

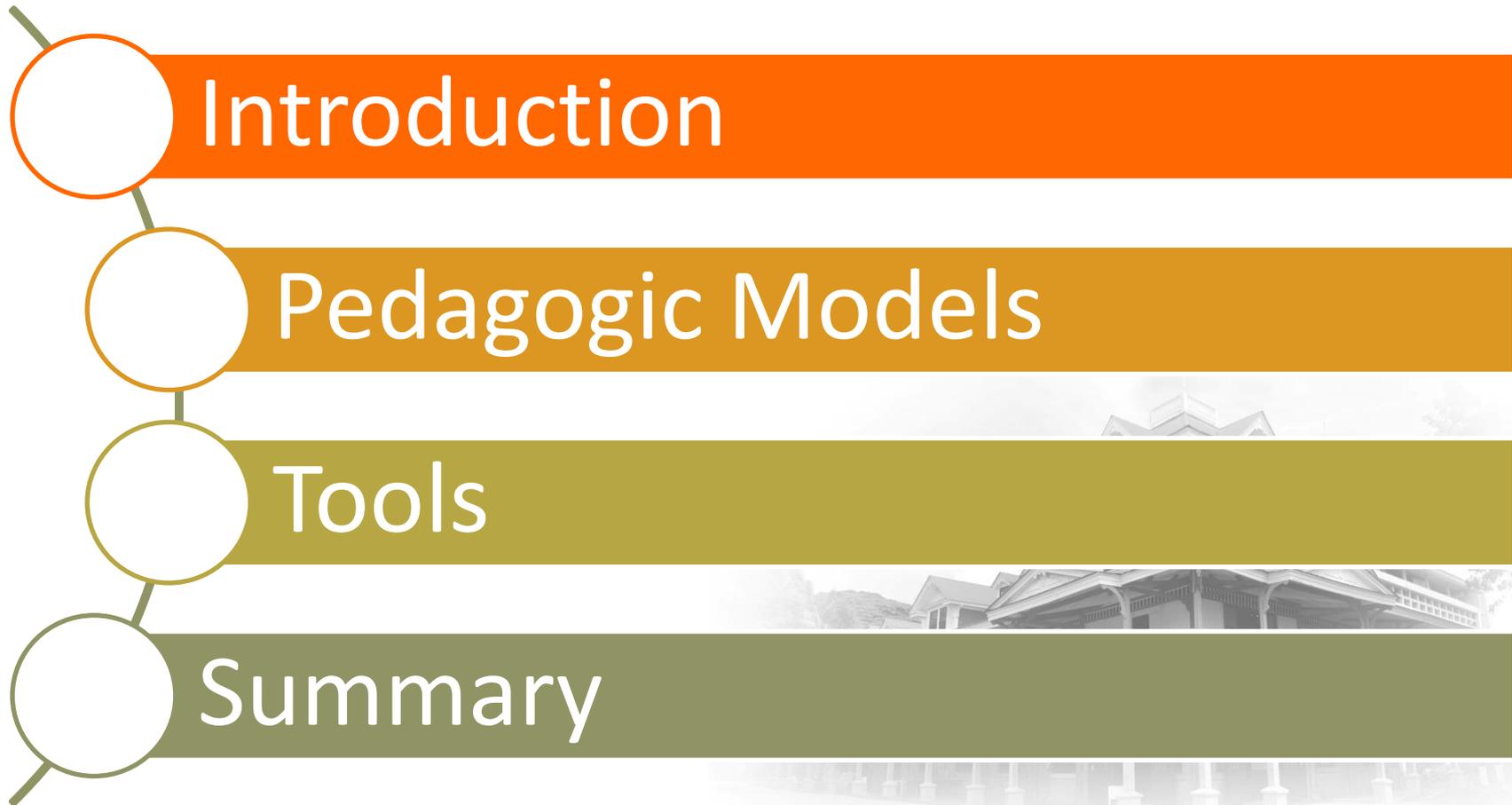
Pedagogical Models and Tools *in* *Technology-Assisted Teaching and Learning*

Dave E. Marcial

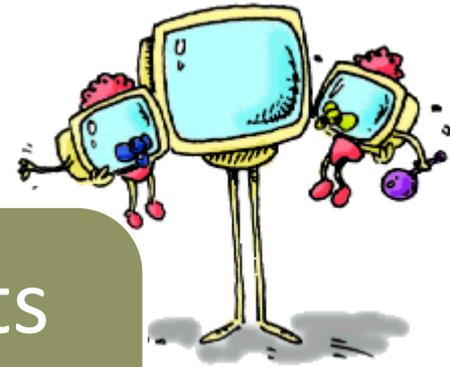
Director, Silliman Online University Learning



Presentation Outline



Technology-assisted teaching



Allows teachers and students

to create, share, connect and reflect

on their own learning
and that of others



Active learning

Outcomes-based

Project-based learning

Customized instructions

Equity for students

“Breaking the walls”

