3) Analyzing how the Buddha won the defilement.

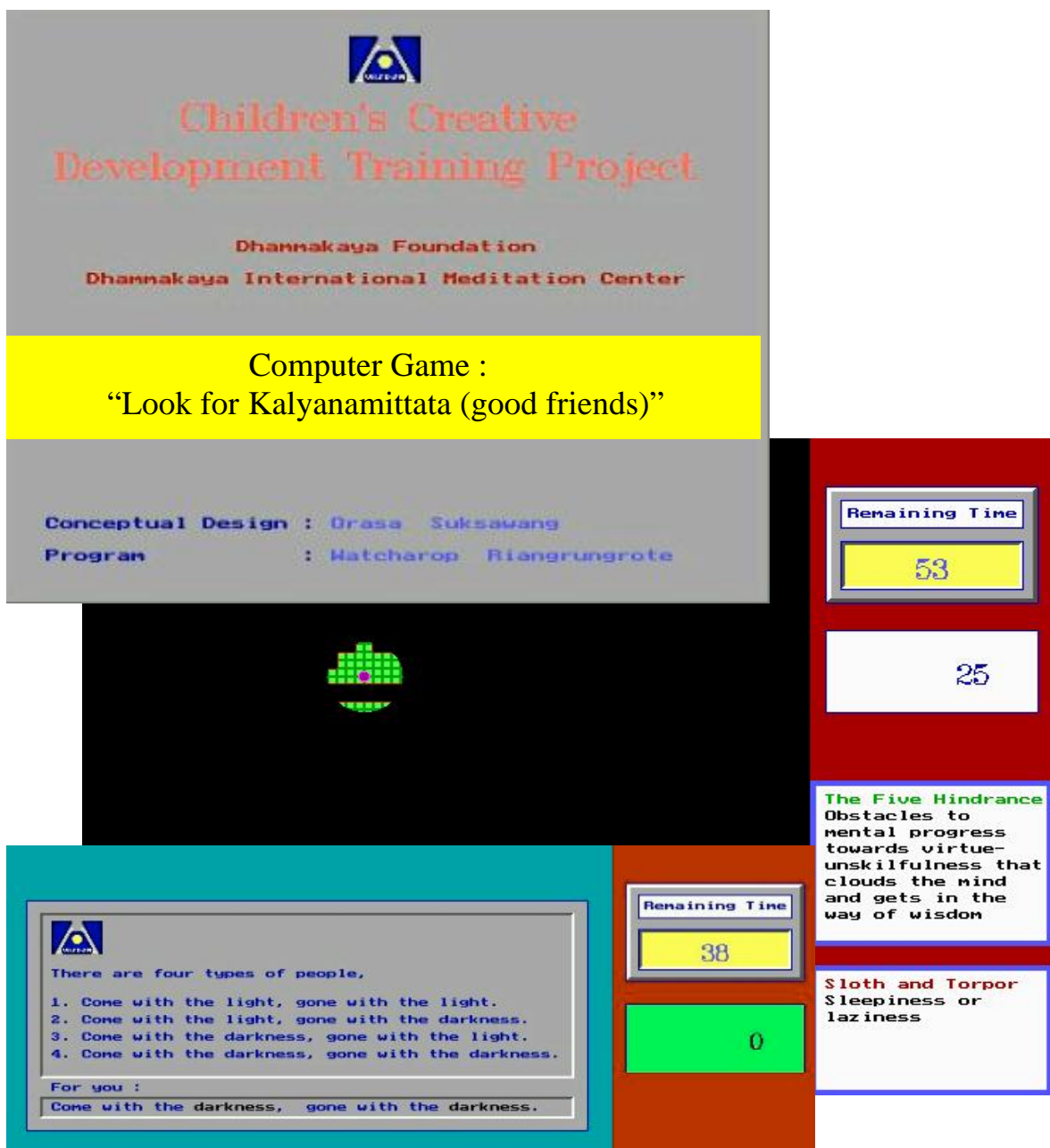


Fig. 7 Screens of Computer Game

The computer game : “Look for kalyanamittata (good friends) ”

The computer game includes the concepts of the true friend association learned from the loop structure of Singalovada Sutta; the five hindrances - the obstacles of doing goodness, and the four groups of people, based on goodness accumulation from birth to death, as follows:

- 1) Come with the light, gone with the light (born with the goodness, died with the goodness)
- 2) Come with the light, gone with the darkness (born with the goodness, died with the evil)
- 3) Come with the darkness, gone with the light (born with the evil, died with the goodness)
- 4) Come with the darkness, gone with the darkness (born with the evil, died with the evil)

The computer game was designed to be the central activity of the training program attracting the two activities- meditation practices and an analysis of the Buddha’s success on doing the goodness. The game simulates the interplay between the effect of the true friend association and the five hindrances on the success of doing the goodness. Both the true friend association and the hindrances are present in the play at random. The success of doing goodness is represented as the wisdom light in the circle form shining on the route map. The larger the area of the light, the more the routes seen for selecting the right path. The appearance of the hindrance will result in a reduction of the light area while the presence of the true friend will result in an increase of the light area. If the light area covers the whole screen, the target destination and the whole routes can be seen clearly. The game starts with the light area at random in size; and finishes when the light has gone or the age is finished. Then the group of people, that the player belongs to, will be shown on the screen (Fig. 7).

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