CHILDREN'S CREATIVE DEVELOPMENT TRAINING PROGRAM

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ABSTRACT

This paper reports on the annual summer training program of
children's creative development conducted since 1986.   The
training targets per program are between 80-100 children aged
between 9-14 years coming from various urban and rural parts of
Thailand to join the 8-10 day program for moral and technical
development. The program is planned and coordinated by the author
with considerable inputs from Buddha's teaching in self-reliance:
the potential of human beings to prevent their defilement; and
from people who expertise in architecture and technology.   The
method approached for explaining human performance in nature, is
a simulation game designed by the author with the help of her
colleague in computers. The model concept is derived from a
system dynamics method as a tool for dissemination of the law of
cause-effect action in Buddhism. The children evaluated joyfully
and rapidly understood the mechanism of mind in decision making
whether to conduct good or bad actions according to the Buddha's
principle by playing and thinking themselves with this simulation
game in a better way than they do in the traditional method of
lectures by monks or teachers. The game simulates the interaction
relationship between a human's performance and his life
expectancy.   Later the workshop practice of the electronic
application is approached for systematic problem-solving about
peoples' needs in terms of technological development in relation
to promotion of moral values.

1. INTRODUCTION

Presently, children and youths (1) of Thailand, accounting for
30 million, represent half of the total population. Most of them,
especially in the major cities, live in nuclear families unlike
the collective ones of 30 years ago. The changes in family living
patterns due to the growth of economic and social activities
result in an absence of traditional ethics dissemination between
old and new generations within the family society.   In addition
the children are sent to school early and exposed to material
oriented competition since both the father and mother have to go
out to work and nobody takes care of them at home.

The   rapid explosion of technology in modern society affects the
pattern of man's living, earning,learning and playing in daily
life. The ways he thinks and performs in any situation and

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(1) children age between 7-14 years,youth age between 14-18 years

environment motivates the technology to be developed and used much more desire oriented.

According to Buddha's Teaching, Everything within the world has naturally three characteristics of existence : 1. impermanent, changing overtime. 2. suffering to maintain existing condition forever and 3. inability to stop this change. Without ultimate true knowledge, human beings attempt to control these changes to meet their desires with delusion. Buddha found that these desires are the original causes of human suffering or problems. Human desires are classified into three patterns as follows : 1.the desire to obtain or own 2. the desire to be and 3. the desire not to be as existing.

A positive feedback to the desire usually results in more greed while negative feedback often causes anger. The greed, anger and delusion are internal defilement affecting human behavior which has an effect on the environment. An increased pollution in the environment leads to an increased internal defilement in human being. However, the problem exists even when man beautifies his environment. It might affect the internal defilement because moderation in man's satisfaction is seldom maintained. The more there is a gap between the natural changing rate and human force in changing rate, the more the suffering unless one realises the mechanisms of internal changing and its effects. Most teaching in schools and the home exposes learners to external learning and ignores the importance of internal awareness which is the path to self regulation. Whether the rapid growth of technology development without self control accrues to a better living and global understanding or to a greater competition and hatred at present and the next generation is debatable.

The Children's Creative Development Training Program is introduced to help parents and teachers in training children and youth for a better understanding of human nature and how to improve creative thinking, speaking and acting through themselves and teamwork towards technology innovation and the use of technology in modern society with more wisdom ,self-reliance and generosity. The program structure is mainly composed of four components : knowledge, thought, goodness and physical development. A Computer simulation game is approached as an introduction and as a connection between the program contents and activities. What will be focused on in this paper, is the concept, design, experiment and impact of the game on the trainees during and after the training course.

2. BUDDHIST CONCEPTS IMPARTED TO THE TRAINING

2.1 CONCEPT OF HUMAN NATURE
(a) In Buddhism, an individual human life comprises 2 parts which are the body and mind. The body is formed by 5 elements namely solid, liquid, air, space and heat elements and deals with physical balance while mind is the consciousness element and

deals with feelings, perceptions, intentions and acts of consciousness.