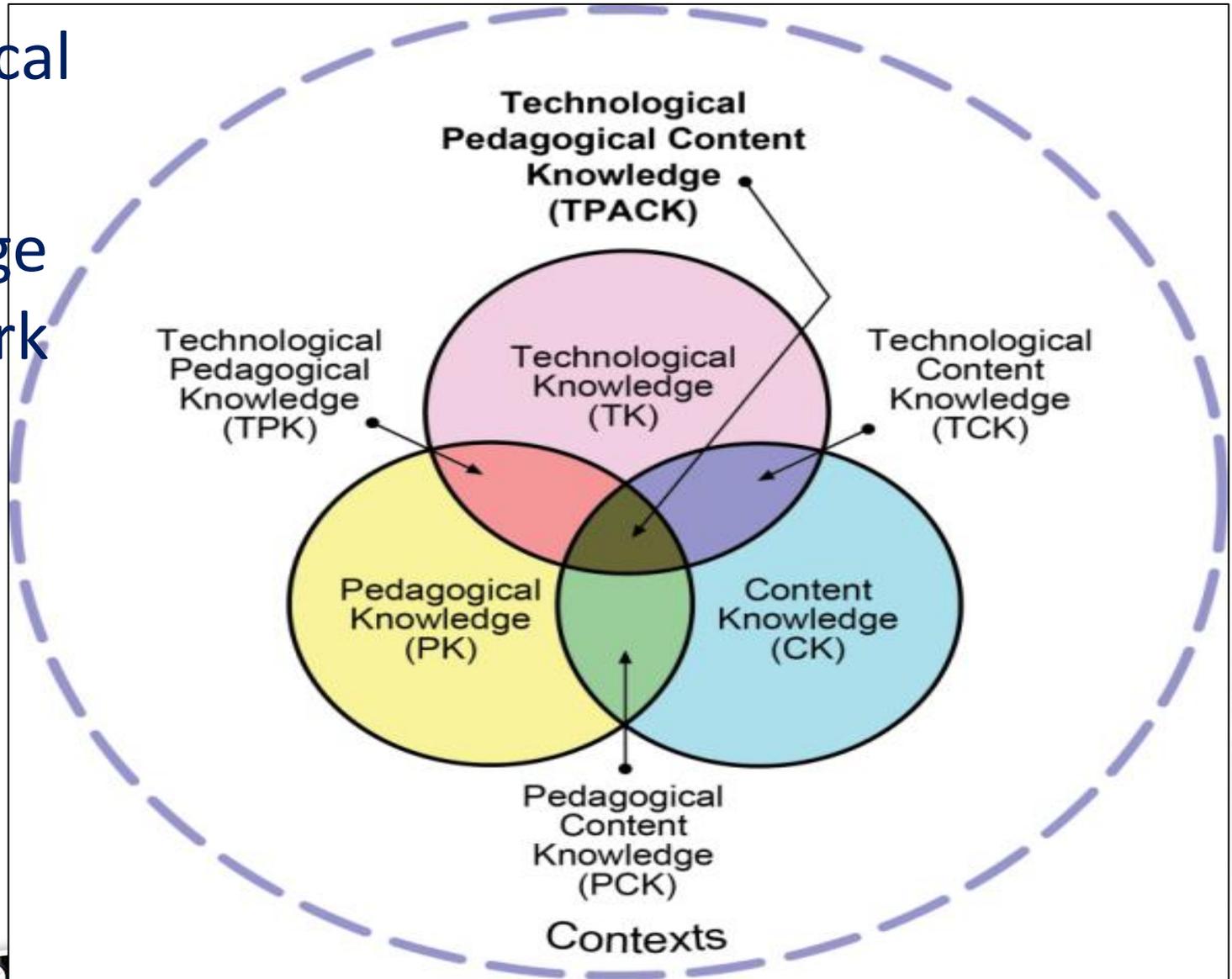
Social cohesiveness

(Prestridge, 2012)

ICT
transforms
pedagogy!



Technological Pedagogical Content Knowledge Framework



EMERGING PEDAGOGIC MODELS



multimedia learning technology-enhanced learning technology-rich learning environments
computer-based instruction computer-based training computer-assisted instruction
computer-aided instruction Internet-based training web-based training online education
virtual education | virtual learning environments digital educational collaboration



EMERGING PEDAGOGIC MODELS

✓ Massive Open Online Courses (MOOCs)



EMERGING PEDAGOGIC MODELS

✓ Open Courseware (OCW)

<https://ocw.mit.edu/>

TOPIC		
Health and Med		es are available within
Humanities		C
Mathematics		
Science		
Social Science		
Society		
Teaching and Ed	<div data-bbox="927 535 1671 1049"> <p>Introduction to Education: Understanding and Evaluating Education</p>  <p>This class uses K-12 classroom experiences, along with student-centered classroom activities and student-led classes, to explore issues in schools and education. Students in this course spend time each week observing pre-college math and science classes. Topics of study include design and implementation of curriculum, addressing the needs of a diversity of students, standards in math and science, student misconceptions, methods of instruction, the digital divide, teaching through different media...</p> <p>View Course</p> <hr/> <p>Instructor(s) Prof. Eric Klopfer</p> <hr/> <p>As Taught In Spring 2009</p> <hr/> <p>Course Number 11.125</p> <hr/> <p>Level Undergraduate</p> <hr/> <p>Features Assignments: activity (no examples)</p> </div>	
Sort Courses by		
Course Number		
Course #		Level
5.95J		Graduate
11.124	Introduction to Education: Looking Forward and Looking Back on Education (Fall 2011)	Undergraduate
11.125	Introduction to Education: Understanding and Evaluating Education (Spring 2009)	Undergraduate
11.126J	Economics of Education (Spring 2007)	Undergraduate
14.771	Development Economics: Microeconomic Issues and Policy Models (Fall 2008)	Graduate
16.A47	The Engineer of 2020 (Fall 2009)	Undergraduate
MAS.963	Technological Tools for School Reform (Fall 2005)	Graduate



EMERGING PEDAGOGIC MODELS

✓ Gamification Digital Game Based Learning



Trail Back

AR Trails

RESPONSIBLE
USE OF SOCIAL MEDIA

Find the QR codes in the following locations

- CHECKPOINT 1**
Ground Floor, Main Library
- CHECKPOINT 2**
Cyber Library
- CHECKPOINT 3**
Maker Space

GoVenture Health

Subjects

- Body Systems** Show Subjects
- Human Development** Hide Subjects
 - ▶ **Personality and Emotions** Scores: 0 Goals: 0/0
 - ▶ **Adolescence** Scores: 0 Goals: 0/16
 - ▶ **Physical Disabilities** Scores: 0 Goals: 0/0
 - ▶ **Learning Disabilities** Scores: 0 Goals: 0/19
 - ▶ **Teen Pregnancy and Parenthood** Scores: 0 Goals: 0/16
- Personal Care** Show Subjects
- Injury Prevention and Safety** Show Subjects
- Disease and Chronic Illness** Show Subjects
- Substance Abuse and Addictions** Show Subjects
- Environmental Health** Show Subjects
- Community Health** Show Subjects

