ACHIEVING SCHOOL SUCCESS:  
THE CASE OF THE  
CENTRAL VISAYAN INSTITUTE FOUNDATION

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LEAP Conference 2011  
Global Trends and Issues in School Leadership  
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Ateneo de Manila University, Philippines
Central Visayan Institute Foundation

In Jagna, Bohol, Philippines
Jagna: 4\textsuperscript{th} class municipality; population \sim 32,000
~ 95% of incoming freshmen come from rural public elementary schools

CVIF tuition: P 7,500 per student per year

Marked lack of home educational support
How do we enable each child to develop to his/her fullest potential?
There is a need for new pedagogical perspectives given the global realities:

- A new generation of learners whose brains are wired differently.
- A world made smaller and more efficient by technology (internet access, cell phones, etc.)
- Higher global standards of quality in education and training.
- An emerging worldwide lack of qualified teachers especially in the STEM disciplines.
EFFICIENCY

In the least time,
at least cost,
to have the majority of students
having the highest levels of mastery
in science, math, and the humanities,
based on international standards.
THE CVIF DYNAMIC LEARNING PROGRAM

( IMPLEMENTED SINCE 2002 )
The CVIF Dynamic Learning Program (DLP) applies a synthesis of classical and modern pedagogical theories adapted to foster the highest level of learning, creativity, and productivity for a wide spectrum of students.
For all subjects, there is *no introductory lecture* before CVIF students do the learning activities (questions, problems, etc.).

Lectures and class discussion are done only about $\frac{1}{4}$ of the time (the rest being allotted for written activities).
Agrees with prof. S. Gopinathan remarks (LEPI 2010) on c2015 work-related skills:

- Taking responsibility for one’s own learning.
- Knowing how to work independently without close supervision.
- Being resilient in the face of difficulties.
- Being confident and able to investigate problems and find solutions.
THE CVIF DYNAMIC LEARNING PROGRAM

- Parallel Learning Groups (Modified Jigsaw Strategy)
- Activity-based Multi-domain Learning
- In-school Comprehensive Student Portfolio (*instead of notebooks*)
- Teachers Comprehensive Portfolio (*instead of Lesson Plans*)
- Strategic Study / Rest Periods
- Integrated Spiritual and Cultural Formation
Parallel Learning Groups (Simultaneous Classes)

Section 1 Facilitator

Section 2 Facilitator

Section 3 Facilitator

Expert Teacher
## CLASS SCHEDULE (ACADEMIC DAY)
### SY 2009-2010

<table>
<thead>
<tr>
<th>Time</th>
<th>Min</th>
<th>First Year</th>
<th>Second Year</th>
<th>Third Year</th>
<th>Fourth Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30-7:40</td>
<td>10</td>
<td>MORNING PRAYERS and</td>
<td>FLAG CEREMONY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:40-9:10</td>
<td>90</td>
<td>SCIENCE</td>
<td>MATH/CS</td>
<td>SCIENCE</td>
<td>MATH/CS</td>
</tr>
<tr>
<td>9:10-9:30</td>
<td>20</td>
<td>RECESS</td>
<td>RECESS</td>
<td>RECESS</td>
<td>RECESS</td>
</tr>
<tr>
<td>9:30-11:00</td>
<td>90</td>
<td>MATH/CS</td>
<td>SCIENCE</td>
<td>MATH/CS</td>
<td>SCIENCE</td>
</tr>
<tr>
<td>11:00-12:00</td>
<td>60</td>
<td>MAKABAYAN/ENG. LAB</td>
<td>MAKABAYAN</td>
<td>MAKABAYAN</td>
<td>MAKABAYAN</td>
</tr>
<tr>
<td>1:30-2:30</td>
<td>60</td>
<td>ENGLISH</td>
<td>FILIPINO</td>
<td>FILIPINO</td>
<td>ENGLISH</td>
</tr>
<tr>
<td>2:30-3:30</td>
<td>60</td>
<td>FILIPINO</td>
<td>ENGLISH</td>
<td>ENGLISH</td>
<td>FILIPINO</td>
</tr>
<tr>
<td>3:30-5:00</td>
<td>90</td>
<td>MAKABAYAN</td>
<td>MAKABAYAN</td>
<td>MAKABAYAN</td>
<td>MAKABAYAN</td>
</tr>
</tbody>
</table>
The portfolios and all Activities and projects cannot be brought home.

(Portfolios are returned to the students at the end of the year.)
Above: CVIF students on a typical academic day

Right: Students of Davao Christian High School of Davao City, a Chinese school which has applied the CVIF DLP since 2005
CVIF students have no homework throughout their 4 years in high school.
How do we measure success?

- Tangibles
- Intangibles
How do we measure success?

- Present
- Post-school
How do we measure success?