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                          body
           solid-element              liquid-element

                         ⎛ mind ⎞
                    consciousness
                         ⎝ element ⎠

           wind/air-element              heat-element
                      space-element
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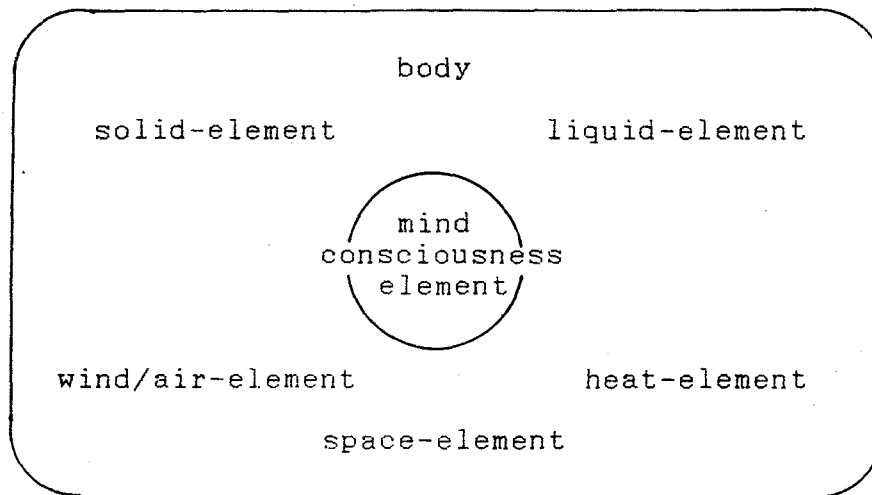
Figure 1   Individual human life composition

(b)   Creative thinking as based on Buddhist concept is any form of thinking which leads to speech and actions or production or problem-solving which does not result in revenge, damage or sensual pleasure to oneself or to others (both in the present and the future) but which results in more wisdom, self-reliance and generosity. Self-reliance as discussed here is ones ability to control or calm down internal defilement : greed, anger and delusion.

An interaction between the internal six sense-fields/doors (eye, ear, nose, tongue, body and mind) and the external sense-fields (visible objects, sound, smell, taste, tangible objects and mind-images) without ignorance/consciousness, motivate the desires to develop self defilement/suffering (greed, anger and delusion) affecting the mechanism of the mind in terms of feelings, perceptions, intentions and acts of consciousness and flow of body-elements to produce bad performances through speech and action. This, in turn can result in the harm of oneself or society or both which will then give negative feedback to the mental and the external sense-fields formation.

However, with consciousness and fulfillment of ethical conduct and mental cultivation, self defilements may be attacked and hence lose power and become ineffective within the working process of the mind. Creative thinking will be generated at this stage and create good speech and action. This is undoubtable benefit to oneself and society which in turn gives the positive feedback to the mental and the environment inputs.

2.2 CONCEPT OF HUMAN SUFFERING AND THE NOBLE PATH TO ELEMINATE IT

The teachings of Buddhism mainly rely on the Four Noble Truths.
1. There is suffering. 2. The cause of suffering is
craving/desire. 3. The cessation of suffering. 4. There are eight
activities/Noble Path /Central Path/Middle Way for the cessation
of suffering .

The eight activities of Buddhism are classified in three groups
as follows: 1. Cultivation of ethical conduct/self-dissipline/
self-reliance which consists of right speech, right action and
right livihood. 2. Mental cultivation/generosity/perseverance
which consists of right effort, right mindfulness and right
concentration. 3. Insight/wisdom cultivation which consists of
right view or understanding of the three characteristics of all
existence and right thought/creation.

Figure 2. shows the dynamic flow of the Noble Path in triangle
form representing the area of human suffering. If one starts
from ethical conduct or mental cultivation, he can pass through
his suffering and develop his wisdom. Generally, the growth of
human wisdom will assist one to undertake ethical conduct and
mental cultivation which will start another cycle of Noble Path
development and gradually decrease the area of suffering. When
the unification of Eight Noble Paths is applied, the area of
suffering will disappear as shown in Figure 3.

Figure 3. depicts suffering in three dimensions by enfolding the
area of suffering in Figure 2 in a triangular volumne. In order
to reduce the volumne of suffering, the area and the height of
the volumne has to be cut out altogether. This is, to overcome
suffering in life, one should follow simultaneously both an
internal and external Noble Path. Basically, to follow the
internal Noble Path is to meditate in order to maintain
consciousness at the mind and seek for insight/ wisdom.