Score
Total: 0

Coins
Total: 0 of 1,129

Subjects
0 of 59

Games
0 of 847

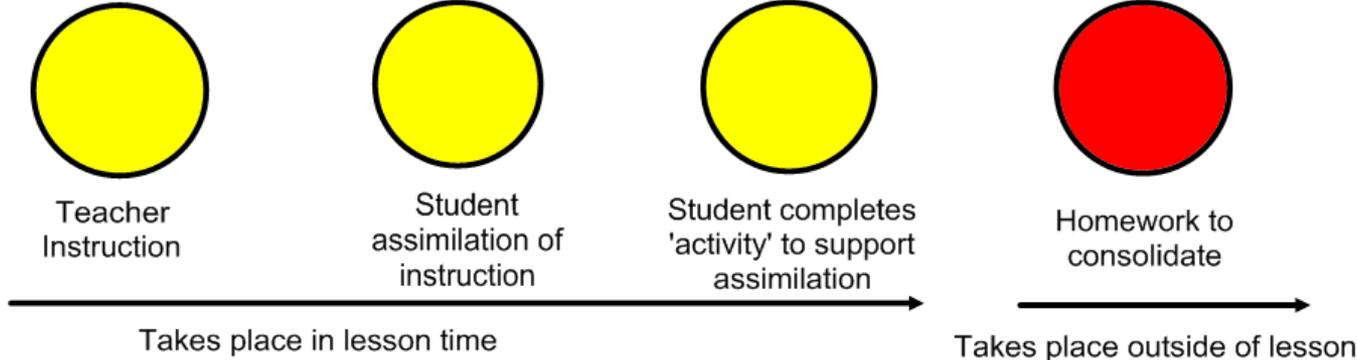
Achievements

Menu

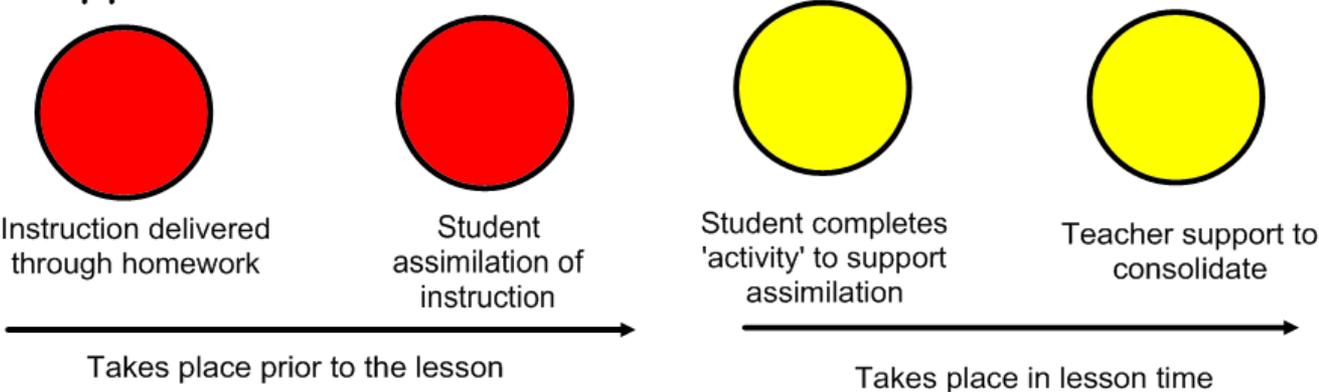


EMERGING PEDAGOGIC MODELS

Traditional Model

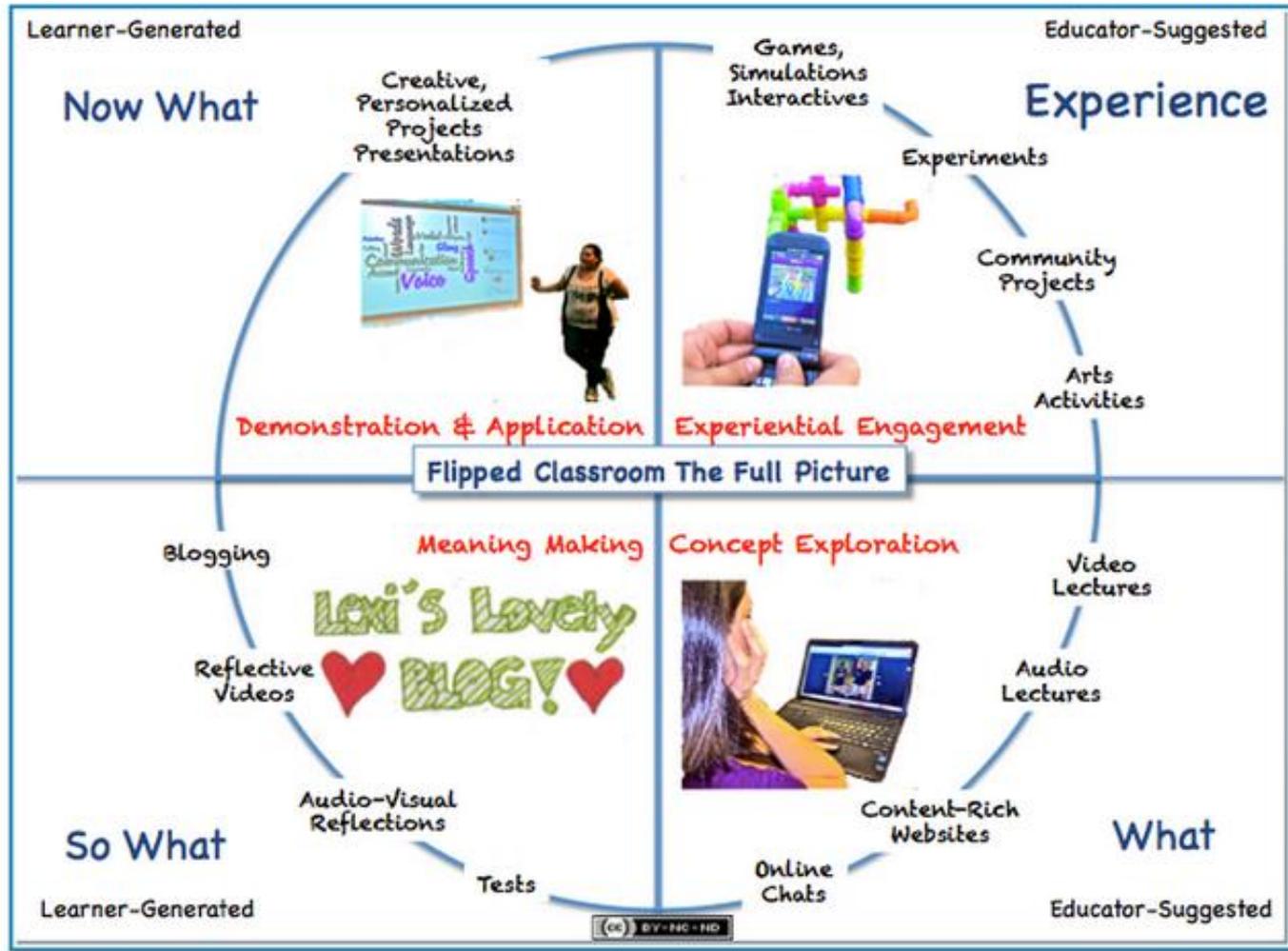


Flipped Classroom Model



EMERGING PEDAGOGIC MODELS

The Flipped Classroom Model



EMERGING PEDAGOGIC MODELS



Technology



Learners



Learning



Mobile Learning



EMERGING PEDAGOGIC MODELS

*small learning units or
short-term learning
activities.*

Here are some microlearning content examples:

- Text (phrases, short paragraphs)
- Images (photos, illustrations)
- Videos (of the short variety)
- Audio (short snippets of speech or music)
- Tests and Quizzes
- Games (e.g. simple single-screen challenges)



<https://atomisystems.com/elearning/microlearning-features-benefits-drawbacks/>



Tools

Basic

- Common hardware technologies
- Office Productivity Tools
- Graphic Software
- multimedia

Complex

- Visualization
- Game-based
- Authoring
- LMS
- Online databases

Pervasive

- Web designing
- Multimedia development
- Publishing
- Collaboration tools
- cloud



