

# Practical Strategies for Educators to Utilize ICT Capabilities for the Development of Education and Training Curriculum

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# What happened in the World



# Abstract

- Creativity is closely related to divergent thinking and problem solving with continuous curiosity into the phenomena in our everyday life. Aside from the major aim of ICT utilization as a tool to solve problems, the divergent thinking is thought to be strengthened by the proper use of ICT or multimedia with the Internet connections. The multimedia is defined as the integrated or seamlessly unified media consisting of such symbols as text, graphic, sound, video images and animation, all of which are combined, controlled and coordinated digitally to stimulate the significant seeds of our creativity. With the Internet, the multimedia becomes more powerful for searching, editing, reconstructing and presenting information with design and layout skills.

# Abstract (Cont'd)

- This paper will present practical strategies for educators based on the innovative and quality model of ICT education and training curriculum. It will also propose the collaborative creation of a database on ESD by educational institutions and enterprises to make it enjoyable, attractive, culture-specific and culture-dependent, aided by the utilization of free software to ensure their sustainability.

# Creative Learning Inc.

Established in April 2006

[Top page](#)

[Mission and management](#)

[Products](#)

Background:

In April 2004 we National University Faculty members were finally allowed to join the world of business by the Law of National University Corporate.

In addition this trend has been strongly promoted and encouraged by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Ministry of Economy, Trade and Industry (METI) as 'Cultivation of Entrepreneurship in the University' under the special conditions that the top priority for those who join the business is to carry out their university mission and tasks ; namely quality and innovative teaching, researching and management in the university with relevant strategies .

# Development of HomePage Builder

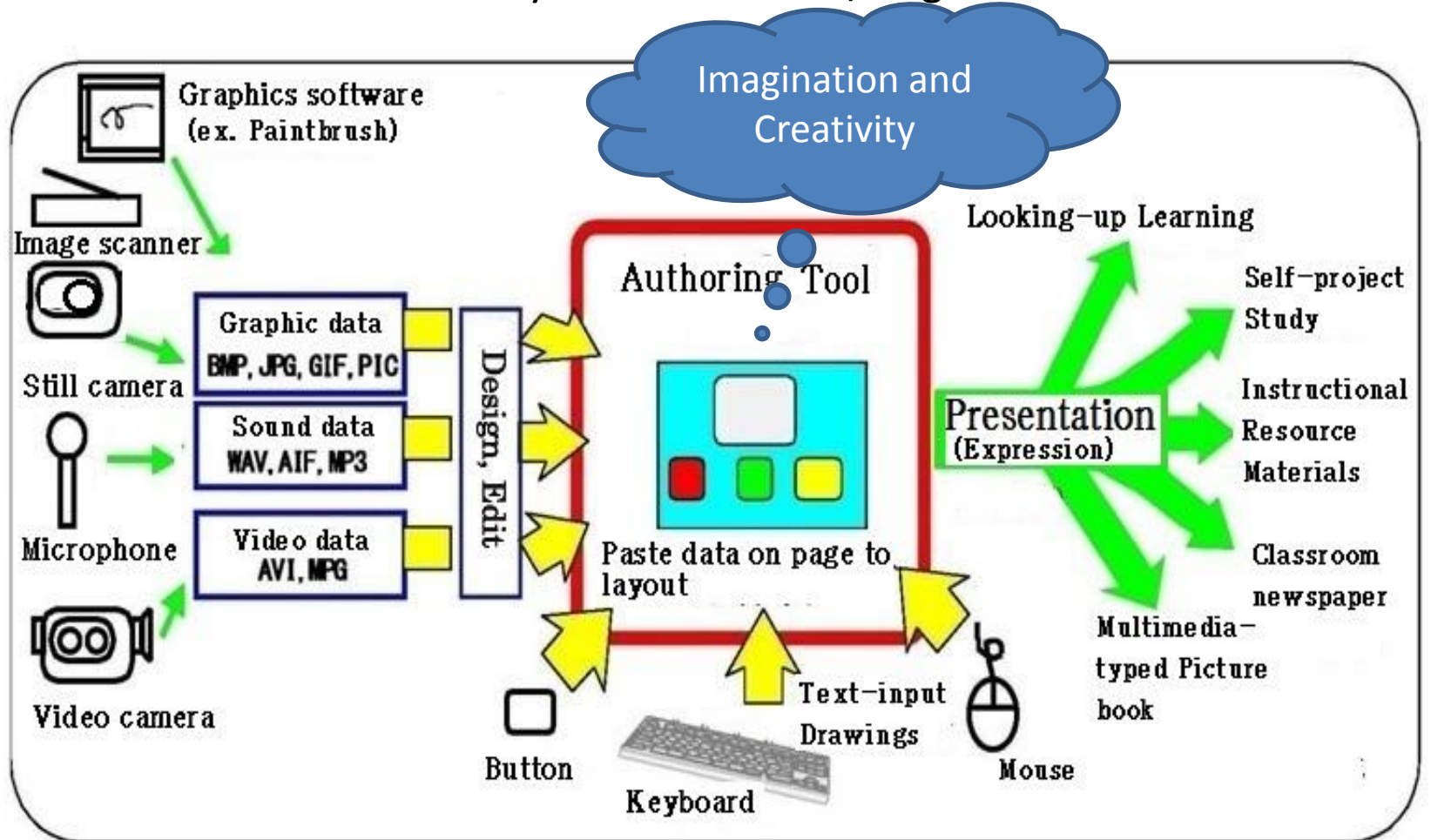
- Started in 1997 in collaboration with IBM Japan Corp.
  - to identify the principles of design technology and control technology (DT and CT) in the future technological environment in schools, and
  - to ensure the quality software for end-users in terms of user-friendliness under the Windows98,
  - we carried out training courses in SEAMEO-INNOTECH to collect data to revise the software ‘HomePage Builder.’
    - [Top page of the Two-week course at INNOTECH in May 1997](#)
    - [Reference manual](#)
    - [How to develop better homepage](#)
    - [What about design](#)
    - [Significance of multimedia in education](#)