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(self-reliance)/                                    (generosity)/
(self-discipline)                                   (perseverance)
 ETHICAL   CONDUCT              AREA                    MENTAL
    CULTIVATION                 OF                    CULTIVATION
3. right speech              SUFFERING               6. right effort
4. right action                                      7. right mindfulness
5. right livihood                                    8. right concentration

                        INSIGHT/ WISDOM
                        CULTIVATION
                        1. right view
                     2. right creative thinking
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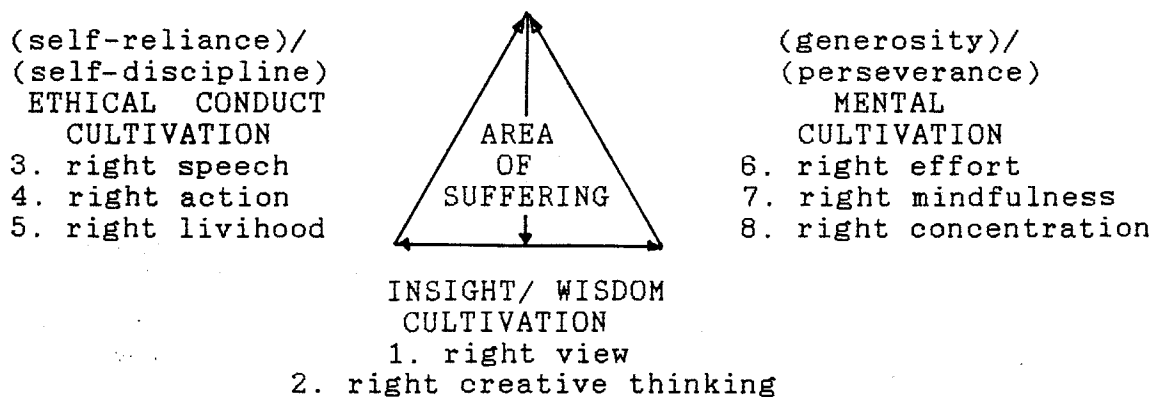
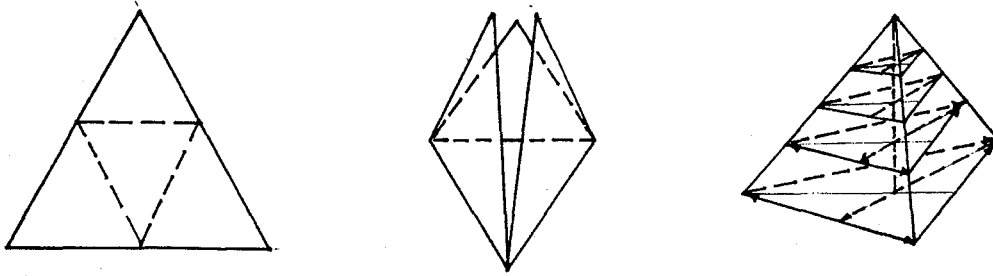Figure 2   Noble Path to overcome suffering

Figure 3   The process of suffering cessation

2.3   CONCEPT OF THE LAW OF CAUSE-EFFECT ACTION

"Good deeds always have good effects while bad deeds usually
have bad effects"

3. PROGRAM CONTENTS AND ATIVITIES

A training package to provide a basic understanding of the
changes in human behavior, problem analysis and problem solving
through art and a system orientation is applied to promote
wisdom. Moral precepts, social manners and religious customskills
are applied to assist in the development of self discipline/self
reliance while meditation practice and group service
activities nurtur in trainees the development of patience and
generosity. The course curriculum is designed for the target ages
9-14 years. The program content is organised over 8 days
between 9.00 a.m - 4.30 p.m. as follows:

The 1st Day   - Orientation to the children and the parents
                - Getting acquainted
                - Childrens' goals and expectations

The 2nd Day   - A self survey : To know oneself
                - Fun with the computer game : mind battlefield
                - Visual art / Drawing

The 3rd Day   - Fun with the eletronic kit
                - Responsibility

The 4th Day - To know cause and effect : problem analysis
                - Fun with the computer game : mind battlefield

The 5th Day   - Values
                - To know moderation/estimation.
                - To know how to utilize the time
                - Fun with the computer game

