



Republic of the Philippines  
**Department of Education**  
REGION III  
SCHOOLS DIVISION OFFICE OF BATAAN

JUN 15 2022

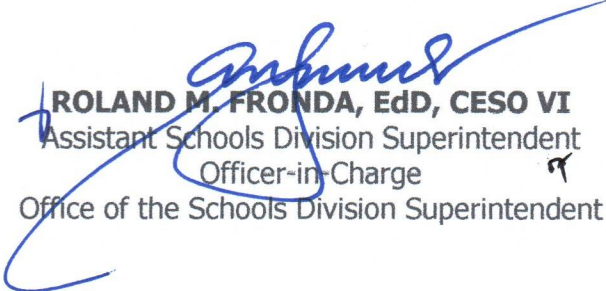
**DIVISION MEMORANDUM**

No. 230, s. 2022

**TRAINING WORKSHOP IN INCLUSIVE SCIENCE EDUCATION FOR  
LINGUISTIC AND CULTURAL DIVERSITY**

To: Assistant Schools Division Superintendent  
Chiefs of Division, CID and SGOD  
Education Program Supervisors  
Public Schools District Supervisors  
Public Elementary and Secondary School Principals  
All Others Concerned

1. This Office announces the **Training Workshop in Inclusive Science Education for Linguistic and Cultural Diversity** that will be facilitated by the Philippine Normal University on July 19, 20, 21, 25 and 27, 2022 from 1:00 p.m. to 5:00 p.m. for synchronous sessions; and July 28 to August 15, 2022 for asynchronous sessions; and August 16, 2022 for Closing Activity, via Zoom Video Conferencing.
2. The activity aims to:
  - a. provide help in the aspect of retooling science faculty members teaching in the preservice to promote inclusive and quality science education of teacher education programs; and
  - b. create a consortium of science educators/teachers who will promote advancement in Science to improve quality, sustainability, and inclusivity in Science Education at the basic education level.
3. All Science Department Heads, Elementary District Science Coordinators, and Junior and Senior High School Science Coordinators are invited to participate in the said event. The training is free of charge.
4. Attached is the DepEd Advisory No. 084, s. 2022 and the letter from Dr. Bert J. Tuga, Program of Activities, List of Speakers, Syllabi of Topics, for reference and other details.
5. Immediate dissemination of and strict compliance with this Memorandum is desired.

  
**ROLAND M. FRONDA, EdD, CESO VI**  
Assistant Schools Division Superintendent  
Officer-in-Charge  
Office of the Schools Division Superintendent

17  
June 14, 2022

Reference:

DepEd Advisory 084, s. 2022  
dated June 7, 2022

*"We Mould Heroes"*

Address: Bataan Provincial Capitol Compound, Balanga City 2100 Bataan | Telephone / Fax: (047) 237-2102  
Email Address: [bataan@deped.gov.ph](mailto:bataan@deped.gov.ph) | Website: [www.depedbataan.com](http://www.depedbataan.com) | Facebook Page: [www.facebook.com/DepedBataan](https://www.facebook.com/DepedBataan)



CSC PRIME-HRM BRONZE AWARD  
CSC Resolution No. 2001100



Republic of the Philippines  
**Department of Education**  
REGION III-CENTRAL LUZON

**ADVISORY**

No. 084 s. 2022

To : **SCHOOLS DIVISION SUPERINTENDENTS**

From : **MAY B. ECLAR, PhD, CESO III**  
Regional Director

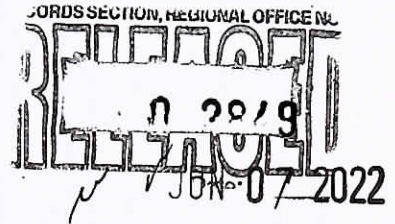
Subject : **TRAINING WORKSHOP IN INCLUSIVE SCIENCE EDUCATION  
FOR LINGUISTIC AND CULTURAL DIVERSITY**

Date : June 6, 2022

1. The Philippine Normal University, as the National Center for Teacher Education and a champion of teacher quality, will be conducting an intensive **Training Workshop in Inclusive Science Education for Linguistic and Cultural Diversity** on July 19, 20, 21, 22, 25, and 27, 2022, (synchronous sessions) from 1:00 p.m. to 5:00 p.m.; July 28 to August 15, 2022, (asynchronous sessions as per schedule with mentors); and August 16, 2022, (Closing Activity), via Zoom Video Conferencing.
2. The activity aims to:
  - a. provide help in the aspect of retooling science faculty members teaching in the preservice to promote inclusive and quality science education of teacher education programs; and
  - b. create a consortium of science educators/teachers who will promote advancement in science to improve quality, sustainability, and inclusivity in science education at the basic education level.
3. Interested science teachers are invited to participate in the said event. The training is free of charge.
4. Attached are the letter from Dr. Bert J. Tuga, Program of Activities, List of Speakers, and Syllabi of Topics for reference and other details.
5. For concerns and inquiries, you may contact the service provider at [esta@pnu.edu.ph](mailto:esta@pnu.edu.ph).
6. For information.

