Towards a More Responsive STEM education in the Philippines

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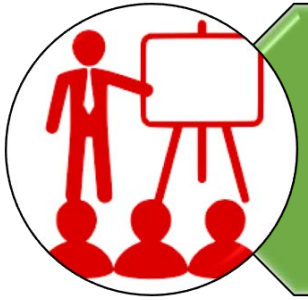
Presentation Outline

General Information

STEM Curriculum

K TO 12 Curriculum



Teacher Training Programs

GENERAL INFORMATION

- 100.98 M (as of August 2015)

Population Size

- 27,841,522 learners

K to 12 Population

- English and Filipino
- Mother tongue (K-G3

Main Language of Instruction

- English

Foreign Language taught

- Grades 1-6 (97%)
- Grades 7-10 (89%)

Schooling survival rate (K to 12)

- Grades 1-6 (97%)
- Grades 7-10 (89%)

Completion rate of students

- Kindergarten = 1
- Elementary = 1
- JHS = 1.11
- SHS = 1.33

Gender Parity Index

- 1:29 (Elementary)
- 1:25 (JHS)
- 1:29 (SHS)

Teacher-student ratio

STEM Curriculum

How does STEM complement the 21st Century Skills Development?

K to 12 Curriculum

Perceived obstacles towards STEM integration:

- ✓ Lack of qualified faculty
- ✓ Lack of teacher capacity building
- ✓ Seeming disjoint between the K to 10 Math and Science program
- ✓ Scope and depth of the Math and Science subjects offered
- ✓ Limited learning materials and equipment

Overcoming obstacles:

- ✓ DOST scholarship for Bachelor's degree for STEM teachers
- ✓ CHED/DepEd/DOST collaborate in order to fast track the acquisition of teachers' master's degree in math and science
- ✓ Engineers, and other highly trained specialists are allowed to teach in SHS
- ✓ Revisit Math and Science curriculum guides for SHS
- ✓ Allot budget for learning materials and STEM equipment

Teacher Training Programs

- ✓Teacher Induction Program
- ✓Orientation of the Regional Management Teams (3 days)
- ✓Orientation of National Trainers (5 days)
- ✓National Training of Trainers (6 days)
- ✓Mass Training of Teachers (2 weeks)
- ✓National Conference of Special Science Class Implementing Schools
- ✓Conference of Science Supervisors
- ✓Consultative meeting on Science and Math Equipment
- ✓K to 10 Training of Teachers on Critical Content

Teacher Training Programs

- Training programs are offered specifically tailored for STEM teachers
- In-service training and scholarships are provided for the professional development of teachers
- Learning Action Cell (LAC) session

Preparing Teachers to Teach STEM

Challenges and Issues

- Delivery of the lesson is perceived to be an obstacle for STEM teachers
- Limited capacity building programs for STEM teachers
- Insufficient Science and Mathematics Equipment and Learning Resources

Interventions

- Upgrade professional development of STEM Teachers
- Increase training days
- Provide bigger budget for STEM
- Close the gaps in laboratories and workshop

Current Initiatives

HEI Initiatives:

- ✓ Philippine Normal University (PNU) conducted a Philippine Education STEM Pipeline Study (funded by USAid and PBED) → once published, the study could provide insights on the state of STEM education in the country

- ✓ The University of the Philippines College of Education houses the Center for Integrated STEM Education in the Philippines (CISTEM) that aims to strengthen inclusive STEM education through
  - capacity building for teachers and educational institutions
  - curricular innovations
  - maximized network linkages
  - learner empowerment

DepEd Partnerships:

- ✓ UNILAB Foundation
  - ➢ STEM+PH
  - ➢ HEADS UP PH
  - ➢ IDEAS POSITIVE
- ✓ Nanyang Polytechnic
- ✓ Philippine Nuclear Research Institute (PNRI)

Thank you very much!