The 6th Day   - To know society
                - To know a person

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                    - Communication

The 7th Day    - Group work for creative project
               - Field trip

The 8th Day    - Group Drama : My little home
               - Course evaluation by trainees before parents
               - Seminar  on "What children  need  from  parents"
                 and   Group  discussion  between  committee  and
                 parents for follow-up activities.
               - Termination
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Every morning session between   5.15 a.m.- 9.00 a.m. includes
meditation   practice,   physical   exercise **and group   service**
activities while the evening session (6.30 p.m. - 9.00 p.m.)
provides social manners and religious custom practice, Buddhist
story telling and meditation before sleep. The sequence of the
sessions is planned in order to accommodate and facilitate both
individual and group development and to allow the team for
monitoring and evaluating the impact of each content area on the
trainees in relation to the other activities. The relationship
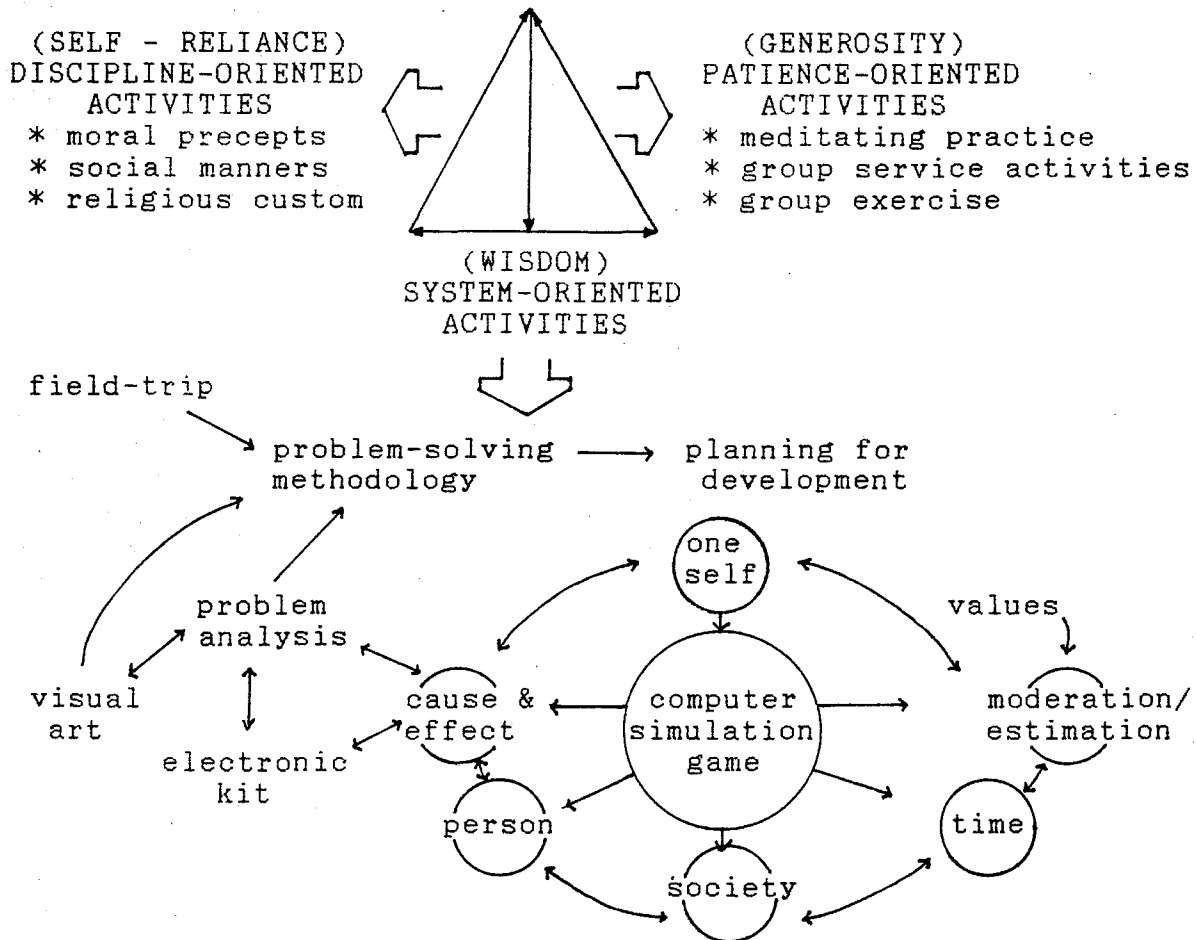between the course content areas is shown in Figure 4.