Encls.: as stated

Clmd10







**PHILIPPINE NORMAL UNIVERSITY**  
The National Center for Teacher Education  
**OFFICE OF THE UNIVERSITY PRESIDENT**

📍 Taft Avenue corner Ayala Boulevard, Ermita, Manila

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✉ [president@pnu.edu.ph](mailto:president@pnu.edu.ph)

May 31, 2022

**DR. MAY B. ECLAR**

*Regional Director*

**Department of Education – Region III**

Maimpis, City of San Fernando, Pampanga


**Dear Regional Director Eclar:**

The Philippine Normal University, as the National Center for Teacher Education and a champion of teacher quality, will be conducting an intensive **Training Workshop in Inclusive Science Education for Linguistic and Cultural Diversity**. We envision that this will help in the aspect of retooling science faculty members teaching in the preservice in order to promote inclusive and quality science education of teacher education programs. We foresee this program as a venue to create a consortium of science educators/teachers who will promote advancement in science to improve quality, sustainability, and inclusivity in science education at the basic education level.

In view of this, we would like to request for an endorsement from DepEd Region III of the aforementioned training program for Science Teachers, which may accommodate up to 500 participants via Zoom Video Conferencing. Please find attached the required documents, for your review and consideration.

Thank you in anticipation of your positive response to our request.

Very truly yours,

  
**BERT J. TUGA, PhD**  
*President*



Founder & Permanent Secretariat  
Association of Southeast Asian Teacher  
Education Network



Lead Convener  
National Network  
of Normal Schools



Republic of the Philippines  
Congress of the Philippines  
Metro Manila

Fourteenth Congress

Second Regular Session

Begun and held in Metro Manila, on Monday, the twenty-eighth day  
of July, two thousand eight.



[ REPUBLIC ACT NO. 9647 ]

AN ACT DESIGNATING THE PHILIPPINE NORMAL UNIVERSITY  
AS THE COUNTRY'S NATIONAL CENTER FOR TEACHER  
EDUCATION, APPROPRIATING FUNDS THEREFOR, AND FOR  
OTHER PURPOSES

*Be it enacted by the Senate and House of Representatives of the  
Philippines in Congress assembled:*

SECTION 1. *Title.* — This Act shall be known as the  
"Philippine Normal University Modernization Act of 2009".

SEC. 2. *Declaration of Policy.* — It is hereby declared  
the policy of the State to give priority to the continuing  
professional training and development of all Filipino teachers  
and optimize the potentials of the country's teaching force to  
increase access to, promote equity in, and improve the quality

of basic and higher education. The State shall likewise give priority to studies in education with emphasis on innovations and alternative systems and their utilization and application to teacher training and development.

**SEC. 3. *National Center for Teacher Education.*** — This Act designates the Philippine Normal University (PNU) as the National Center for Teacher Education. As such, the PNU, in addition to the powers and functions provided for in its charter, shall perform the following:

(a) Provide technical support to the Department of Education (DepEd) and the Commission on Higher Education (CHED) in their programs and projects that chart policies and recommendations on teacher training, teacher education, continuing professional education of teachers and academic supervisors, and teacher education curricula;

(b) Build and develop a database of education policies to serve as a resource to the country's policy-makers;

(c) Conduct researches, case studies, and other appropriate methodologies to enhance curriculum and training designs for teacher training, teacher education, and continuing professional education of teachers and academic supervisors; and

(d) As may be directed by Congress, provide assistance to legislators in the design and analysis of legislative proposals concerning teacher training, teacher education, continuing professional education of teachers and academic supervisors, teacher education curricula, and other issues affecting teacher education.

**SEC. 4. *Teacher Education Standards Development.*** — As the National Center for Teacher Education, the PNU shall make an annual presentation to the DepEd, CHED, the House and Senate Committees on Education, and other education institutions on its proposed standards for teacher training, teacher education, continuing professional education of teachers and academic supervisors, and teacher education curricula. Such presentation shall be made available to the general public especially to teachers and academic supervisors. The presentation shall include, but shall not be limited to, the following:

(a) Necessary competencies of teachers and academic supervisors in their various fields of specialization;

(b) Innovative strategies and alternative modalities of teaching and learning; and

(c) Information and communication technology breakthroughs to assist the process of teaching and learning.