- The number of students who manifest learning through competency-based standardized exams.
- The depth of learning manifested by students.
2008 National Career Assessment Examination (NCAE):

25 % of the CVIF seniors belong to the top 10 % nationwide in reading comprehension. (28 out of 110 students)

7 Students got 99 %-tile rank in Reading Comprehension.
### Improved Performance in DepEd Nationwide Exams

<table>
<thead>
<tr>
<th>Math</th>
<th>NSAT 2001</th>
<th>NCAE 2007</th>
<th>NCAE 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students with %-tile 90 &amp; above</td>
<td>1 / 66 (1.5%)</td>
<td>13 / 106 (12.3%)</td>
<td>21 / 115 (18.3%)</td>
</tr>
</tbody>
</table>

Central Visayan Institute Foundation
Jagna, Bohol
<table>
<thead>
<tr>
<th>Overall GSA</th>
<th>NSAT 2001 No. of students</th>
<th>NCAE 2008 No. of students</th>
<th>NCAE 2009 No. of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>99 - 99+</td>
<td>0</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>98</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>97</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>90 - 99 %tile</td>
<td>1 of 66 (2%)</td>
<td>21 of 110 (19%)</td>
<td>27 of 115 (23%)</td>
</tr>
</tbody>
</table>
Performance Scores in Standardized Tests

Number of Students

Baseline 2001

Majority of students

Performance Scores in Standardized Tests

Number of Students

2006

Majority of students

Performance Scores in Standardized Tests

Number of Students

NSAT/ NCAE

2009

Majority of students

Performance Scores in Standardized Tests

Number of Students
<table>
<thead>
<tr>
<th>Year</th>
<th>Number of UPCAT Passers</th>
</tr>
</thead>
<tbody>
<tr>
<td>'99</td>
<td>0</td>
</tr>
<tr>
<td>'00</td>
<td>2</td>
</tr>
<tr>
<td>'01</td>
<td>3</td>
</tr>
<tr>
<td>'02</td>
<td>4</td>
</tr>
<tr>
<td>'03</td>
<td>3</td>
</tr>
<tr>
<td>'04</td>
<td>5</td>
</tr>
<tr>
<td>'05</td>
<td>6</td>
</tr>
<tr>
<td>'06</td>
<td>7</td>
</tr>
<tr>
<td>'07</td>
<td>8</td>
</tr>
<tr>
<td>'08</td>
<td>11</td>
</tr>
<tr>
<td>'09</td>
<td>11</td>
</tr>
<tr>
<td>'10</td>
<td>11</td>
</tr>
<tr>
<td>'11</td>
<td>11</td>
</tr>
</tbody>
</table>

University of the Philippines College Admission Test (UPCAT)

Up to about 10% of CVIF seniors
International Benchmarking

- SAT scores of marker student within cut-off of good American universities

- Alumna now in U California Berkeley, BS Computer Science
All 153 public high schools in Bohol to implement the CVIF-DLP in SY 2011-2012 (initiative of Governor Edgar Chatto; approved for piloting by Secretary Bro. Armin Luistro).
Spin-off of the CVIF-DLP:
The Learning Physics as One Nation Project
Declining Trend

DOST Survey of High School Physics Teachers:

• 1990’s: 27% Physics teachers qualified
• 2003: 8% Physics teachers qualified
LEARNING PHYSICS AS ONE NATION

239 Student Written Activities (70%)

plus

18 DVD volumes of Video Lessons by physicists (30%)
Learning Physics as One Nation Project

260 SCHOOLS REPRESENTING ALL REGIONS

(OVER 27,000 STUDENTS)

Fund for Assistance to Private Education
ASSESSMENT

Pre-test

Post-test

Very Poor: 24%
Poor: 32%
Below Average: 17%
Low Average: 14%
Average: 7%
High Average: 4%
Above Average: 1%
Superior: 1%
Excellent: 0%

Very Poor: 16%
Poor: 25%
Below Average: 15%
Low Average: 17%
Average: 11%
High Average: 9%
Above Average: 4%
Superior: 2%
Excellent: 1%
<table>
<thead>
<tr>
<th></th>
<th>CEM Best School SY 2007-2008</th>
<th>LPON School SY 2008-2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of examinees</td>
<td>205</td>
<td>232</td>
</tr>
<tr>
<td>Mean Percent Correct</td>
<td>49</td>
<td>44</td>
</tr>
<tr>
<td>Maximum</td>
<td>79</td>
<td>83</td>
</tr>
<tr>
<td>Minimum</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Excellent</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>Superior</td>
<td>16</td>
<td>9</td>
</tr>
</tbody>
</table>
Performance Scores in Standardized Tests

Majority of students

Number of Students

Baseline

Number of Students

Present target

Majority of students

Number of Students

Long-range target

Majority of students

Number of Students

Performance Scores in Standardized Tests

Performance Scores in Standardized Tests
KEY SUCCESS VARIABLES
SCIENTIFIC MINDSETS:

- Administrators
- Teachers
- Learners
- Parents
Deal scientifically with realities and observables.
“In situ curriculum adaptation and reform: balancing world-class targets, meager resources, national policy and culture in a developing country”

Curriculum

Global performance standards

Lack of human and material resources

Prevailing community and national culture

Compliance with Department of Education
IN SITU CURRICULUM ADAPTATION

- Strongly results-driven for annually increasing number of students with higher performance levels
- Constraints taken as challenges and opportunities for creativity and innovation – focus of meager resources in high impact areas such as choice of curricular emphasis
Development of a solid learning ethos and conducive environment

- Routine and prompt schedules
- The quiet school on academic days
- Sports and arts on PE days
The CVIF DLP and all co- and extra-curricular activities are geared towards maximizing:

- **Motivation**
- **Focus**
- **Confidence and Composure**
- **Self-Discipline**
- **Stamina**
Analysis + Training
Synthesis + Discipline
Creative Problem-Solving + Stamina
REALIZATION:

Lack of:

• Teachers
• Textbooks
• Lab equipment

are not core problems.