Figure 4   Relationship of Course Content Areas

4. SIMULATION GAME

4.1 OBJECTIVES

(a) To determine the effect of the interaction between external and internal six sense-fields on the process of human decision making and performance.

(b) To motivate the player to learn and become aware of his consciousness which is the heart of this game and simulates human life.

(c) To encourage the player to learn about and become more concerned with himself in terms of internal competition - how to overcome the fight between good and evil within his mind, rather than be concerned only about external competition within society.

(d) To reflect on the changes of ones own performance in terms of life activities . Normally we can more readily see uncertain emotional expression in others, but not ourselves. This can cause us to blame others more than ourselves.

(e) To promote the value of using technology for fun and active participation in playing while learning of Buddhist behavioral science. To replace the traditional subjective and passive method of explanation (from a monk or teacher in school) as this does not promote understanding or interest in laypersons, especially not in children and ones who have less experiences of life.

4.2 DESIGN

(a) Concept development : Mind Battlefield System

The author integrated the concept of Buddhist Teachings as learned from Venerable Dattajivo Bhikku (2) in 1981, and the System Dynamic way of thinking as learned from Dr. Khalid Saeed (3) in 1982 . As shown in Figure 5 the mind system consists of two subsystems, with and without consciousness which provide positive and negative systems respectively. The limit of life expectancy maintains the system in balance.

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(2) The Vice Abbot of Wat Phra Dhammakaya, Thailand who has taught in Buddhist theory and practice to laypersons since 1970.
(3) An Associate Professor in System Dynamics at Asian Institute of Technology
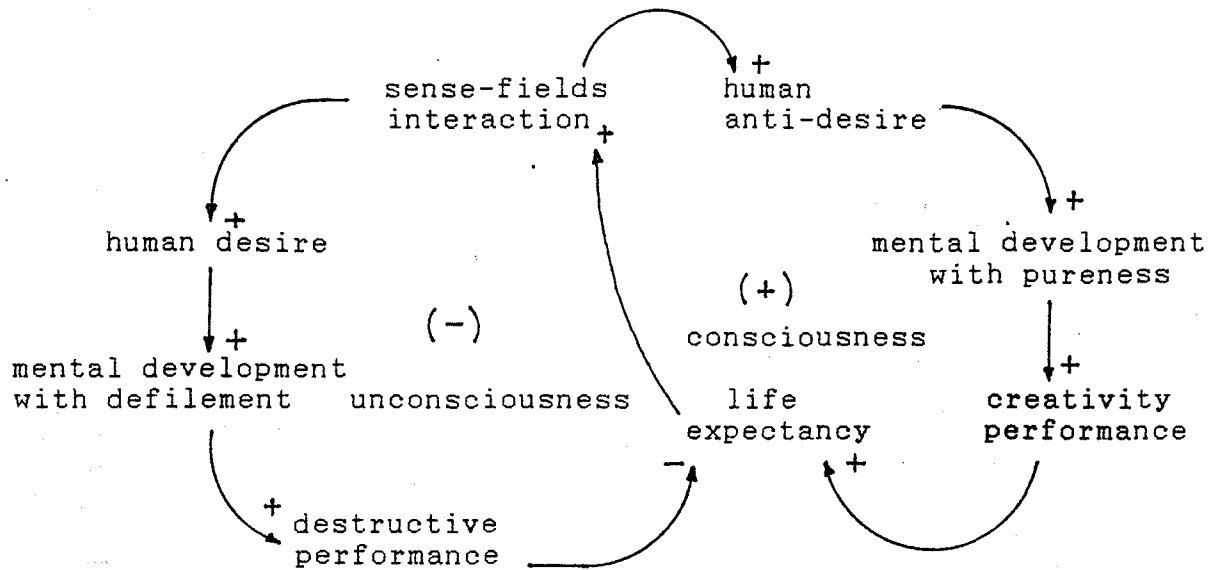
Figure 5   System of Mind Battlefield