**SEC. 5. *Education Policy Research and Development.***

– As the National Center for Teacher Education, the PNU shall establish an Education Policy Research and Development Office which shall:

(a) Establish and maintain a database of education policies and significant issues facing the country's education system as well as the education systems of other countries especially in the Asia Pacific region;

(b) Create and test different models of teacher education, address key factors in successful teacher education programs and determine which model would best achieve the country's education goals;

(c) Provide a systematic dissemination of research output on teacher education to make them readily available to end users such as teachers and academic supervisors;

(d) Share research expertise and competence in education research with other Teacher Education Institutions throughout the country: *Provided*, That the research funding of other state universities and colleges shall in no way be affected by the provisions of this Act;

(e) Advise the country's policy-makers and decision-makers in planning, implementing and evaluating reforms in teacher education including the licensing of professional teachers;

(f) Assist in the assessment of government programs on education. As such, PNU may be required by any government agency to comment and/or make recommendations regarding the different policies and programs on education; and

(g) Conduct periodic studies in aid of crafting responsive policies and programs on education.

**SEC. 6. *Philippine Normal University Modernization Program.*** – The PNU shall prepare a modernization plan to fulfill its mandate as the National Center for Teacher Education, and to upgrade its capability to provide pre-service and in-service formation for our country's teachers.

The modernization plan shall enhance curricular programs to make them relevant and responsive to the needs of society and address the educational needs of communities. The plan shall also include a program for staff development as well as for the upgrading of services, facilities and equipment in the University.

The proposed modernization plan shall be submitted to the University's Board of Regents for their approval.

**SEC. 7. *Tax Exemptions.*** – The provisions of any general or special law to the contrary notwithstanding:

(a) All revenues and assets of the PNU used actually, directly and exclusively for educational purposes or in support thereof shall be exempt from all taxes and duties;

(b) Gifts and donations of real and personal properties of all kinds shall be exempt from the donor's tax and the same shall be considered as allowable deductions from the gross income of the donor, in accordance with the provisions of the National Internal Revenue Code of 1997, as amended: *Provided*, That the allowable deductions shall be equivalent to one hundred fifty percent (150%) of the value of such donation. Valuation of assistance other than money shall be based on the acquisition cost of the property. Such valuation shall take into consideration the depreciated value of property in case said property has been used;

(c) Importation of economic, technical, vocational, scientific, philosophical, historical and cultural books, supplies and materials duly certified by the Board, including scientific and educational computer and software equipment, shall be exempt from customs duties;

(d) The University shall only pay zero percent (0%) value-added tax for all transactions subject to this tax; and

(e) All academic monetary awards shall be exempt from taxes.

SEC. 8. *Appropriations.* – The amount of Two hundred fifty million pesos (P250,000,000.00) necessary to carry out the provisions of this Act is hereby appropriated entirely for capital outlay in addition to the current year's appropriations for the PNU.

For the succeeding five (5) years, the amount of One hundred million pesos (P100,000,000.00) shall be appropriated per year in addition to the annual appropriations for capital outlay of the PNU.

Thereafter, the amount necessary to sustain the program shall be included in the annual appropriations of the PNU.

SEC. 9. *Separability Clause.* – If any part, section or provision of this Act is held invalid or unconstitutional, other provisions not affected thereby shall remain in full force and effect.

SEC. 10. *Repealing Clause.* – All laws, decrees, orders, rules and regulations or other issuances inconsistent with the provisions of this Act are hereby repealed, amended or modified accordingly.

SEC. 11. *Effectivity.* – This Act shall take effect fifteen (15) days after its publication in at least two (2) newspapers of general circulation.

Approved,



PROSPERO C. NOGRALES

*Speaker of the House  
of Representatives*



JUAN PONCE ENRILE

*President of the Senate*



This Act which is a consolidation of Senate Bill No. 3157 and House Bill No. 6049 was finally passed by the Senate and the House of Representatives on April 27, 2009 and May 5, 2009, respectively.

*Marilyn B. Barua-Yap*  
 MARILYN B. BARUA-YAP  
 Secretary General  
 House of Representatives

*Emma Lirio-Reyes*  
 EMMA LIRIO-REYES  
 Secretary of the Senate

Approved: JUN 30 2009

*Gloria M. Macapagal-Arroyo*  
 GLORIA MACAPAGAL-ARROYO  
 President of the Philippines