TOOLS



Internet of things

Everyday things get connected for smarter tomorrow



TOOLS

Solutions IoT has in education

- 

Communication network
- 

New generation of textbooks
- 

Data collection
- 

Advanced security
- 

Advanced school management



TOOLS

Cloud Technology



TOOLS

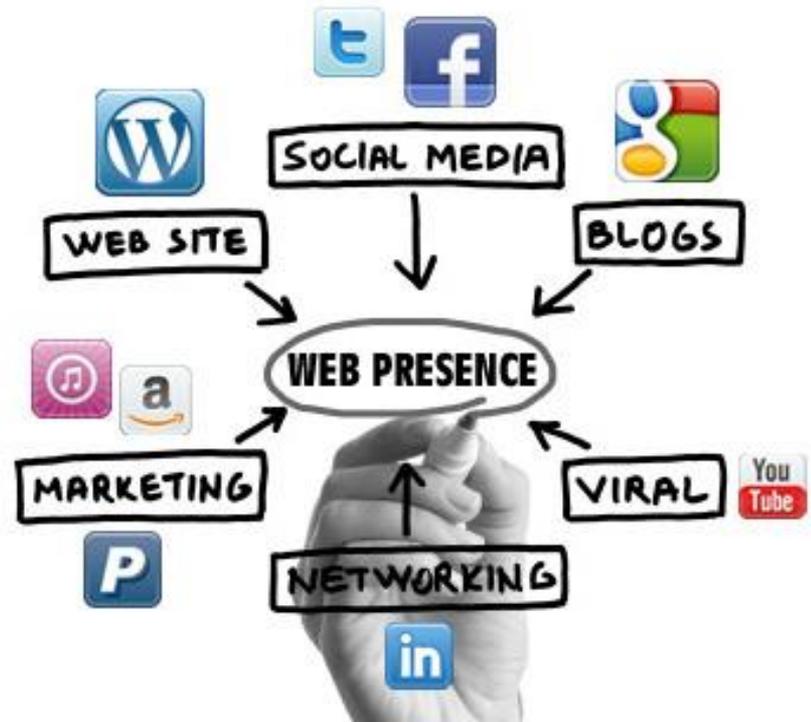
Differentiated Instruction & Universal Design for Learning Tools

technologies for physically challenged



TOOLS

Web 2.0



TOOLS

Collaboration Tools



TOOLS

Communication Tools



TOOLS

Student Assessment Generators

<http://rubistar.4teachers.org/index.php>

Rubrics Maker

Instructions

Below is general data about your rubric.

Ready to go on?

Once you have set up the basic parts of your rubric, please use the link below to proceed.

Build a Rubric - Basic Rubric Information

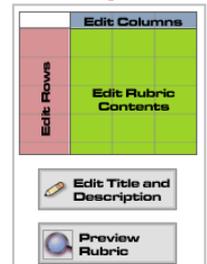
The form below is for basic information about your rubric. Please fill in all fields that are highlighted in blue.

Rubric Title	Multimedia Project : Final Project - Multimedia
Number of Vertical Columns:	4 Please be advised that your rubric currently has 4 vertical columns. You will not be able to specify a number that is less than 4. If you wish to remove columns, you must do so via the Edit Columns screen.
Rubric is Temporary	Yes, my rubric is a temporary rubric When a rubric is marked as Temporary , that means our system knows that your rubric is temporary, and your rubric will be deleted. For demonstration rubrics, you must specify an expiration date below.
Rubric Expiration Date	04 / 17 / 2019 (MM / DD / YYYY) Only rubrics that are designated as Temporary Rubrics will have an expiration date. You may change it by using the pull-down menu. Rubrics will be deleted the day AFTER the expiration date. This means your rubric will still be active on the day that you specify.

 Edit Columns

 Edit Rubric Row Names

Edit Rubric Navigation



Edit Columns

Edit Rubric Contents

Edit Rows

Edit Title and Description

Preview Rubric



TOOLS

Student Assessment Generators

Online Quiz: Google Form, Kahoot, Hot Potatoes

Creating a Quiz



Google Forms

Adjust game settings and choose **Classic** or **Team** mode.



Kahoot!

Foods of the Norwegian fjords

Player vs Player
13 Devices

Team vs Team
Shared Devices

Classic

Team mode

Game options

Enable Answer Storage View details

Poll Everywhere Pricing Take a Tour Help & FAQ

Instant Audience Feedback

How does Poll Everywhere work?

Try voting on a multiple choice poll

Test an open-ended question poll

Watch the demo video

Create your first poll
Take 30 seconds. No setup required.

You ask a question

Audience answers using mobile phones, twitter, or web browser

Responses are displayed live in Keynote, PowerPoint, or the web

What is your favorite animal?

22333

Loon
Turtle
Crampola

Turtle Crampola



TOOLS

Instructional Planner

Syllabus Builder:

http://cei.ust.hk/obe_builder/index.html

OBE Syllabus Builder

My Syllabus *Click and type your syllabus here.*

ILO OBA TLA

Bloom's Taxonomy of Cognitive Outcomes



Level 6: Creating
Level 5: Evaluating
Level 4: Analysing
Level 3: Applying
Level 2: Understanding
Level 1: Remembering

Level 1: After class or programme, learner will be able to:
Retrieve relevant knowledge from long-term memory

Action verbs for ILO statements
Select and click on the action verbs for your ILO statements.

- Arrange
- Collect
- Define
- Describe
- Identify
- Locate
- List
- Name

Examples
On successful completion of this class / programme, students / graduates will be able to

- List the steps for task analysis.
- Name the symptoms for Parkinson Disease.
- Define the term 'progress' as used by military strategists.

