Math in the Modern World (MMW) is one of the core courses for everyone to take in college. Participants of these seminars expressed their interest in learning how to teach the new course “MMW.”
HOW IT ALL STARTED ...

Teaching Material

*Essential Mathematics for the Modern World*

R. Nocon and E. Nocon

NEW LA SALLIAN CURRICULUM COMMITTEE

finalized the MMW Syllabus for DLSU use

WE MUST TEACH NEW TOPICS LIKE ...

Math in Nature and Art
Cryptography
Coding Theory
Game Theory

WE MUST TEACH NEW TOPICS LIKE ...

Graph Theory
Consumer Mathematics
Social Choice Theory
Logic and Reasoning
Linear Programming
How are we going to teach these topics?

CHED says...

Use the OBE framework ...

Do it!

Teach it!
A COURSE THAT FITS PERFECTLY...

MATAPRE
(Math Appreciation)

MATAPRE IS....

- A course that covers topics in college algebra focusing on applications to solving problems that may be used by students in everyday living.

MATAPRE IS....

- Designed to provide students with opportunities to discover and appreciate the relevance of mathematics to industry, business, science, arts and architecture, music, games and recreation, and other areas of human endeavor.

MATAPRE IS....

- Intended for LIBERAL ARTS students
  - (Majoring in Psychology, Political Science, International Studies, Philosophy, etc.)
MATAPRE Topics

- Functions
- Sequences and Patterns
- Mathematics in Business, Industry, Arts, Humanities, Social Sciences, and Other Fields of endeavor

MMW Topics

- Consumer Mathematics
- Patterns and Isometries
- Math in Nature and Arts
- Communication - Codes and Crypts
- Game Theory, Linear Programming, Graph Theory

Imagine teaching the topics of MMW to Liberal Arts students?
**More challenges ahead ...**

- New topics to study
- OBE Approach
- Materials

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**Meet my team ...**

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**With all-out support ...**
**First To commit ...**

- Lynne Nocon
- Yvette Lim
- Angie Lao
- Kiko Campeña
- Michele Tan
- Mark Garcia

**Our jobs ...**

- Prepare Slide Presentations
- Write Learning guides
- Prepare assessment Tools - quizzes, assignments, and rubrics
- Teach MATAPRE classes using the MMW syllabus

**This took us ...**

ABOUT A MONTH WORTH OF DEDICATED WORK.

**Topics were assigned.**

- Nature of Mathematics
  Mathematical Language
- Math in Nature and Art
  Fibonacci sequence, Golden Ratio, Fractals, Patterns and Isometries
- Communication
  - Coding Theory, Cryptography
- Decision Making
  - Social Choice Theory
  - Game Theory

- Consumer Mathematics
  - Savings, Stocks and Bonds, Income Tax
- Efficiency
  - Linear Programming, Transportation and Assignment Problems, Shortest Path

To do list
- Module Guides
- Slide Presentation (any format)
- Assessment Tools (assignment, seatwork, quizzes)

To do list
- Exercises and activities for each lesson would be taken from the textbook.
- Performance Task/Activities
- Rubrics (for teacher’s and students’ use)
- Website/Social Network Group for blogging/journal (such as Weebly or Facebook)
Here are some examples.

First Term of AY2015-2016

20 Sections of matapre
About 560 Students
15 teachers

Everyone said “Yes to teaching MMW.”

- 6 Core
- 9 New Recruits
- 15 teachers Took the challenge of teaching 20 MATAPRE classes using the MMW syllabus

Lynne and Kiko
**The motivation**

- Prepare to teach MMW
- Take the challenge to learn new topics
- Want to try something new
- Why not?
- Materials are READY
The motivation

- Presence of a support group (CORE)
- Openness in sharing resources
- Not alone in taking the challenge

But we somehow have ...

- Apprehensions
- Insecurities
- Some sense of uncertainty

And the what ifs ...

- What if we don’t know much about the topics?
- What if we bore the students?
- What if we can’t answer their questions?
- What if we fail to meet the “target expectations?”

But then again ...

We are going to work as a TEAM ...

KAYA ... SIGE NA ... SUGOD NA!!!
DOING THE WORK...

THE CLIENTS

- FRESHMEN
- 15 - 18 years of age
- Not inclined to love Math

EXPERIMENTAL SUBJECTS

MEET OUR STUDENTS...
What do they have to say?