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PGMA Hologram # 49442



# Educating Science Teachers for All

Philippine Normal University  
The National Center for Teacher Education

## *Training Workshop in Inclusive Science Education for Linguistic and Cultural Diversity*

### LIST OF SPEAKERS/RESOURCE PERSONS TOGETHER WITH THEIR EDUCATIONAL QUALIFICATIONS

Speakers/Resource Persons	Education Qualifications
<b>Prof. Marie Paz E. Morales</b> ESTA-Phil-PNU Project Lead	Doctor of Philosophy in Science Education at De La Salle University
<b>Prof. Sylvia Markic</b> ESTA-Project Lead	Dr. re. nat with summa cum laude at University of Education-Ludwigsburg
<b>Dr. Ruth A. Alido</b> ESTA-Phil-PNU Team	Doctor of Philosophy in Applied at Linguistics De La Salle University
<b>Mr. Alfons Jayson O. Pelgone</b> ESTA-Phil-PNU Team	Doctor of Philosophy in Science Education at Philippine Normal University (2017-Present)
<b>Dr. Leah Amor S. Cortez</b> ESTA-Project Team	Doctor of Philosophy in Biology at De La Salle University-Dasmariñas
<b>Dr. Zenaída Q. Reyes</b> ESTA-Phil-PNU Team	Doctor of Philosophy in Philippine Studies at University of the Philippines
<b>Dr. Crist John M. Pastor</b> ESTA-Phil-PNU Team	Doctor of Philosophy in Biochemistry University of the Philippines
<b>Dr. Rochelle Irene G. Lucas</b> ESTA-Phil-DLSU Team	Doctor of Philosophy in Applied Linguistics at De La Salle University
<b>Dr. Arlyne C. Marasigan</b> ESTA-Phil-PNU Team	Doctor of Philosophy in Educational Leadership and Policy at Beijing Normal University
<b>Mr. Ruel A. Avilla</b> ESTA-Project Team	Master of Arts in Science Education with specialization in Chemistry at Philippine Normal University
<b>Dr. Marika Kapanadze</b> ESTA-Georgia Team	Doctor of Philosophy in Education at Ilia State University



# Educating Science Teachers for All

## Philippine Normal University

*The National Center for Teacher Education*

<b>Dr. Lydia S. Roleda</b> ESTA-Phil-DLSU Team	Doctor of Philosophy in Physics at De La Salle University
<b>Dr. Brando C. Palomar</b> ESTA-Project Team	Doctor of Philosophy (Research Postgraduate Programme) at The Education University of Hong Kong
<b>Prof. Nelson Garcia</b> PNU-Manila	Doctor of Philosophy in Chemistry at the University of Santo Tomas
<b>Prof. Amber Dea Marie V. Peguit-Opeda</b> PNU-Manila	Master of Arts in Physics at Mindanao State University-Iligan Institute of Technology
<b>Mr. Jayson L. De Vera</b> PNU-Manila	Doctor of Philosophy in Science Education at Philippine Normal University (2017-Present)
<b>Dr. Marie Grace S. Cabansag</b> PNU-Manila	Doctor of Philosophy at Isabela State University
<b>Dr. Brian M. Limson</b> PNU-Manila	Doctor of Medicine at De La Salle Medical & Health Sciences Institute





# Educating Science Teachers for All

Philippine Normal University  
*The National Center for Teacher Education*

## Training Workshop in Inclusive Science Education for Linguistic and Cultural Diversity

### REGISTRATION FEE

NO REGISTRATION FEE

### VENUE:

ONLINE (VIA ZOOM VIDEO CONFERENCING)

### TIME DURATION:

Synchronous: July 19, 20, 21, 22, 25, 27, Asynchronous [as per schedule with mentors: July 28-August 15], Closing Activity: August 16, 2022

## PROGRAM

Sub-Topics and Time Allotment for every topic (in hours)	Program Flow	Oral Presentation Themes	Speakers and Moderators
<b>Day 1: [1:00-5:00 PM]</b>  Opening Program:  <b>Keynote 1:</b> Teacher Quality  <b>Plenary 1:</b> Science Education  <b>Keynote 2:</b> ESTA Program and the International Consortium	1:00-1:45 PM Opening Program  2:00-2:45 1 2:45-3:30 1 3:30-4:30 2 4:30-5:00 Q&A	<b>Keynote 1: Teacher Quality</b> This session will provide key discussion points on teacher quality. The aim is to provide teachers with an understanding of the extent of teacher quality to achieving quality education referenced to global themes such as the SDGs and national focus.  <b>Plenary 1: Science Education</b> This session will familiarize teachers with the general purposes of Science Education and the aims and	<b>VPA Jennie V. Jocson</b> Vice President for Academics, PNU-Manila  <b>Prof. Marie Paz E. Morales</b> ESTA-Phil-PNU Project Lead]  <b>Prof. Sylvia Markic</b> ESTA-Project Lead  Moderator/Facilitator: <b>Mr. Alfons Jayson O. Pelgone</b>

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# Educating Science Teachers for All

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		<p>goals of science education in the Philippines.</p> <p><b>Keynote 2: ESTA Program and the International Consortium</b></p> <p>This session will focus on the description and nature of the international capacity building program for science teachers.</p>	ESTA-Phil-PNU Team
<p><b>Day 2: [1:00-5:00 PM]</b></p> <p><b>Plenary 2: Language for Sciences</b></p> <p><b>AST 1: Diversity in Class</b></p> <p><b>AST 2: Conceptual Change</b></p>	<p>1:00-1:30 PM Preliminaries</p> <p>1:30-2:30 Plenary 2</p> <p>2:30-3:30 AST 1</p> <p>3:30-4:30 AST 2</p> <p>4:30-5:00 Q&amp;A</p>	<p><b>Plenary 2: Language for Sciences</b></p> <p>This session focuses on the rhetorical functions, syntactic constructions, and vocabulary frequently used in scientific discourse. In reviewing the language for Science, the participants will be directed to the aspects of language that can be highlighted in the module exemplars.</p> <p><b>AST 1: Diversity in Class</b></p> <p>This Academic Staff Tour engages participants through a thorough discussion of how to diagnose diversity in class. The session will familiarize participants on probable ways and activities to detect diversity and heterogeneity in class.</p> <p><b>AST 2: Conceptual Change</b></p>	<p><b>Dr. Ruth A. Alido</b> ESTA-Phil-PNU Team</p> <p><b>Mr. Alfons Jayson O. Pelgone</b> ESTA-Phil-PNU Team</p> <p><b>Dr. Leah Amor S. Cortez</b> ESTA-Project Team</p> <p>Moderator/Facilitator: <b>Dr. Crist John M. Pastor</b> ESTA-Phil-PNU Team</p>