Intended Learning Outcomes

Outcome-based Assessment

Teaching and Learning Activities

COPY PRINT

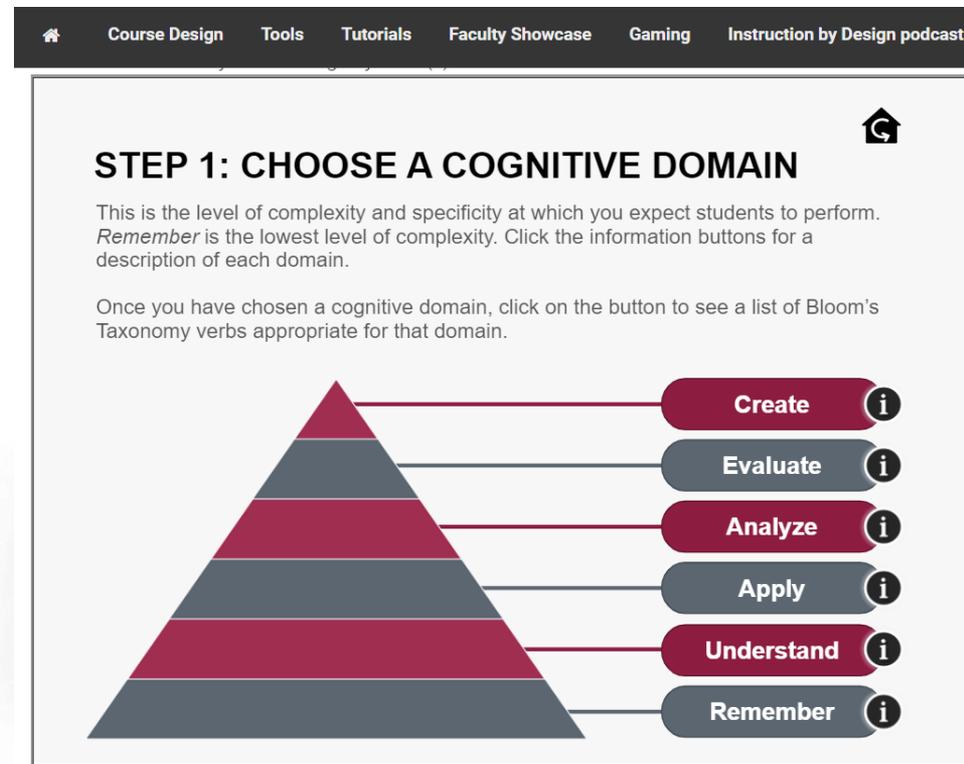


TOOLS

Instructional Planner

Objective Builder

<https://teachonline.asu.edu/objectives-builder>



The screenshot shows the 'Objective Builder' tool interface. At the top, there is a navigation bar with links for 'Course Design', 'Tools', 'Tutorials', 'Faculty Showcase', 'Gaming', and 'Instruction by Design podcast'. The main content area is titled 'STEP 1: CHOOSE A COGNITIVE DOMAIN'. Below the title, there is a paragraph explaining that this is the level of complexity and specificity at which you expect students to perform, with 'Remember' being the lowest level. There are information buttons (i) for each domain. Below this, there is another paragraph stating that once a domain is chosen, clicking the button will show a list of Bloom's Taxonomy verbs appropriate for that domain. At the bottom, there is a pyramid diagram with six levels, each connected to a button with an information icon (i):

- Create (i)
- Evaluate (i)
- Analyze (i)
- Apply (i)
- Understand (i)
- Remember (i)



App Selection Criteria

Remembering Criteria

Remembering: Apps that fit into the "remembering" stage improve the user's ability to define terms, identify facts, and recall and locate information. Many educational apps fall into the "remembering" phase of learning. They ask users to select an answer out of a line-up, find matches, and sequence content or input answers

Understanding Criteria

Understanding: Apps that fit into this "understanding" stage provide opportunities for students to explain ideas or concepts. Understanding apps step away from the selection of a "right" answer and introduce a more open-ended format for students to summarise content and translate meaning.

Applying Criteria

Applying: Apps that fit into the applying stage provide opportunities for students to demonstrate their ability to implement learned procedures and methods. They also highlight the ability to apply concepts in unfamiliar circumstances.

Analyzing Criteria

Analyzing: Apps that fit into the "analysing" stage improve the user's ability to differentiate between the relevant and irrelevant, determine relationships, and recognise the organisation of content.

Evaluating Criteria

Evaluating: Apps that fit into the "evaluating" stage improve the user's ability to judge material or methods based on criteria set by themselves or external sources. They help students judge content reliability, accuracy, quality, effectiveness, and reach informed decisions.

Creating Criteria

Creating: Apps that fit into the "creating" stage provide opportunities for students generate ideas, design plans, and produce products.

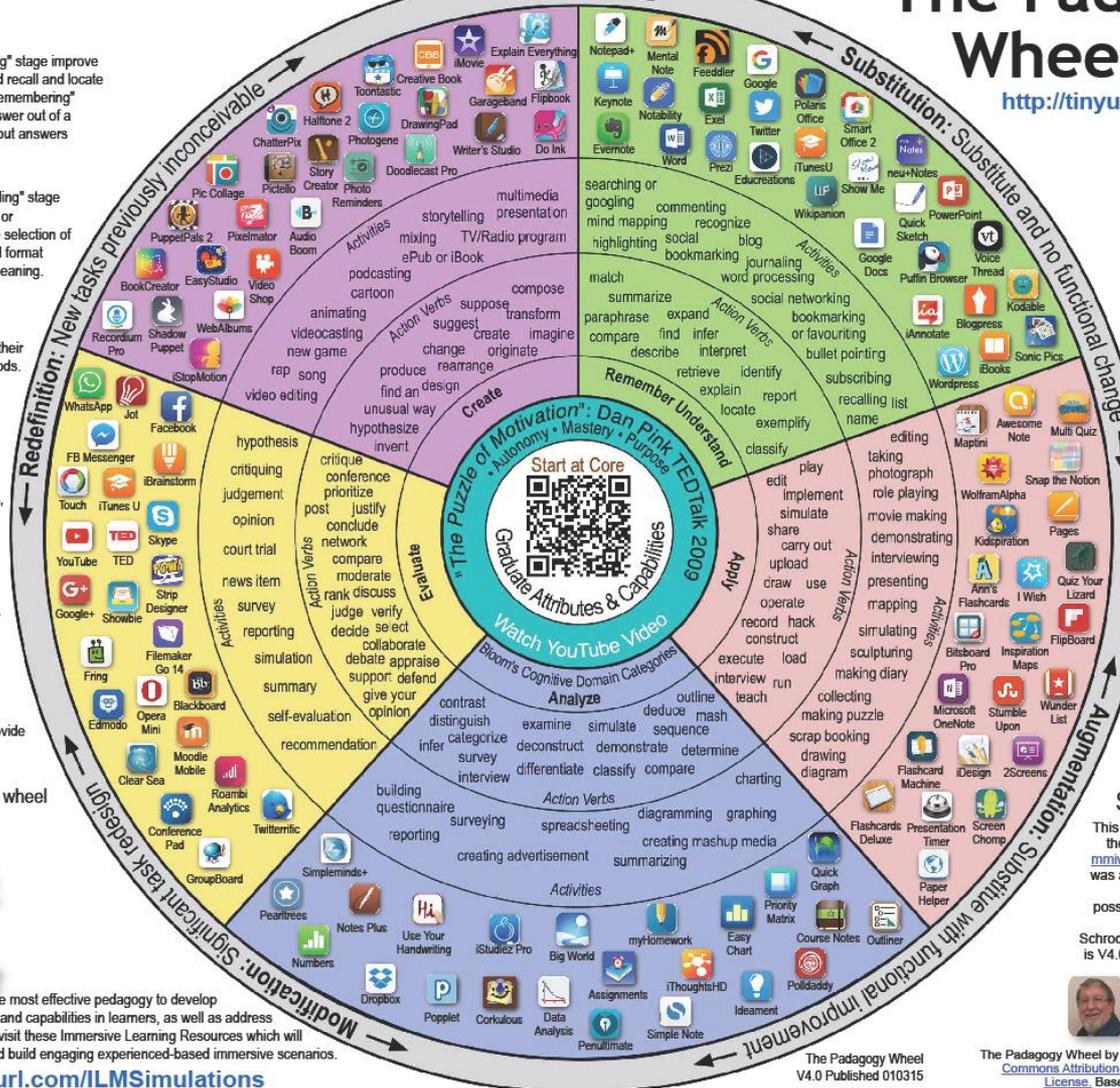
Immersive Learning at the core of the wheel is the New Instructional Design



Simulations are the most effective pedagogy to develop graduate attributes and capabilities in learners, as well as address motivation. Please visit these Immersive Learning Resources which will help you design and build engaging experience-based immersive scenarios.

