



# **Design for a More Dynamic 21<sup>st</sup> Century Education**

**Enhancing Teacher-Learner Relationship**

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# Outline of Presentation

- Introduction
- Purpose of the Study
- The Notion of 21<sup>st</sup> Century Education
- Reforming 21<sup>st</sup> Education
- Finding Context-Specific Framework
- Suggestions for Equipping Teachers

# Introduction

- Education in tertiary institutions operates in exciting but challenging times.
- Reform covering national/school policies, curriculum development, pedagogies, learning environment and the like has been put under scrutiny.
- Is reform being undertaken responsive to the demands of 21<sup>st</sup> century education?
- Since teacher competence is central to 21<sup>st</sup> century learning, does teacher training address the critical issue of equipping teachers with the requisite knowledge and skills (and correct values as well)?



# Purpose of the Study

- Gain an understanding of 21<sup>st</sup> century education relative to reform measures from developing country perspective.
- Offer some suggestions on teacher training for new competencies given challenges in 21<sup>st</sup> century education.



# Understanding 21<sup>st</sup> Century Education

- 21<sup>st</sup> Century Education – a dynamically changing but amorphous notion of teaching and learning activities where traditional production and dissemination (or sharing) of knowledge, skills, and values are combined with or replaced by innovative approaches.



# Understanding 21<sup>st</sup> Century Education

- Generally linked to the concept of 21<sup>st</sup> century skills.
- 21<sup>st</sup> century skills – a broad range of skills deemed critically important for a person's success in the present time; similarly amorphous in character; no universally agreed set established; highly contextual.

# Reform for 21<sup>st</sup> Century Education

- Requires understanding the authentic role and mandate of education in society
- Reforming teacher training for 21<sup>st</sup> century education begs the question: what are the appropriate skills teachers need to overcome the challenges of the 21<sup>st</sup> century education and make them competent agent for knowledge production and dissemination.

# Factors Influencing Reform

- Increasing employment of part-time faculty.
- Slow move towards regionalization and/or internationalization.
- Growing influence of market-driven factors in education reform.
- Cooperation and/or competition with traditional and online learning institutions.
- For the Philippines:
  - implementation of K-12 system
  - shift to outcome-based learning approach



# The Essential Mandate of Education

- The one continuing purpose of education, since ancient times, has been to bring people to as full a realization as possible of what it is to be a human being. (Foshay, 1991)
- To develop lifelong learners who can survive and thrive in a global knowledge economy and have the capability to effectively and creatively apply skills and competencies to new situations in a dynamically changing world. (The World Bank, 2003)
- Shape human beings (Moeller, 2016)

# The Essential Mandate of Education

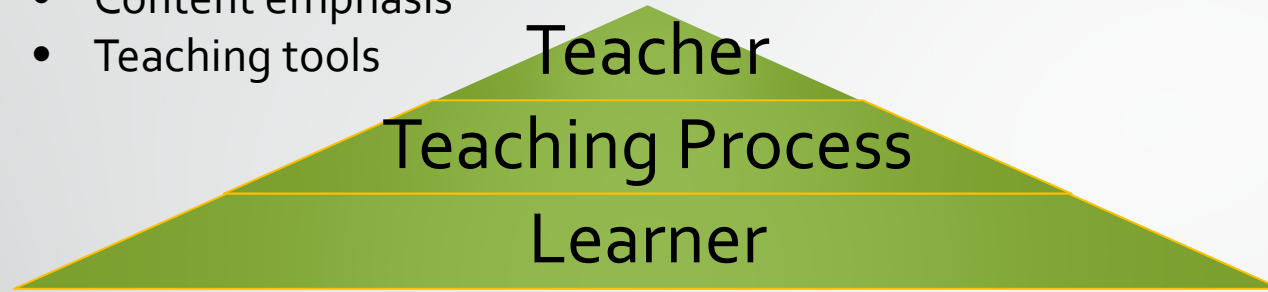
Expressed in terms of measurable goal and targets (UNESCO, 2014):

- Ensure equitable and inclusive quality education and lifelong learning for all by 2030.
- All learners acquire knowledge, skills, values and attitudes to establish sustainable and peaceful societies through global citizenship education and education for sustainable development.