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		<p>This Academic Staff Tour engages participants through a thorough discussion of interest in science education as well as the conceptual change model. Part of the highlight of the session is the presentation of 'hooks' in teaching science which may be in the form of videos, puzzles and intriguing questions. The session is directed towards understanding how students coming from various socio-economic, cultural and language backgrounds bring with them a sense of conceptual understanding. Teacher knowledge on conceptual change allows science educators to provide engaging learning experiences to our science learners.</p>	
<p><b>Day 3: [1:00-5:00 PM]</b></p> <p><b>Plenary 3:</b> Contextualization</p> <ul style="list-style-type: none"> <li>• Culture for Sciences</li> <li>• Culture Integration</li> </ul> <p><b>AST 3:</b> Acquisition of Science Capital in Chemistry</p>	<p>1:00-1:30 PM Preliminaries</p> <p>1:30-3:30 Plenary 3</p> <p>3:30-4:30 AST 3</p> <p>4:30-5:00 Q&amp;A</p>	<p><b>Plenary 3:</b> <b>Contextualization</b></p> <p>This session leads the participants to acquire a deep understanding of the concept, background, and teaching-learning processes of contextualization. Included in the session is the development of one's epistemology of</p>	<p><b>Dr. Zenaida Q. Reyes</b> ESTA-Phil-PNU Team</p> <p><b>Dr. Crist John M. Pastor</b> ESTA-Phil-PNU Team</p> <p>Moderator/Facilitator: <b>Dr. Leah Amor S. Cortez</b> ESTA-Phil-PNU Team</p>

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		<p>contextualization as the basis of one's praxis.</p> <p><b>AST 3: Acquisition of Science Capital in Chemistry</b> This session focuses on identification of factors and drivers that encourage students to learn Chemistry, and at large, Science. The outcomes of the research article authored by Rüschenpöhler and Markic in 2019 to emphasize the role of families, peers and significant others in the development of positive attitudes and increased engagement of students to science.</p>	
<p><b>Day 4: [1:00-5:00 PM]</b></p> <p><b>Plenary 4: Indigenous Languages and proficiency in Language</b></p> <p><b>AST 4: Chemistry self-concepts: gender and culture, and the impact of chemistry self-concept on learning behavior</b></p> <p><b>AST 5: Technology Integration</b></p>	<p>1:00-1:30 PM Preliminaries</p> <p>1:30-2:30 4 Plenary</p> <p>2:30-3:30 AST 4</p> <p>3:30-4:30 AST 5</p> <p>4:30-5:00 Q&amp;A</p>	<p><b>Plenary 4: Indigenous Languages and proficiency in Language</b> This session will disseminate how technology can be used to preserve the language of the indigenous people.</p> <p><b>AST 4: Chemistry self-concepts: gender and culture, and the impact of chemistry self-concept on learning behavior</b> This session focuses on students' chemistry self-concept with respect to their cultural background and gender. The session also</p>	<p><b>Dr. Rochelle Irene G. Lucas</b> ESTA-Phil-DLSU Team</p> <p><b>Dr. Arlyne C. Marasigan</b> ESTA-Phil-PNU Team</p> <p><b>Mr. Ruel A. Avilla</b> ESTA-Project Team</p> <p>Moderator/Facilitator: <b>Dr. Ruth A. Alido</b> ESTA-Phil-PNU Team</p>