(note) The latest version ‘version 16’ is available at JustSystems Corporation as of December 2011.

- [https://www.justmyshop.com/app/servlet/c33?left=hpb\\_16](https://www.justmyshop.com/app/servlet/c33?left=hpb_16)

# The Concept of HPB

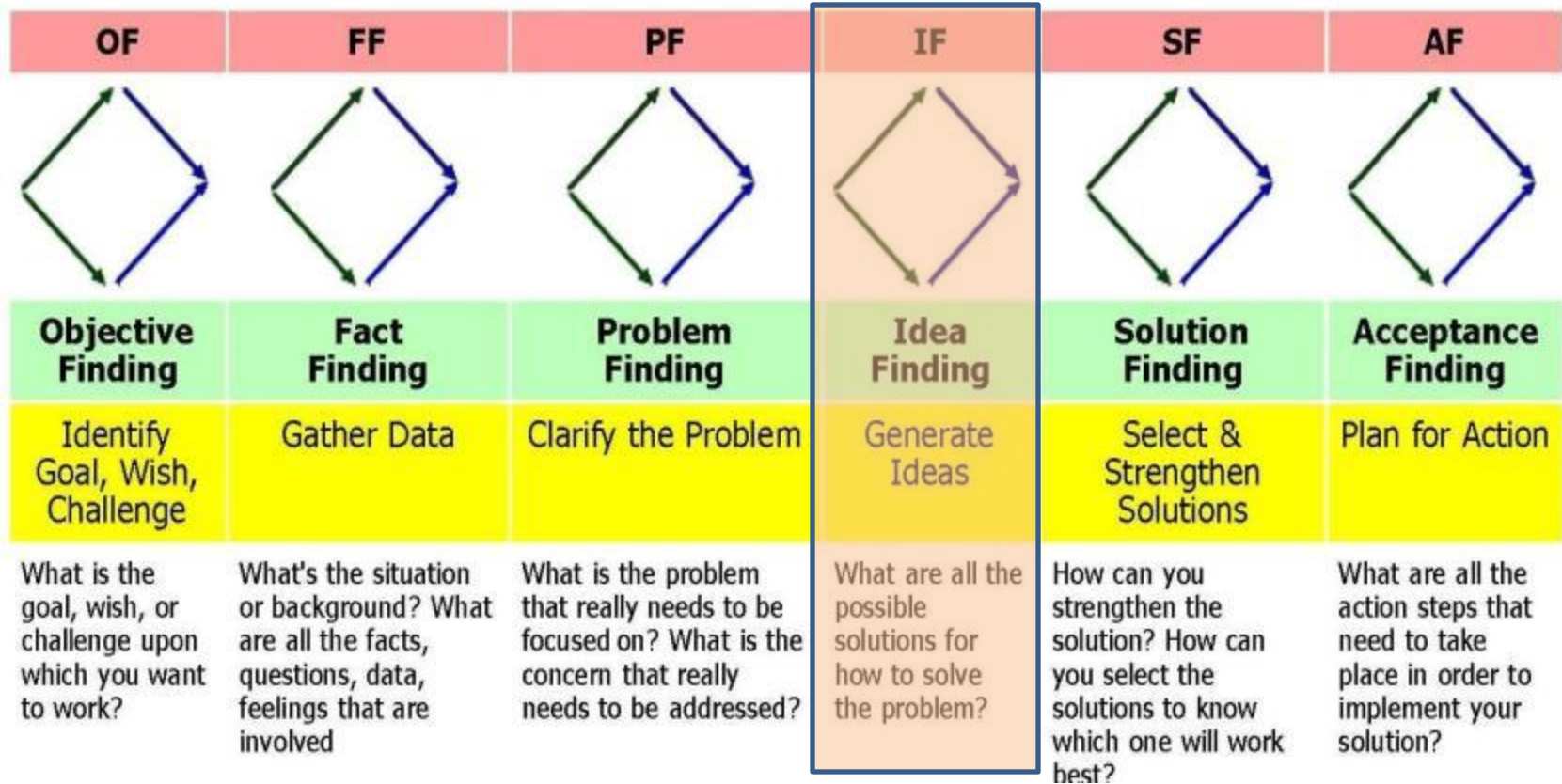
Stimulate Personal Sensitivity to Re-construct/-organize and to Present Ideas





# Creative Problem Solving Process

The Osborne-Parnes Creative Problem Solving Process



(Source) <http://members.optusnet.com.au/charles57/Creative/Brain/cps.htm>



# IF(Idea Finding)

The divergent-thinking, brainstorming stage. This is where a variety of idea-generation ("creativity") techniques can be use. Ideas are freely proposed without criticism or evaluation, for each of the problem definitions accepted in the second stage.

# What is 'Creativity'

Briefly stated, creativity is often thought to exist on at least five levels:

- a higher level versus a lower level
- grand versus modest
- big "C" versus little c
- paradigm-shifting versus garden-variety
- eminent versus everyday

Some researchers claim other categories of creativity as well: expressive versus productive

- expressive versus inventive
- expressive versus innovative
- invention versus discovery
- theory versus invention versus discovery
- accommodative versus assimilative
- personal versus public

There are three general ways of achieving a creative solution:

- serendipity
- similarity
- and meditation

(Source) <http://members.optusnet.com.au/charles57/Creative/Basics/definitions.htm>

# Facts Specific in AP region

## Disparity

- Geographical development
- Economic development
- Technological development
- Educational development
- Teachers competences
- Policy environment

## Diversity

- Culture
- Languages
- Religion
- Races
- Social systems
- Educational systems

**Enjoy to live together**

Mutual understanding and trust

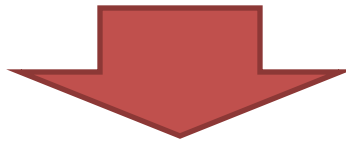
Universal Values sharing

Identity

Globalization and Localization

# Trends of Operating System and Networking-type software (1)

1. Improvement in stability and reliability
2. Strengthening the network functions
3. Strengthening the recording and editing functions in Video and Audio
4. Larger capacity for data stored and recorded



- Improvement in Compatibility with home appliance
- TV is going digital, while PC is going audiovisual