# Shift of Focus

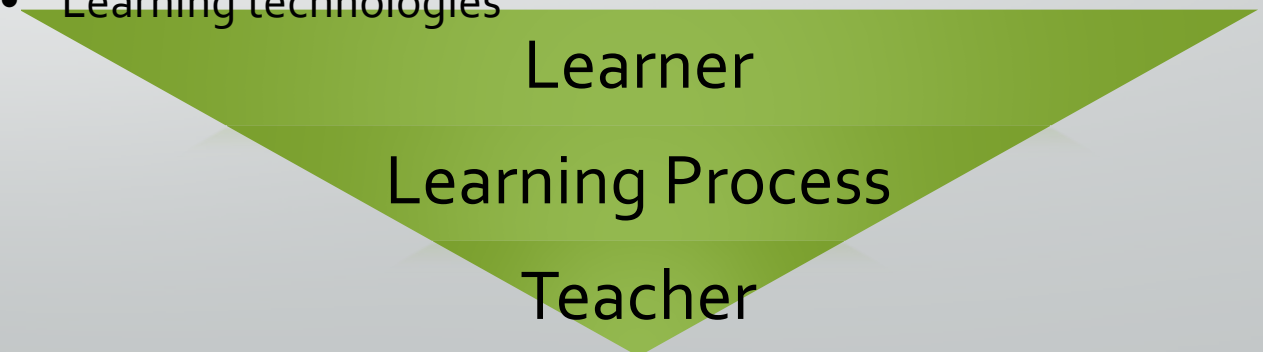
Then:

- Teacher-driven
- Content emphasis
- Teaching tools



Now:

- Student-centered
- Process emphasis  
(outcome-based learning)
- Learning technologies