- “Ever since I started to go to school math was always my problem because I always found it difficult.”

- “The whimsical pictures illustrating math problems turned into unknown symbols and signs. Games became time constricting drills instead and my fingers were only used to write endless equations. The more difficult the topics were, the more discouraged and unmotivated I became.”

- “Let me just start by stating the fact that math and I never got along. Although I’ve had a handful of “triumphs” with math, most of the time I struggled and gave up quite easily especially when I couldn’t solve a problem.”

- “Math was something I did not want to study. Is a subject I started to hate and lost interest in studying ... Is quite challenging for my taste. Is a subject I don’t really like. IS NOT fun ...”
This one has something nice to say...

- “Math was never easy. I personally believe that. But with the proper attitude and determination, it can be easy. To briefly summarize what I have learned from Math aside from the topics and lectures, is that we should not give up whatever the situation may be. As the saying goes, “Nothing worth having comes easy.”

**FIRST DAY LESSON**

**MATAPRE OVERVIEW**

**FIRST DAY ASSIGNMENT**

**MATH AUTOBIOGRAPHY**
Teachers will have to collect...

- Blogs for each topic
- Portfolios (end of term - 13th or 14th week)
- Assignments
- Project proposals

Teachers use different methods of gathering submissions

- Hard copies
- Email Submissions
- Use of blogging websites (Tumblr, Wordpress)
- Google Classroom
We also had observers.

- Team teaching
  - Lynne-Yvette-Angie-Mark
  - Kiko-Michele, Shirlee-Marc
- The rest handled their classes without a partner.
Invited to Observe or Collaborate

- Narrative Reports via Email
- Classroom Observations (DLS-CSB)

Linggo-linggo, merong...

- Kumustahan
- Kwento tungkol sa MATAPRE
  - “Miss parang may correction sa ...”
  - “Gawin nating ...”

Teachers became busy with...

- Lectures and classroom activities
- Collecting and checking submissions
- Monitoring project developments
- Administering tests in classrooms and computer labs
Then came the 13th and 14th week ...

- Students presented their final outputs
- Teachers collected
digital stories, infographics/posters, magazines,
music compositions, t-shirt designs, 3D models,
comics

Grade results

- Only about 1.5% of all MATAPRE students failed
  - Reason – Excess absences or No appearance

After the work...

Musings ...

- Students say ...
Musings...

- Teachers say ...

We should improve on ...

- Group projects
  - Proposal
  - Monitor from time to time
  - Rubrics

Let us improve our ...

- Slide presentations
  - Adjust according to your own style

Also, let us improve on ...

- Team teaching strategies
  - Time management
  - Number of requirements per teacher
  - Number of teachers in a team
But we did well in ... 

- Sharing of materials
  - Recognizing authors
- Giving feedback – FB, Viber, TEXTS, Emails, person-to-person
- Teaching MATAPRE with topics from MMW

Overall assessment ... 
The teachers did it well! Yaay!!

Future WORK...

The DLSU Math Department ...

- Hopes to be able to help teachers who would want to learn about
  - Contents of MMW
  - Teaching methods
We can do this by...

- Conducting seminar workshops
  - PPP MMW Part 2
  - With partner-host in provinces
- Sharing materials
  - Google Drive link

Let us discuss...

- Linear Programming
- Transportation/Assignment Problems
- Shortest Path, Minimum Spanning Trees
- Coding Theory
- Cryptography

And in the future...

- We conduct seminar workshops with a school partner acting as host in provinces
- Sharing materials
  - Google Drive link
There were only six of us in the beginning.

But we said we will help those who need help.

We are imagining putting this effort on a larger scale ...

Can we go out of DLSU and extend the help to other teachers too?

Imagine helping people who can also reach out to others?
Maybe you and a colleague ... Can help those who need help.

And we let them find ways to help others in return ....
**Would you like to be a Part of this effort?**

- Sharing what you have learned in this seminar
- Spreading the news to other schools in your area

**You can help by ...**

- Hosting an MMW seminar workshop in your area/province
- Being our partner as collaborators in the development of materials for teachers' use
- Sharing your expertise both in content and methodology
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Thanks for Listening.

Announcement

The seminar materials can be downloaded from our website
http://dlsuppp2015.weebly.com
Starting December 16 onwards.