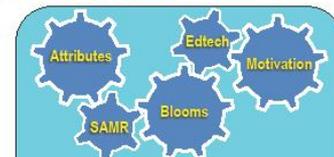
<http://tinyurl.com/ILMSimulations>

SAMR MODEL



The Pedagogy Wheel V4.1

<http://tinyurl.com/posterV4>



Getting the best use out of the Pedagogy Wheel
Use it as a series of prompts or interconnected gears to check your teaching from planning to implementation

The Attributes Gear: This is the core of learning design. You must constantly revisit things like ethics, responsibility and citizenship. Ask yourself the question what will a graduate from this learning experience "look like" i.e. what is it that makes others see them as successful? Ask "how does everything I do support these attributes and capabilities?"

The Motivation Gear: Ask yourself "How does everything I build and teach give the learner autonomy, mastery and purpose?"

The Blooms Gear: Helps you design learning objectives that achieve higher order thinking. Try to get at least one learning objective from each category. Only after this are you ready for technology enhancement.

The Technology Gear: Ask "How can this serve your pedagogy"? Apps are only suggestions, look for better ones & combine more than one in a learning sequence.

The SAMR Model Gear: This is "How are you going to use the technologies you have chosen"?

I would like to thank **Tobias Rodemerk** for the idea of the gears. Tobias is a teacher & works for the State Institute for School Development Baden-Württemberg (LS), Germany

Allan Carrington



The Pedagogy Wheel First Language Project: 21 languages are planned for 2016. For the latest languages see bit.ly/languageproject

Standing on the Shoulders of Giants

This Taxonomy wheel, without the apps, was first discovered on the website of Paul Hopkin's educational consultancy website mmweb.org.uk. That wheel was produced by Sharon Arley and was an adaptation of Kathwohl and Anderson's (2001) adaptation of Bloom (1956). The idea to further adapt it for the pedagogy possibilities with mobile devices, in particular the iPad, For V2.0 and V3.0 I have to acknowledge the creative work of Kathy Schrock on her website **Bloomin' Apps**. For the major revision that is V4.0 I have to thank the team of ADECs who created APPTic: the App Lists for Education Project which has now closed



Developed by Allan Carrington Designing Outcomes
Adelaide South Australia. Email: allan@designingoutcomes.net

The Pedagogy Wheel by Allan Carrington is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-nc-sa/4.0/). Based on a work at <http://tinyurl.com/bloomsblog>



The Pedagogy Wheel
V4.0 Published 010315



TOOLS

Instructional Planner

Mobile Class Record

<http://www.davemarcial.net/download.html>



Downloading & Installing mClassRecord

Understanding the Home Screen

Viewing Dictionary of Education Terms

Adding Students

Creating Courses

Checking Attendance

Adding Groups

Adding Tasks

Scoring

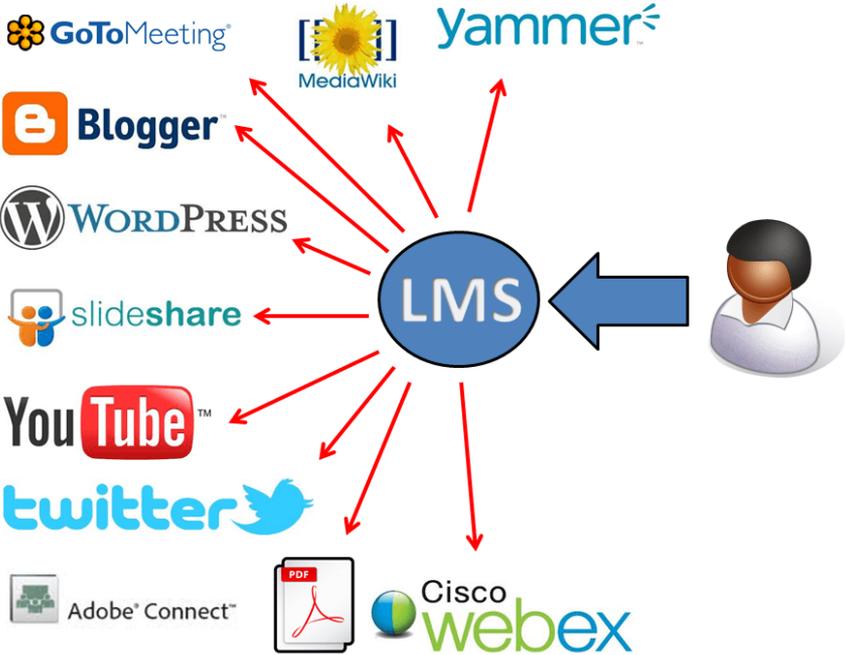
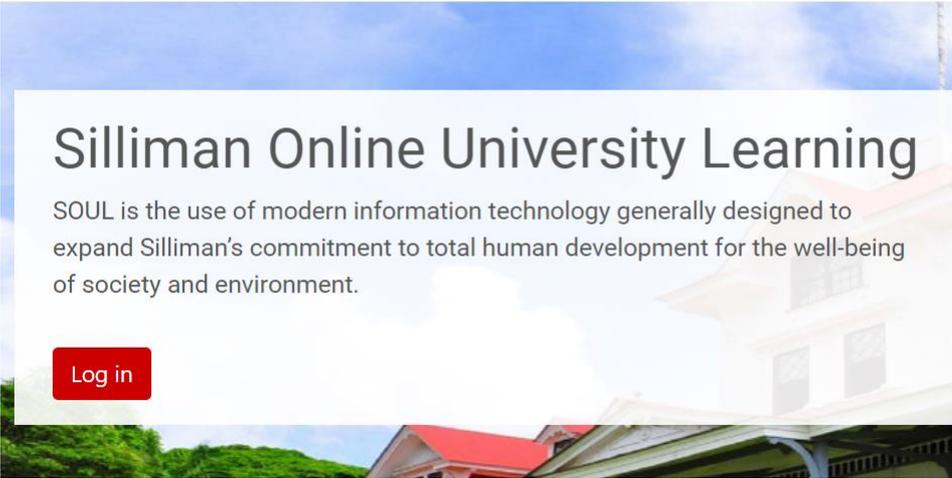
Back-up and Emailing files