# Evolutionary Emphasis of Education

## *Learning Shift:*

Knowledge accumulation



Industrial skills



Knowledge, skills, and values



Competencies

## *Learning Application:*

Agricultural Economy

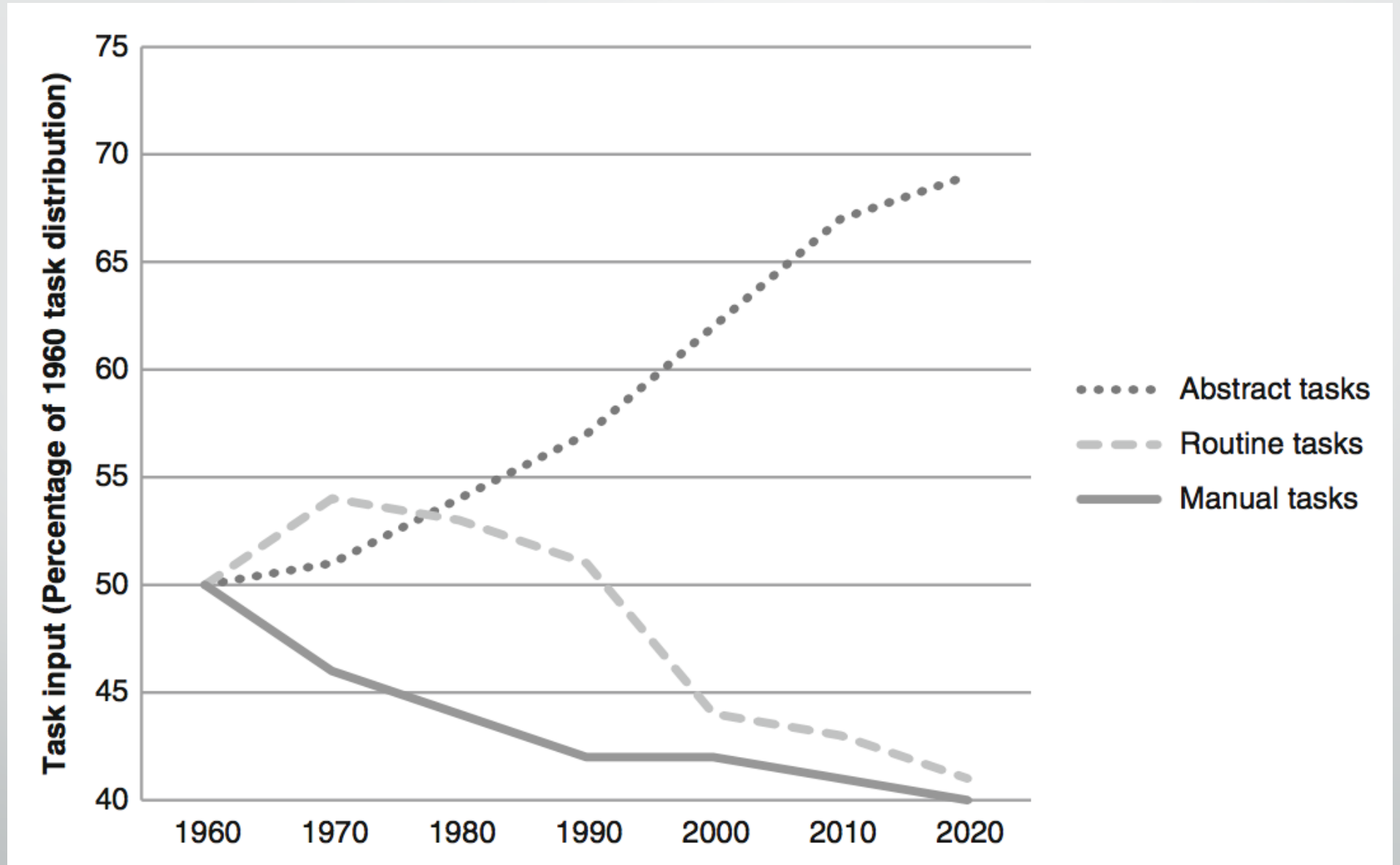


Industrial Economy



Knowledge Economy

## Shift in the Structure of Workforce



Source: Autor et al (2003)

# The Imperative of Education Reform

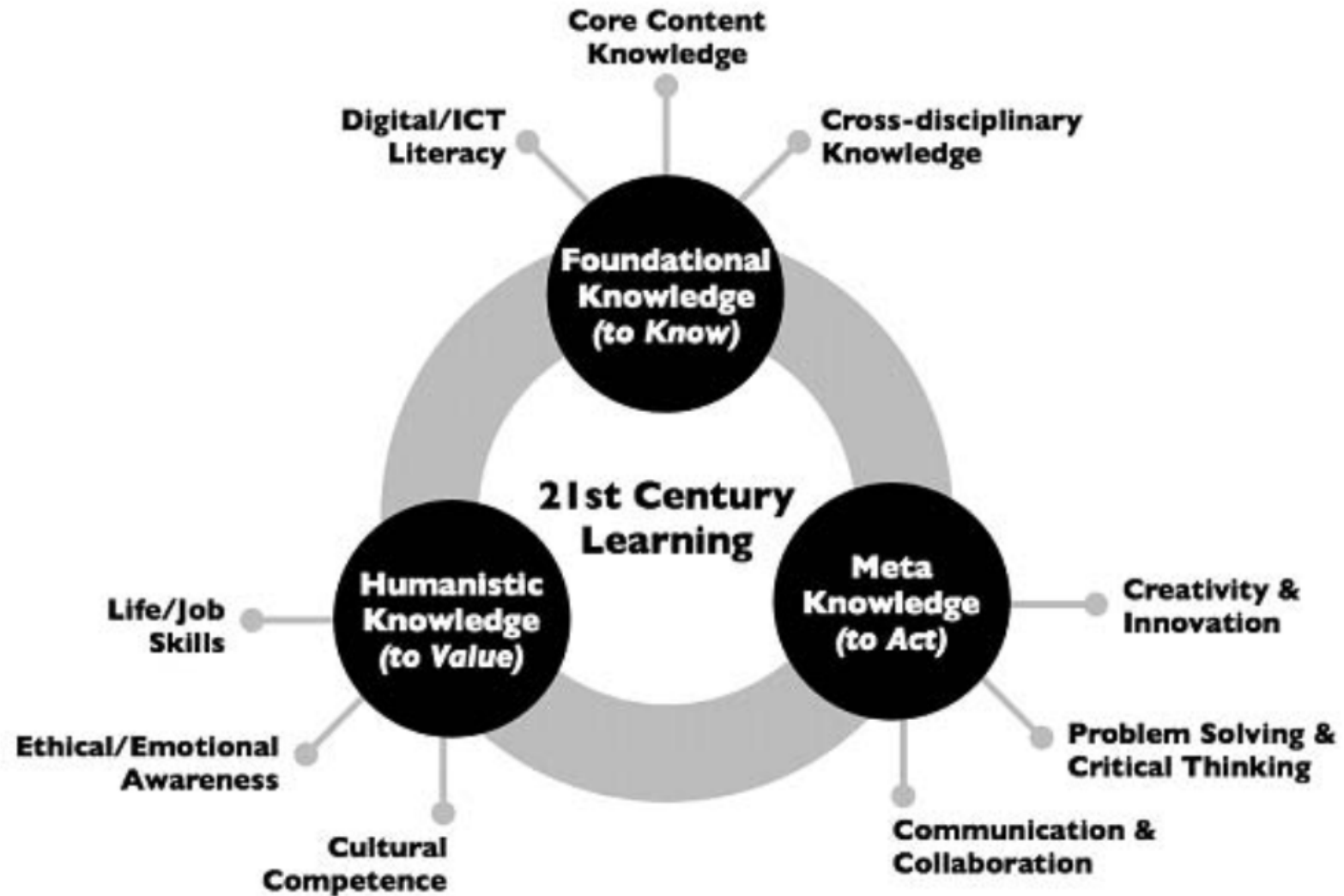
- Developments in knowledge economy moving faster than education reform.
- Thus, the so-called “skills mismatch”.
- Stakeholders should determine in their own context both broad and specific models for education reform.
- A good starting point: existing frameworks of competencies.