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		<p>highlights the students thinking about science and scientists and the colonial portrayal of Filipinos.]</p> <p><b>AST 5: Technology Integration</b> This session focuses on the nature, significance and methods of technology integration. The session also highlights some frameworks used in technology interaction inside a science classroom.</p>	
<p><b>Day 5: [1:00-5:00 PM]</b></p> <p><b>Plenary 5: Other ESTA-Country Participants Experiences</b></p> <p><b>AST 6: Flipped Classroom</b> Topic 1: Orientation to Lesson Exemplar (LE) Development Workshop</p> <ul style="list-style-type: none"> <li>• Agreements for Part 2: LE Development Workshop</li> <li>• Groupings for Consultation and Mentoring</li> </ul>	<p>1:00-1:30 PM Preliminaries</p> <p>1:30-2:30 Plenary 5</p> <p>2:30-3:30 AST 6</p> <p>3:30-4:30 Topic 1</p> <p>4:30-5:00 Q&amp;A</p>	<p><b>Plenary 5: Other ESTA-Country Participants Experiences</b> This session will primarily focus on the sharing of other partner countries/universities on managing diversity and heterogeneity in science classes.</p> <p><b>AST 6: Flipped Classroom</b> This session presents the theoretical underpinnings and instructional processes implemented in science teaching through flipped classroom approach (FCA). It also highlights the instructional technologies and significant implications</p>	<p><b>Dr. Marika Kapanadze</b> ESTA-Georgia Team</p> <p><b>Dr. Lydia S. Roleda</b> ESTA-Phil-DLSU Team</p> <p><b>Dr. Brando C. Palomar</b> ESTA-Project Team</p> <p>Moderator/Facilitator: <b>Mr. Ruel A. Avilla</b> ESTA-Phil-PNU Team</p>

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Philippine Normal University  
The National Center for Teacher Education

		<p>of FCA as utilized in science teaching based on current empirical studies. Similarly, this session provides insights on how FCA is appropriately applicable in teaching science in the context of the pandemic and post-pandemic experiences.</p> <p><b>Topic 1: Orientation to Lesson Exemplar (LE) Development Workshop</b></p> <p>This session aims to present the features of the instructional design of the Lesson Exemplar anchored on the developed frameworks and models. The session also intends to familiarize the participants on the implementing guidelines on how to develop Lesson Exemplars influenced by the aforementioned models, agreements, groupings and processes of consultation and mentoring.</p>	
<p><b>Day 6: [1:00-5:00 PM]</b></p> <p><b>Science Educator Sharing</b></p> <p><b>1: Chemistry</b></p> <p><b>Science Educator Sharing</b></p> <p><b>2: Physics</b></p> <p><b>Science Educator Sharing</b></p> <p><b>3: Biology</b></p> <p><b>Science Educator Sharing</b></p> <p><b>4: Environmental Science</b></p>	<p>1:00-1:30 PM Preliminaries</p> <p>1:30-4:00 Insights and Experiences</p> <p>4:00-5:00 Q&amp;A</p>	<p>This session will primarily focus on the sharing of Science Teacher Educators on developing their courses using the framework.</p>	<p>Chemistry: Prof. Nelson Garcia</p> <p>Physics 1: Prof. Amber Dea Marie V. Peguit-Opeda</p> <p>Physics 2: Jayson L. De Vera</p>

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			<p>Biology 1: Dr. Marie Grace S. Cabansag</p> <p>Biology 2: Dr. Brian M. Limson</p> <p>Moderator/Facilitator: <b>Dr. Brando C. Palomar</b></p> <p>ESTA-Phil-PNU Team</p>
<p><b>Week 2</b> [Asynchronous] <b>Lesson Exemplar Development</b></p>		<p><b>Lesson Development</b></p> <p>The session will focus on facilitating participants for them to be able to draft and craft their Lesson Exemplars. Informal sharing may be within and across groups and disciplines to exact the finest Lesson Exemplar for a particular science lesson or topic.</p>	<p>ESTA-Phil-PNU Team</p> <p>PNU Science Educators</p>
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		Lesson Exemplars and to determine alignment of designed Lesson Exemplars to the aforementioned models and frameworks.	
<b>Week 4 [Asynchronous]</b> <b>Lesson Exemplar Revision</b>		<b>Lesson Exemplar Revision</b> In this session, developers of Lesson Exemplars will engage in revising their products based on the comments and suggestions of their peers. This is a prerequisite to the next activity that will focus on presentation of the revised Lesson Exemplars to the ESTA-Philippines-PNU Team and critiquing of the panel of evaluators.	ESTA-Phil-PNU Team PNU Science Educators
<b>Week 5</b> <b>Lesson Exemplar Presentation and Panel Critiquing</b>		<b>Lesson Exemplar Presentation and Panel Critiquing</b> In this session, crafted and designed Lesson Exemplars for science lessons or topics will be presented to the participants and experts. Critiquing will also be done to provide constructive remarks for the improvement or enhancement of presented Lesson Exemplars and to determine alignment of designed Lesson Exemplars to the aforementioned models and frameworks.	ESTA-Phil-PNU Team PNU Science Educators

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## Training Workshop in Inclusive Science Education for Linguistic and Cultural Diversity

### REGISTRATION FEE

NO REGISTRATION FEE

### VENUE:

ONLINE (VIA ZOOM VIDEO CONFERENCING)

### TIME DURATION:

Synchronous: July 19, 20, 21, 22, 25, 27, Asynchronous [as per schedule with mentors: July 28-August 15], Closing Activity: August 16, 2022