(b)   Graphic Presentation on Screen

A quadrilateral form is graphically represented as an individual
body   while   a circle is a   mind   located within the   body.   The
left   side   of the body shows 6 sense-fields/doors :   eye,   ear,
nose,   tougue,   body and mind sense-field   while the   right   side
represents   the performance of speech and action   by   displaying
emotion through facial expression . The upper and the lower parts
show   the   administrative   stations   for   evil   and   good   armies
respectively. Within the mind, there are a number of evil members
namely greed, anger and delusion represented by different graphic
symbols   on   a small scale while the larger ones   with   the   same
shapes represent the good members namely Dana/Tana to give ; Sila
to   observe the precepts;   and Bhavana/Phavana to meditate   which
can diminish the power of greed, anger and delusion respectively.
The   symbol   of   consciousness   is   the   small   circle   which is·
effective when existing at the center of mind.

Terribly Sad

TIME
  0

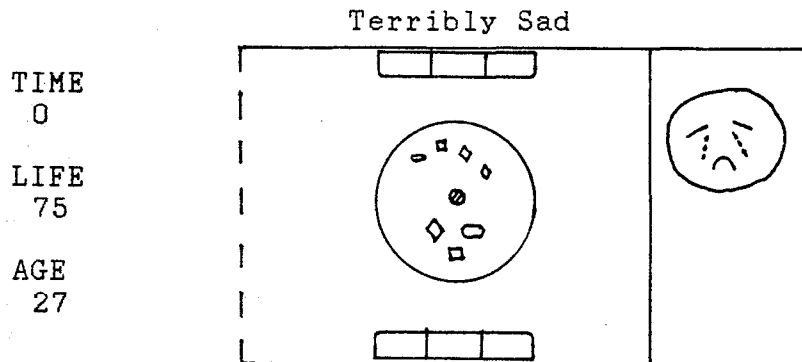LIFE
 75

AGE
 27

Figure 7   Graphic   Presentation of the game on screen

(c)   Mechanism

Average   life   expectancy   in   both   subsystems   of   the   mind
battlefield   is set as 75 years old. The game starts at a   random
so   that   the players can explore how to   control   defilement   at
different   ages.   The game finishs when the age reaches   the life
expectancy which means the death of life. The interaction between
external   and   internal   sense-fields   is   simulated   randomly   over
time.   When   the   battlefield   is   controlled   by   evil   while
consciousness is moving without direction, then a bad performance
will result   and there will be a decrease in life expectancy.   To
conquer evil, the player has still   conciousness at the center of
the body   by pressing the C key and   then decide which defilement
member   should   be calm first by pressing the T or S   or   P   keys
until the words Tana , Sila and Phavana appear in the left corner
of   the   screen.   Then,   the   player presses the arrow keys to move
the good army out to seize the defilement. This results in a good
performance and an increase in life expectancy.   The movement of
the   good army is effective only while consciousness is still   at
the   center.   The   time   shown   on   screen   indicates   how   long
consciousness is kept in the center.

(d)   Computer Software

The   computer   software was written in Pascal   for   the   personal
computer   by   Mr.   Thada   Vitagsabootr,   an   electronic   engineer.

4.3   DISCUSSION ON EXPERIMENT

In   1986   the   course   curriculum   was   implemented   without   the
computer simulation game in rural areas.   All trainees were local
aged   11-15   years.   From   1987-1989, the   training   programs were
organized   with computer simulation game at a temple in   Bangkok.
There were a total of 468 aged between 9-14 years   from the first
to   the fifth batch of   which 279   were boys and 189 were   girls.
70   % of the trainees came from Bangkok while the rests came from
other   provinces   throughout Thailand including   both   urban   and
rural   areas.   The   majority   of the trainees had   good   academic
records and came from   middle   income families. The trainees paid
for   food   and   electronic equipment while   the   temple   provided
lodging   and   training facilities as well as   monks   in   teaching
meditation.   Other   volunteer teaching team   were coordinated   by
the   author   and came   from private and government   sectors   with
different   professional   backgrounds   according   to   the   program
requirements.