## Comparison of Competency Frameworks

General categories		Communication	Citizenship & social	Information skills &	Digital literacies	Creativity & innovation	Critical thinking	Sociocultural sensitivity	Autonomy & leadership	Learning to learn &	Productivity	Entrepreneurship	Life & career	Math & Science
Framework														
1.	DeSeCo/OECD 1997-2003	✓	✓	✓	✓								✓	
2.	NETS•S/ISTE 1998-2007	✓	✓	✓	✓	✓	✓							
3.	NCREL & Metiri Group 2003	✓		✓	✓	✓					✓			
4.	European Community 2006	✓	✓		✓			✓	✓	✓		✓		✓
5.& 6.	P21, 2007 & Trilling and Fadel, 2009	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		
7.	OECD countries 2009	✓	✓	✓										
8.	ATCS 2010	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	
9.	Hewlett Packard 2010	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
10.	21st Century Competencies Singapore, 2010	✓	✓	✓		✓	✓	✓						

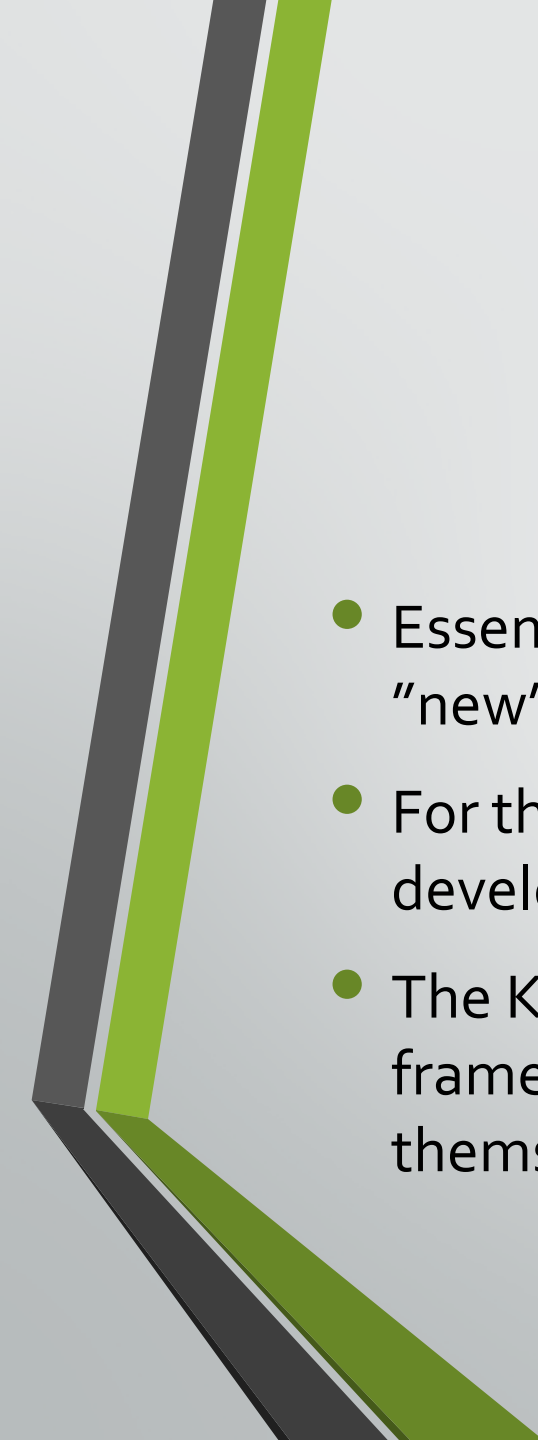
Source: Salas-Pilco (2013)