TOOLS

Learning Management System

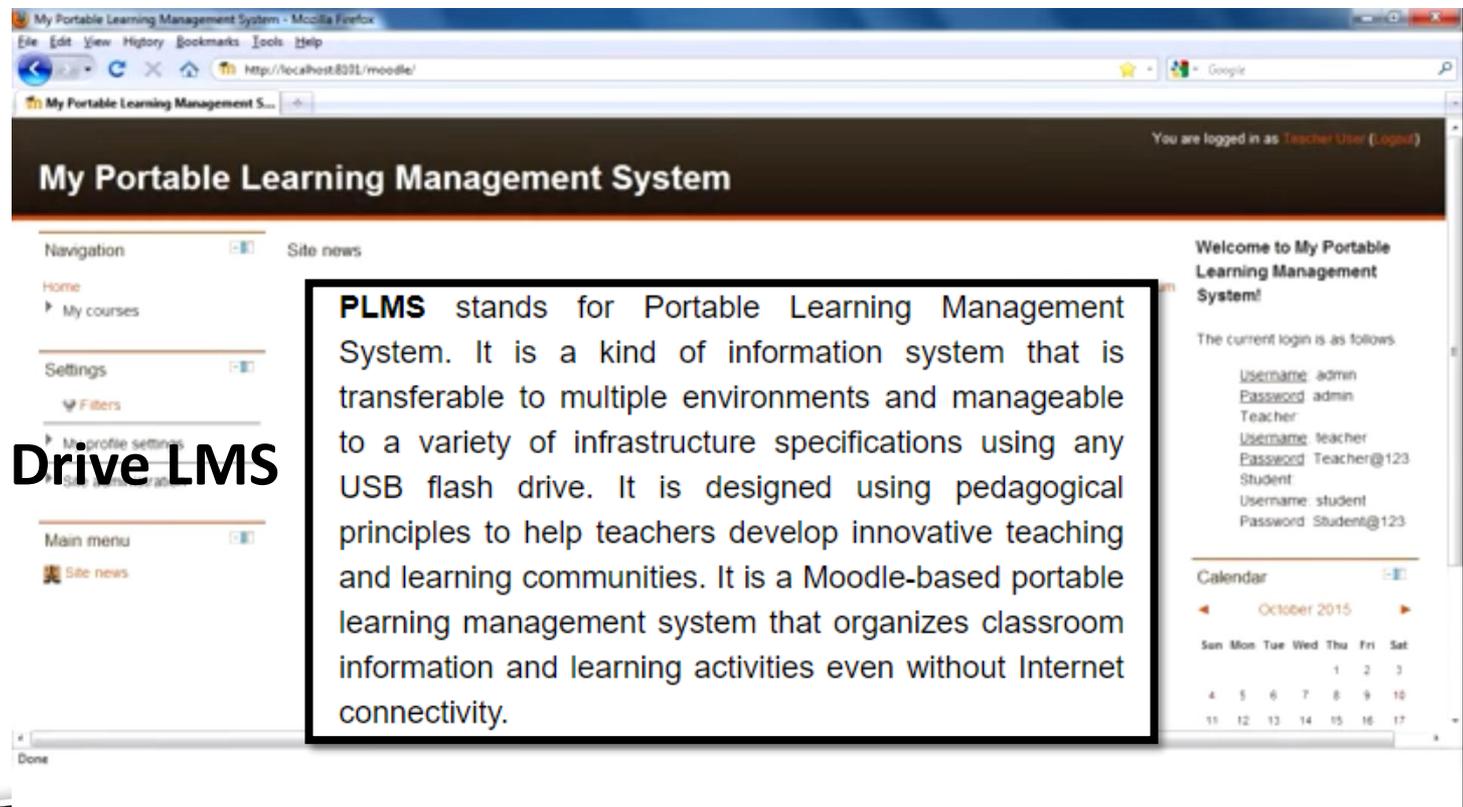
Silliman Online University Learning



TOOLS

Learning Management System

<http://www.davemarcial.net/download.html>



My Portable Learning Management System

You are logged in as **Teacher User** (Logout)

Navigation | Site news

Home
My courses

Settings | Filters

My profile settings
Site news

Main menu | Site news

PLMS stands for Portable Learning Management System. It is a kind of information system that is transferable to multiple environments and manageable to a variety of infrastructure specifications using any USB flash drive. It is designed using pedagogical principles to help teachers develop innovative teaching and learning communities. It is a Moodle-based portable learning management system that organizes classroom information and learning activities even without Internet connectivity.

Welcome to My Portable Learning Management System!

The current login is as follows:

Username: admin
Password: admin
Teacher

Username: teacher
Password: Teacher@123
Student

Username: student
Password: Student@123

Calendar | October 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	
4	5	6	7	8	9	10
11	12	13	14	15	16	17

USB-flash Drive LMS



TOOLS

and many, many, more...