# Trends of Operating System and Networking-type software (2)

Microsoft Visual Studio 2010 Express and Microsoft Web Matrix

1. Powerful and easy to use on both the online and offline environment
2. Intention to try to lead reform in productivity of development from platform of wide tool
3. Visual Basic 2010 Express Edition  
Best Programming tool of Windows for evaluation, study, and hobby
4. Visual C++ 2010 Express Edition  
Enhancement of tool and library



**Intend to lead and confidence to  
the Design Technology and Control Technology (DT and CT)  
since the Microsoft Visual Studio 2005 Express**

# Two Major Issues on ICTs Utilization

- ICT as a Tool
- ICT-Pedagogy Integration

Integration = Application



Evidence-Based Education (EBE)

Knock on a stone bridge and cross it.

Rather.....

Knock on a stone bridge but never cross it.

# Current Trends of Education

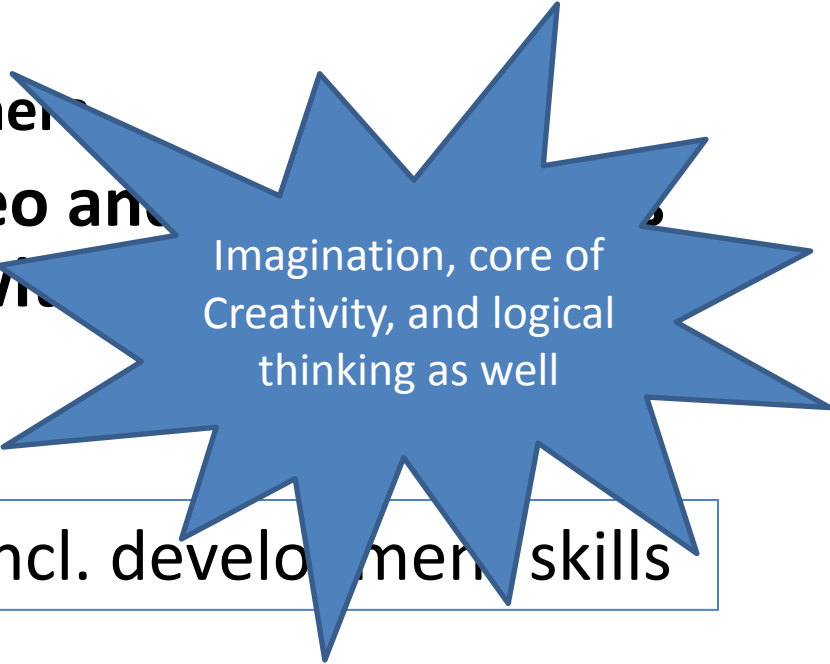
- Learner/Child-centered Education
  - Constructivism
  - Cognitive Approach
- Basic Education
  - Promotion of 'Education for All' to enhance basic and fundamental knowledge and skills
- ESD (Education for Sustainable Development)
  - Development and implementation of ESD -oriented curriculum both in formal and non-formal education
- ICT-Pedagogy Integration
  - Multimedia under the concept of AV education rather than ICT
- EBE (Evidence-Based Education)
  - 'Knock on a stone bridge and keep on knocking,' rather than 'Knock on a stone bridge and cross it.'

Politically  
Correct



# ICT-Pedagogy Integration

- **Progress of Power of OS**
  - Higher speed Networking
  - Higher capacity storage
  - Video and Audio editing capabilities
- **Progress of mobile phones**
  - With Digital still and video cameras
- **Free Access and space of video and audio and ability to select and to re-organize with ease and to Copyright issues**
  - YouTube



Imagination, core of  
Creativity, and logical  
thinking as well

Needs to Visual/MM Literacy incl. development skills

# Multimedia Literacy

Emergent need to consider Media Literacy, or rather Multimedia Literacy, to support the 'Zest for Living,' related to 'To live together.' (To live to be and one of the current Japan's national education issues derived from the results of PISA, 2009, 'Strengthening to cultivate Basic skills; Reading and writing.'