### SYLLABI OF THE TOPIC TO BE DISCUSSED

Oral Presentation Themes/Topics	Speakers and Moderators
<b>Keynote 1: Teacher Quality</b> This session will provide key discussion points on teacher quality. The aim is to provide teachers with an understanding of the extent of teacher quality to achieving quality education referenced to global themes such as the SDGs and national focus.	<b>VPA Jennie V. Jocson</b> Vice President for Academics, PNU-Manila
<b>Plenary 1: Science Education</b> This session will familiarize teachers with the general purposes of Science Education and the aims and goals of science education in the Philippines.	<b>Prof. Marie Paz E. Morales</b> ESTA-Phil-PNU Project Lead]
<b>Keynote 2: ESTA Program and the International Consortium</b> This session will focus on the description and nature of the international capacity building program for science teachers.	<b>Prof. Sylvia Markic</b> ESTA-Project Lead
<b>Plenary 2: Language for Sciences</b>	Moderator/Facilitator: <b>Mr. Alfons Jayson O. Pelgone</b> ESTA-Phil-PNU Team

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This session focuses on the rhetorical functions, syntactic constructions, and vocabulary frequently used in scientific discourse. In reviewing the language for Science, the participants will be directed to the aspects of language that can be highlighted in the module exemplars.

### **AST 1: Diversity in Class**

This Academic Staff Tour engages participants through a thorough discussion of how to diagnose diversity in class. The session will familiarize participants on probable ways and activities to detect diversity and heterogeneity in class.

### **AST 2: Conceptual Change**

This Academic Staff Tour engages participants through a thorough discussion of interest in science education as well as the conceptual change model. Part of the highlight of the session is the presentation of 'hooks' in teaching science which may be in the form of videos, puzzles and intriguing questions. The session is directed towards understanding how students coming from various socio-economic, cultural and language backgrounds bring with them a sense of conceptual understanding. Teacher knowledge on conceptual change allows science educators to provide engaging learning experiences to our science learners.

### **Plenary 3: Contextualization**

This session leads the participants to acquire a deep understanding of the concept, background, and teaching-learning processes of contextualization. Included in the session is the development of one's epistemology of contextualization as the basis of one's praxis.

### **AST 3: Acquisition of Science Capital in Chemistry**

This session focuses on identification of factors and drivers that encourage students to learn Chemistry, and at large, Science. The outcomes of the research article authored by Rüschenpöhler and Markic in 2019 to emphasize the role of families, peers and significant

**Dr. Ruth A. Alido**

ESTA-Phil-PNU Team

**Mr. Alfons Jayson O. Pelgone**

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**Dr. Leah Amor S. Cortez**

ESTA-Project Team

Moderator/Facilitator: **Dr. Crist John M. Pastor**

ESTA-Phil-PNU Team

**Dr. Zenaida Q. Reyes**

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<p>others in the development of positive attitudes and increased engagement of students to science.</p>	
<p><b>Plenary 4: Indigenous Languages and proficiency in Language</b> This session will disseminate how technology can be used to preserve the language of the indigenous people.</p> <p><b>AST 4: Chemistry self-concepts: gender and culture, and the impact of chemistry self-concept on learning behavior</b> This session focuses on students' chemistry self-concept with respect to their cultural background and gender. The session also highlights the students thinking about science and scientists and the colonial portrayal of Filipinos.]</p> <p><b>AST 5: Technology Integration</b> This session focuses on the nature, significance and methods of technology integration. The session also highlights some frameworks used in technology interaction inside a science classroom.</p>	<p><b>Dr. Rochelle Irene G. Lucas</b> ESTA-Phil-DLSU Team</p> <p><b>Dr. Arlyne C. Marasigan</b> ESTA-Phil-PNU Team</p> <p><b>Mr. Ruel A. Avilla</b> ESTA-Project Team</p> <p>Moderator/Facilitator: <b>Dr. Ruth A. Alido</b> ESTA-Phil-PNU Team</p>
<p><b>Plenary 5: Other ESTA-Country Participants Experiences</b> This session will primarily focus on the sharing of other partner countries/universities on managing diversity and heterogeneity in science classes.</p> <p><b>AST 6: Flipped Classroom</b> This session presents the theoretical underpinnings and instructional processes implemented in science teaching through flipped classroom approach (FCA). It also highlights the instructional technologies and significant implications of FCA as utilized in science teaching based on current empirical studies. Similarly, this session provides insights on how FCA is appropriately applicable in teaching science in the</p>	<p><b>Dr. Marika Kapanadze</b> ESTA-Georgia Team</p> <p><b>Dr. Lydia S. Roleda</b> ESTA-Phil-DLSU Team</p> <p><b>Dr. Brando C. Palomar</b> ESTA-Project Team</p> <p>Moderator/Facilitator: <b>Mr. Ruel A. Avilla</b> ESTA-Phil-PNU Team</p>