# A Synthesis of 21<sup>st</sup> Century Learning Competency Frameworks



Source: Kereluik et al (2013)



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- Essential to reform for 21<sup>st</sup> century education is establishing a framework for “new” types of knowledge.
  - For this study, the framework showing 3 general types of knowledge developed by Kereluik et al (2013) is adopted.
  - The Kereluik framework represents an integration of 15 different frameworks showing common themes and knowledge domains among themselves.

# Devising an Ideal Framework

- Frameworks that have come out – useful in formulating context-based framework for a given educational system.
- For the framework to be sustainable, all key stakeholders – policymakers, educators, parents, students, and the job markets – should actively participate in determining which elements are deemed responsive and need to be acted upon to foster 21<sup>st</sup> century skills

# The KSAVE Model

## *Ways of Thinking*

1. Creativity and innovation
2. Critical thinking, problem solving, decision making
3. Learning to learn, metacognition

## *Ways of Working*


4. Communication
5. Collaboration (teamwork)

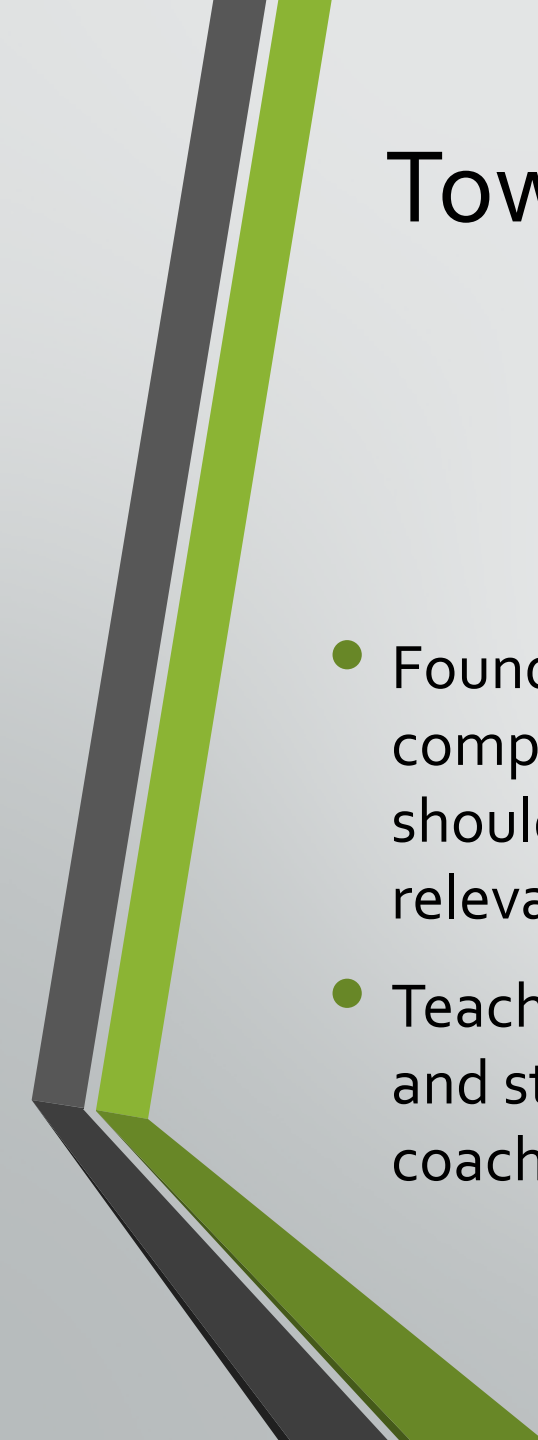
## *Tools for Working*

6. Information literacy (includes research on sources, evidence, biases, etc.)
7. ICT literacy

## *Living in the World*

8. Citizenship – local and global
9. Life and career
10. Personal and social responsibility – including cultural awareness and competence

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- In the final analysis, learners welfare as active and productive members of society - the primordial concern in crafting policies and strategies.
  - Thus, rules, policies, and strategies in education - tweaked according to the compelling requirements of that society.