Focusing on them is a waste of time and resources that could be better spent elsewhere.
Rather than teacher-induced learning, we propose process-induced learning as a new paradigm.

# THE PROBLEM OF MOTIVATION:

<table>
<thead>
<tr>
<th>Conventional</th>
<th>CVIF-DLP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Games</td>
<td>Habit-forming (biological)</td>
</tr>
<tr>
<td>Stories</td>
<td>Daily protocol for writing of activities</td>
</tr>
<tr>
<td>Group work</td>
<td>on the Activity Sheet</td>
</tr>
<tr>
<td>Recitation</td>
<td></td>
</tr>
<tr>
<td>Board work</td>
<td></td>
</tr>
<tr>
<td>Etcetera</td>
<td></td>
</tr>
</tbody>
</table>

**external**

**internal**
If we have process-induced learning, then the essential variables of education can be reduced into two:

- **choice of curricular content**
- **learner disposition**

M. V. Carpio-Bernido and C. C. Bernido
RM 2010 Awards Lecture
http://www.rmaf.org.ph
LEVELS OF ANALYSIS

- concept formation and behavior
- gross anatomy and physiology
  - cellular
  - genetic
  - molecular
  - sub-molecular
Brain imaging by positron emission tomography (PET)
• **Principles of Neural Science (4th Edition)**
  Editors: Eric R. Kandel, James H. Schwartz and Thomas M. Jessell
THE TASK-ORIENTED BRAIN

- brain activation of different structural parts to achieve or accomplish a task;
- compensation for deficits or weakness of certain regions;
- parts can perform multiple functions

[See e.g., R. J. Sternberg, Cognitive Psychology; S. Gilman and S. W. Newman, Manter and Gatz’s Essentials of Neuroanatomy and Neurophysiology; OECD 2002]
Is there a neuronal basis for the strategic rest component of the CVIF DLP?
Enhancing creativity and originality through strategic study and rest periods

- **PEHM Days** (Wednesdays: no academic classes)
- **No-homework policy**
NO HOMEWORK: WHY?

- To enjoy wholesome leisure
- More relaxing family time
- Sleep early (by 8 or 9 p.m.) so they can be fresh and energized for the next day’s schoolwork.
  - Health experts say that young persons need 8 hours of sleep and an additional one-fourth hour for every year of age under 18 years old.
<table>
<thead>
<tr>
<th>Age</th>
<th>Sleep Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborns (0-2 months)</td>
<td>12-18 hours</td>
</tr>
<tr>
<td>Infants (3 to 11 months)</td>
<td>14 to 15 hours</td>
</tr>
<tr>
<td>Toddlers (1-3 years)</td>
<td>12 to 14 hours</td>
</tr>
<tr>
<td>Preschoolers (3-5 years)</td>
<td>11 to 13 hours</td>
</tr>
<tr>
<td>School-age children (5-10 years)</td>
<td>10 to 11 hours</td>
</tr>
<tr>
<td>Teens (10-17)</td>
<td>8.5-9.25 hours</td>
</tr>
<tr>
<td>Adults</td>
<td>7-9 hours</td>
</tr>
</tbody>
</table>

Source: National Sleep Foundation
“developmental work in progress”

Brain imaging has revealed that both brain volume and myelination (a maturing process of neural connections) continue to grow throughout adolescence and during the young adulthood period. (OECD, 2002)

Note that a myelinated axon has greater conduction velocity of signals.
Afferent

Efferent

The neuron

[Adapted from Manter and Gatz’s Essentials of Clinical Neuroanatomy and Neurophysiology, 9th ed; and Wheater’s Functional Histology, 3rd ed.]
The more profound reason is... to facilitate reflection, deeper understanding, and processing of concepts learned during the day.

“*When memory-related neurons fire in sync with certain brain waves, the resulting image recognition and memories are stronger than if this synchronization does not occur.*”
Synchronization is influenced by "theta waves" – associated with relaxation, daydreaming and drowsiness, but also with learning and memory formation.
More questions that need to be explored to improve learner disposition:

neuronal, molecular, sub-molecular basis for

- Attention
- Learning
- Memory
- Creativity
CULTURE AND THE ARTS

➤ Music
➤ Belles Lettres
➤ Visual Arts
➤ Performing Arts
The plays integrate learning in

- Theology
- Values
- History
- Geography
- Literature
- Music
- Languages
- Deportment
- Public speaking