Choice of the information with confidence by evidences, review, Compare with the statistics literacy, re-organize or edit to draw image, and express or present them

Consider with the sense of, Think Global, Act Local  
What I can do,  
What I should do within individual capacity as a citizen



As his/her value-added, original, creative and quality information and relevant actions

# Previous Workshops and/or intensive Courses conducted

## 1. Date, Venue and Number of participants

- (1) 11 Sept., 2008 Mongolian State Univ. of Education (MSUE), 18 (T)
- (2) 27 Oct., 2008 National Institute of Science and Mathematics Education, Univ. of the Philippines (UPNISMED), 51 (T)
- (3) 28 – 31 Aug., 2009 UPNISMED, 45 (T)
- (4) 7 – 10 June, 2010 Sampoerna School of Education (SSE), Jakarta Indonesia: ‘Intensive Lecture and Demonstration on ESD,’ 89students
- (5) 11 June, 2010 SSE, Jakarta Indonesia ‘Special Seminar Workshop on Multimedia Development,’ 24 teachers (3, 10, and 11 for Primary, Junior and Senior High schools)
- (6) 11-12 August 2011 SSE, Jakarta Indonesia, 21 (T)
- (7) 18 August 2011, Public junior high school, Probolinggo, Surabaya, Indonesia, 63(T)
- (8) 7 November 2011, MSUE, 48(T)

## 2. Software used

- (1) MS Word, MS Paint, Sound Recorder, Movie Maker
- (2) Free ware Photo Story, Real Player, Any video Converter

# Agenda of the Programme (1/2)

Standard training hours will be 30

1. The Significance and Issues about ESD (Ref. UNESCO 'The Four Pillars of Education')
2. The Possibilities of Multimedia to promote ESD (Ref. A.Toffler 'The Third Wave,' NHK Teacher's Net, NICER, YouTube=>to ensure we are in the **'Era of the Freedom of Selection/Choice'**)
3. Learner's Characteristics and ATI
4. Sequencing of Materials
5. Images and Copyright (Ref. OECD 'Trends of World Economy -Economic crisis-'=> Promotion of institutional use of 'Free Software,' UNESCO BKK 'Teachers Resource CD – Free Software')

Regional Seminar on the Impact of the Economic Crisis on Higher Education and the Use of ICT in Universities in Asia and the Pacific, *UNESCO Asia and the Pacific Regional Bureau for Education, Commission of Higher Education, Thailand*, Queen's Park Imperial Hotel, Bangkok, Thailand, 30 June – 2 July

# Agenda of the Programme (2/2)

Standard training hours will be 30

1. Practice on Editing
  - (a) Fixed sequencing of moving images and a series of still images “NHK Morning Exercise “ (NHK)
  - (b) Moving images which should be changed in sequencing (Broadcasting programme sequenced in inductive way of thinking -> in deductive way of thinking) “Motion and Energy for 3<sup>rd</sup> graders in Junior High school” (NHK)
2. Practice on development of a simple video material with the use of ‘MS Movie Maker’
3. Development of Homepages with the use of MS-Word
4. Presentation and Discussion
5. Summary Discussions
  - High lightening on Collaboration to design, development and utilization of databases and Free Software

# Recommendations to Educators

- Try to know that seeds of ESD are existing around us in our daily life and to create visual images with the use of relevant free software such as Ms MovieMaker.
- Try to question to themselves stimulating their own imaginations at every moment upon receiving information; When, Why, When, to Whom, for Whom, Where, and How to expand and integrate information into their experiences with the use of relevant free software such as Free Mind. Brainstorming among persons from different sectors will be also highly recommended.
- Carry out the daily classroom activities with keeping mind about the key-words 'to combine,' 'to integrate,' 'beyond,' 'to step forward,' 'to expect synergy,' 'to challenge,' 'to innovate,' taking for examples.
- Research on IT education coping with both current education and technology issues in the consideration about present and future environment under budgetary constrained society but within their capacities and with the concept of spiral approach.
- Collect and develop resource materials utilizing teachers' and learners' curiosities with the use of simple media such as digital still/movie camera, cellar phones for examples.
- Design and Develop DB in collaboration with specialists in each specific subject matters.
- Develop locally-dependent Indexes for information retrieval of ESD in collaboration with specialists from several different areas like TV stations to make them standardized from the global points of view.