# Towards a Specific Teacher Training Program for 21<sup>st</sup> Century Education

- Foundational knowledge in a given domain is a must for teacher competence. Aside from strong foundation in his discipline, a teacher should be able to cross-over and relate his expertise in the field with relevant issues in other disciplines.
- Teacher can no longer confine his role as traditional sharer of knowledge and still claim as being effective. At times, he has to co-learn, facilitate, coach, inspire, and advise.

# Three Generic Competencies

With clear paradigm shift from self-contained to distributed system of knowledge production/dissemination, 21<sup>st</sup> century education demands of teachers to

- be more adept at communication and collaboration in network setting;
- be able to understand and develop among his students a creative and innovative mindset and engage them in critical thinking at every turn.
- be able to inspire and develop the “affect” side of learning.

# Specific 21<sup>st</sup> Century Skills for Teachers

- Able to lead his students to reflect domain knowledge relative to the “big picture” – e.g. socio-political, economic, ecological, and regional developments.

## Case Study: **Ateneo Immersion Program (AIP)**

AIP provides students across disciplines with a wealth of concrete experiences that helps them to grow in social engagement and responsibility and to develop the capacity for critical thinking.

AIP is an integral part of the Junior Experience. Through AIP, the students are able to engage the people from various sectors and communities around them by stepping into their shoes and experiencing their way of life. Teachers help students draw practical lessons and reflect on how the immersion changed their perspectives.

# Specific 21<sup>st</sup> Century Skills for Teachers

- Be able to relate theoretical principles to practical applications and assist learner find his/her research philosophy and orientation.

*Case Study:* DBA students in DLSU Graduate School of Business are encouraged to find their respective research orientation and philosophy consistent with their belief system and assumptions.



# Specific 21<sup>st</sup> Century Skills for Teachers

- Teacher's research skill should include ability to engage in or interpret big data analytics.

## Case Study: **SAGE-Essex Survey on Big Data Research (Sept 2016)**

Findings: Of 9,412 respondents from different social science disciplines across the globe, 33% said they have engaged in big data research. Of those who said they have not yet done any, almost 50% said they will undertake such research in the future.

Big data analytics, which involves running massive data on software to gain insights on trends or behavior, will gain prominence as a field of research in the near future. Among respondents, 272 were involved in such project 5 years ago. This figure jumped to 1,799 as being engaged in big data research over the last 12 months.

*Ateneo colleague, Dr John Wong, named 2016 Roux Prize awardee by University of Washington due to his big data research findings on public health*

# Specific 21<sup>st</sup> Century Skills for Teachers

- Has adequate understanding of brain science and the brain's capacity to innovate.

## Case Study: **Navotas City Palihan Program**

Three professors teamed up with the mayor of this Metro Manila suburban city to train trainers, who in turn train the city youth in music, visual arts, and sports, applying innovative training approach. Basic argument: Study of arts develop a creative mindset among learners.

*Training example 1:* In basketball, participant gets an appreciation on how the brain "wires" repetitive exercises for accurate shooting. Imaginary shooting forms part of the exercise regimen. First cohort improved shooting accuracy by 30% after 3 weeks.

*Training example 2:* In music and visual arts, participants are given AV presentation on how a creative mind develops and how regular practice in arts or music application can heighten the level of creativity.

# Specific 21<sup>st</sup> Century Skills for Teachers

- Has the basic skill to storytell.

## Case Study: Rotary Academy Training the Trainers Program

RI District 3830 Philippines recruits district trainers for the Rotary Academy. In the training proper, participants gain understanding on the importance of lifelong learning in community work and volunteerism. They go through rigorous training on how to engage in effective conversation and moderate/facilitate group discussion. Emphasis is given on becoming a facilitator rather than a lecturer. Techniques on storytelling for adult audience are also part of the training program.

Stephen Denning, former World Bank executive, now corporate guru:

*“Having spent my life believing in the dream of reason, I was startled when I stumbled on the discovery that an appropriately told story had the power to do what rigorous analysis couldn’t – to communicate a strange new idea easily and naturally, and quickly get people into enthusiastic action.”*

# For Further Research

- Conduct survey among key stakeholders (in the country and region) to determine which specific skills they consider as imperative for competence and competitiveness in the 21<sup>st</sup> century.
- Undertake a more in-depth study to formulate a relevant and responsive teacher training program that will result in enhancing learner's ability to assimilate 21<sup>st</sup> century skills and competencies.



Thank you!