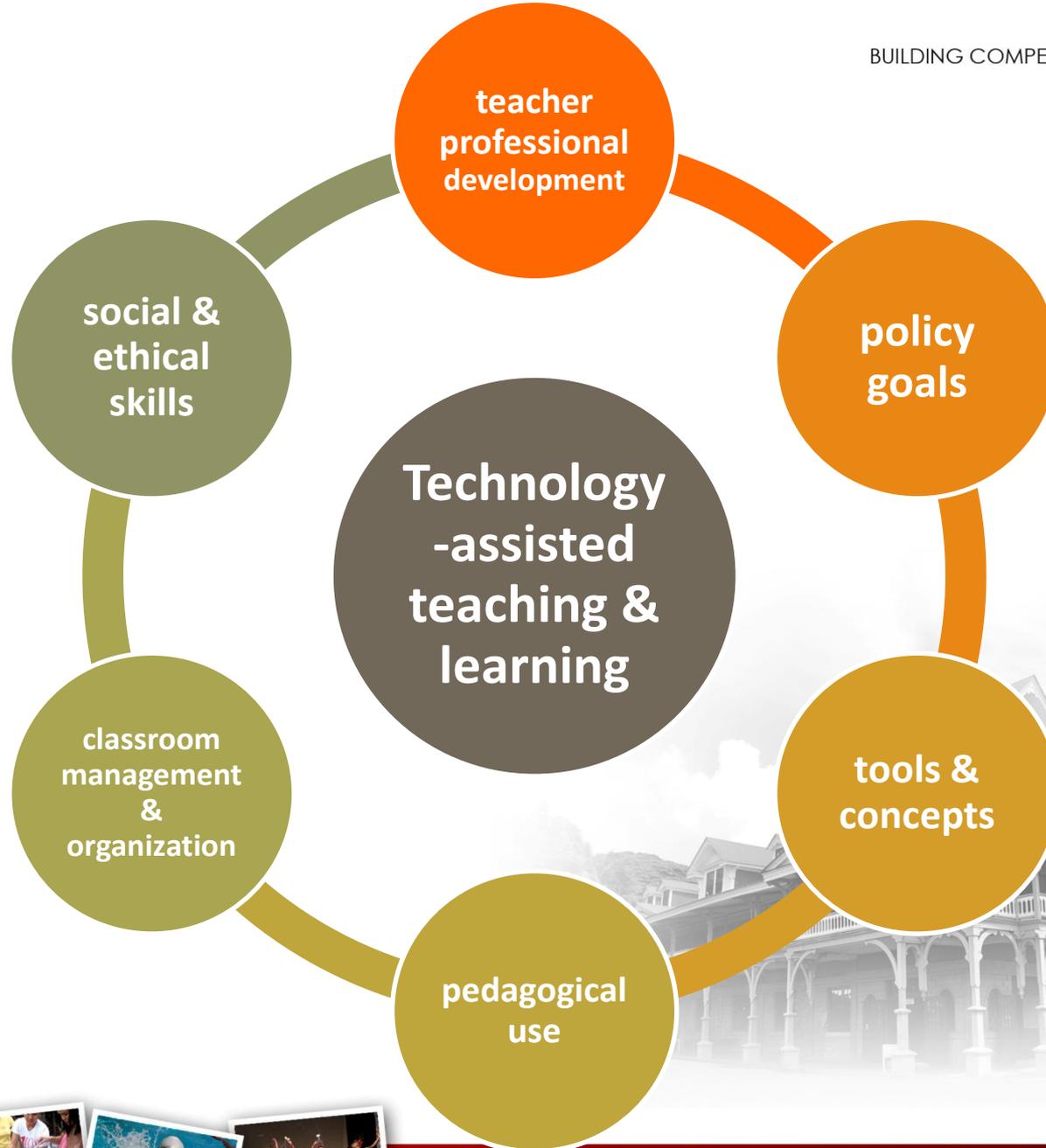


SUMMARY

Technology-enhanced teaching-learning is multifaceted. Diverse!

It is coupled with many theoretical and learning perspectives.





Marcial (2013)



SUMMARY

Pedagogy

Content



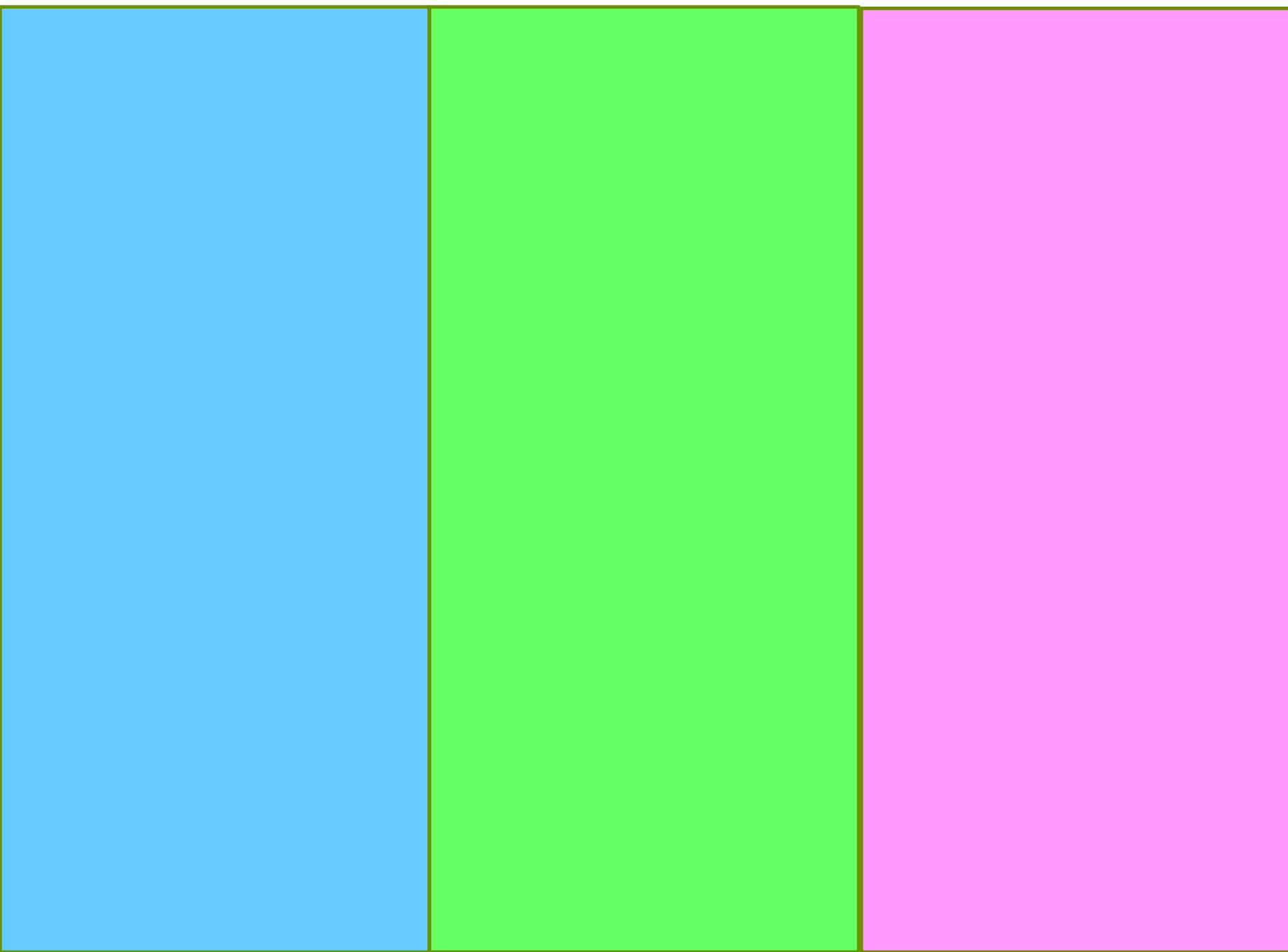
Student-centered

Technology



the 3 groups of teachers





Technology-enhanced teaching-learning is like the movie
“50 Shades of Grey”.

either you are the
submissive or the
dominant.





June 10, 2020 Wednesday
11am-12:30 pm Manila, Philippines
Registration via Zoom

UP Department of Computer Science (DCS) & Computing Society of the Philippines (CSP) Webinar #7

"Understanding Technology-enhanced Flexible Learning"

This webinar presents the foundations of flexible learning. It aims to revisit the different forms of flexible learning. Technology-supported flexible learning will be explored during the webinar with the emphasis on online learning design options. Digital tools to support flexible learning will be presented, highlighting some tools that will mitigate internet connectivity issues.



Dr. Dave E. Marcial
Director, Silliman Online University Learning
Silliman University

Understanding Technology-enhanced Flexible Learning

www.davemarcial.net



SILLIMAN UNIVERSITY
www.su.edu.ph

Some photos and graphics used in this presentation are downloaded/captured from the web and all are owned by their respective owners.



SILLIMAN UNIVERSITY
www.su.edu.ph