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<p>context of the pandemic and post-pandemic experiences.</p> <p><b>Topic 1: Orientation to Lesson Exemplar (LE) Development Workshop</b></p> <p>This session aims to present the features of the instructional design of the Lesson Exemplar anchored on the developed frameworks and models. The session also intends to familiarize the participants on the implementing guidelines on how to develop Lesson Exemplars influenced by the aforementioned models, agreements, groupings and processes of consultation and mentoring.</p>	
<p>This session will primarily focus on the sharing of Science Teacher Educators on developing their courses using the framework.</p>	<p>Chemistry: Prof. Nelson Garcia</p> <p>Physics 1: Prof. Amber Dea Marie V. Peguit-Opeda</p> <p>Physics 2: Jayson L. De Vera</p> <p>Biology 1: Dr. Marie Grace S. Cabansag</p> <p>Biology 2: Dr. Brian M. Limson</p> <p>Moderator/Facilitator: <b>Dr. Brando C. Palomar</b></p> <p>ESTA-Phil-PNU Team</p>
<p><b>Lesson Exemplar Development</b></p> <p>The session will focus on facilitating participants for them to be able to draft and craft their Lesson Exemplars. Informal sharing may be within and across groups and disciplines to exact the finest Lesson Exemplar for a particular science lesson or topic.</p>	<p>ESTA-Phil-PNU Team</p> <p>PNU Science Educators</p>
<p><b>Lesson Exemplar Peer Review</b></p> <p>In this session, crafted and designed Lesson Exemplars for science lessons or topics will be subjected to peer review (by fellow participants) to help the developers provide varied perspectives while peers assess their Lesson Exemplars. This session aims to provide constructive remarks for the improvement or enhancement of developed Lesson Exemplars and to determine alignment of designed Lesson Exemplars to the aforementioned models and frameworks.</p>	<p>ESTA-Phil-PNU Team</p> <p>PNU Science Educators</p>

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Sub-Topics and Time Allotment for every topic (in hours)	Program Flow
<b>Day 1: [1:00-5:00 PM]</b>  Opening Program:  <b>Keynote 1:</b> Teacher Quality  <b>Plenary 1:</b> Science Education  <b>Keynote 2:</b> ESTA Program and the International Consortium	1:00-1:45 PM Opening Program  2:00-2:45 Keynote 1 2:45-3:30 Plenary 1 3:30-4:30 Keynote 2 4:30-5:00 Q&A
<b>Day 2: [1:00-5:00 PM]</b>  <b>Plenary 2:</b> Language for Sciences <b>AST 1:</b> Diversity in Class <b>AST 2:</b> Conceptual Change	1:00-1:30 PM Preliminaries  1:30-2:30 Plenary 2 2:30-3:30 AST 1 3:30-4:30 AST 2 4:30-5:00 Q&A

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<b>Day 3: [1:00-5:00 PM]</b>  <b>Plenary 3: Contextualization</b> <ul style="list-style-type: none"> <li>• Culture for Sciences</li> <li>• Culture Integration</li> </ul> <b>AST 3: Acquisition of Science Capital in Chemistry</b>	1:00-1:30 PM Preliminaries  1:30-3:30 Plenary 3 3:30-4:30 AST 3 4:30-5:00 Q&A
<b>Day 4: [1:00-5:00 PM]</b>  <b>Plenary 4: Indigenous Languages and proficiency in Language</b>  <b>AST 4: Chemistry self-concepts: gender and culture, and the impact of chemistry self-concept on learning behavior</b> <b>AST 5: Technology Integration</b>	1:00-1:30 PM Preliminaries  1:30-2:30 Plenary 4 2:30-3:30 AST 4 3:30-4:30 AST 5 4:30-5:00 Q&A
<b>Day 5: [1:00-5:00 PM]</b>  <b>Plenary 5: Other ESTA-Country Participants Experiences</b>  <b>AST 6: Flipped Classroom</b> <b>Topic 1: Orientation to Lesson Exemplar (LE) Development Workshop</b> <ul style="list-style-type: none"> <li>• Agreements for Part 2: LE Development Workshop</li> <li>• Groupings for Consultation and Mentoring</li> </ul>	1:00-1:30 PM Preliminaries  1:30-2:30 Plenary 5 2:30-3:30 AST 6 3:30-4:30 Topic 1 4:30-5:00 Q&A
<b>Day 6: [1:00-5:00 PM]</b>  <b>Science Educator Sharing 1: Chemistry</b> <b>Science Educator Sharing 2: Physics</b> <b>Science Educator Sharing 3: Biology</b> <b>Science Educator Sharing 4: Environmental Science</b>	1:00-1:30 PM Preliminaries  1:30-4:00 Insights and Experiences 4:00-5:00 Q&A
<b>Week 2 [Asynchronous]</b> <b>Lesson Exemplar Development</b>	
<b>Week 3 [Asynchronous]</b> <b>Lesson Exemplar Peer Review</b>	

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<b>Week 4</b> [Asynchronous] <b>Lesson Exemplar Revision</b>	
<b>Week 5</b> <b>Lesson Exemplar Presentation and Panel Critiquing</b>	

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