Although   the trainees came from different family backgrounds and
environments,   the   computer game topic was the   most   attractive
feature   for   them.   50%   of the Bangkok trainees   were   used   to
playing   computer   game   available   in the market   and   10%   were
addicted   while   none   of the rural trainees   had   any   hands   on
experience.   Five trainees from the same village in the northeast

province told the author that they came from farming poor
families; all of them were first grade students in school and
one of them had to borrow money from her uncle for participation
in the training program.

Before the computer game session, all the children had learned
" To know oneself" through group dynamics. They were divided into
groups of 5-6 persons and asked to write down their own goodness
and the weakness and of other group members. This was after
they had been together for a day. They subsequently reported to
the group on what they had written and were required to discuss
and compare their positive and negative views, firstly mentioning
the goodness. Most of them said they felt happy when they were
looked upon optimistically and disliked to be observed wrongly
from external appearance.

During computer game session, everyone played joyfully and asked
for more time to be provided. Initially, the trainees were
instructed only on how to operate the machine and the rules of
the game without content details. It was observed that all of
them were very quick to control the machine even those having
no experience before and their expectation were unanimously to
have long life expectancy. Later they were asked to answer
questions relating to the game content and to record the changes
in facial expression on the screen and the age at the end of each
play. This time they seemed to be more thoughtful and conscious
than in the beginning. After a while they were told in detail
about the mind mechanism and its effect on performance relating
to the outcome of the previous session, " To know oneself". After
the first computer game session everyone was asked to observe and
record the changes in their own emotion and facial expression
and give reasons throughout the day. It was noted by the
teaching team that most of the children tried to be more
generous in terms of sharing what they had, smiling and forgiving
others' mistakes. This was particularly, noticeable in group
work when compared to those groups trained without the computer
game.

A session of fun with the electronic kit provided trainees with
the opportunity to learn about the system and how it works by
encouraging them to construct their own toys with the electronic
circuit base. They learned by " doing" under the close
supervision of electronic technicians. This resulted in a direct
effect on the children's confidence, values and sense of
responsibility. In addition, the closed system concept of the
electronic circuit of which the children could learn without
stress but with enthusiasm, enhanced the session of " To know
cause and effect" and the mind system.

The trainees were asked to discuss the effects of the information
about goodness and weakness which they had identified in the "To
know oneself" session i.e they were asked to think about the
effect of good and weak actions. Next the trainees were asked to
think of the cause of goodness and weakness. Then the group

discussion led to written work about the causual loop of the mind system which they played on the computer game.

4.4 IMPACT OF THE SIMULATION GAME

(a) Impact on training management

A good impact on training management was that little time was required for training the teaching team as well as for teaching the children during the training period . The teaching team were free to observe trainees' behavior more effectively. Moreover, the simulation game created a beautiful rhythm on organization in the program content and motivated the children to respond actively and think while learning .

(b) Impact on children's behavior

The enjoyment and knowledge concerning human behavior provided by simulation game rapidly developed the thinking skills of the children and the way that they observed their changing behavior patterns in the real world. This change in their attitudes meant they gave more value to respect, discipline and generosity which was apparent in their interaction with each other and with the teaching team. One trainee aged 9 recorded in his notebook that many computer games played at home taught him nothing but this game taught him how to be a " good boy ". This meant that the teaching team were freed from spending time on management/discipline and could focus on following sessions since the children could see the value of what they were learning. On the last day of the training, there was a seminar between the organizing committee, the teaching team and the parents to evaluate children's behavior and their performance to compare what the teaching team found, with the parents' attitudes. It was concluded that the development of moral learning through the simulation game was not affected by different ages or academic background.

However, six month follow-up observations by teachers in school and parents at home, revealed that the first grade academic group improved rapidly in both moral and science education while the middle grade group showed little improvement. The most interesting outcome was that the " low " group who had previously been academically and had poor behavior, changed dramatically in behavior in terms of respect and self-discipline and this encouraged the teachers and parents to give more attention to teaching and encouraging those children. The outcome was better learning and interaction with others.

5. CONCLUSION

Although, this paper does not cover the feedback and interrelationship among all activities organized in the training

program, it clearly shows how the development of morality can be integrated with as an input for development of human creativity. To educate people about how to deal with technology, whether innovated by technicians or developers, can only be really successful if a sense of moderation is also imparted by considering inner practice based on a clear understanding of human nature.