



ASIAN PHYSICS EDUCATION NETWORK

A Regional Cooperative Program Supported by UNESCO

Executive Secretary and National Point of Contact (Australia):

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Report of the ASPEN Executive Secretary (1997-2002)

Dr Alex Mazzolini

The last ASPEN Executive Secretary Report was presented by Prof Khalijah Mohd. Salleh (Malaysia) at the 3rd ASPEN General Assembly which was held in conjunction with the ASPEN conference on "University Physics Education for the 21st Century: Styles and Approaches Towards the Teaching and Learning of Physics", November, 1997, Shah Alam, MALAYSIA.

This report, presented at the 4th ASPEN General Assembly, details the activities and highlights over the last 5 year period.

Introduction

Even in the shadow of a major worldwide economic downturn (and its consequent impact on many Asian countries), ASPEN has achieved many positive outcomes in physics education reform in the Asian region.

Over the past five years, there has been a shift of emphasis in the activities organised within the ASPEN community: a shift away from large, passive, physics education conferences toward smaller, vibrant, practical "Active Learning" Workshops (ALWs). The aims of these ALWs are to familiarise Asian educators with the latest "active learning" physics education techniques, demonstrate how and why these techniques improve students' understanding, and then to provide help and guidance to improve the practical skills of the workshop participants. A major feature of these ALWs is to develop physics education ideas that are appropriate to the cultural, social and economic conditions that exist in the Asian region.

While learning from the experiences of internationally-recognised physics education experts, ASPEN realised that true and sustained improvement in Asian physics education can only occur if our own Asian educators take on the responsibility of implementing physics education *within their own unique Asian context*. To this end ASPEN has successfully trained a group of Asian resource personnel who can lead ALWs in the region.

ASPEN has matured significantly over the past 5 years and has provided practical assistance to help improve physics education in many developed and developing

countries in the region. ASPEN should continue to growth during the next 5 years and develop into one of the leaders of physics education reform in the Asian region. This will involve the delivery of more ALWs (utilising ASPEN resource personnel wherever possible) and the development and implementation of assessment tools to gauge whether ALWs improve students' physics understanding in the Asian context.

Changes in ASPEN Personnel

- Prof Hwe Ik Zhang, ASPEN Chair and NPC South Korea (retired): replaced by Prof Keum Hwi Lee
- Prof Khalijah Mohd. Salleh, NPC Malaysia (retired): replaced by Prof. Abd. Aziz Tajuddin
- Dr Minella C. Alarcon NPC Philippines (retired to take up position as Programme Specialist for Basic Sciences, UNESCO Jakarta): replaced by Dr Henry Ramos
- Prof Charles Dahanayake NPC Sri Lanka (retired): replaced by Prof. M.A.K.L. Dissanayake
- Dr Kofi Agyeman, NPC Papua New Guinea: replaced by Dr Ora Renagi
- Prof Wijit Senghapan NPC Thailand (retired): replaced by Dr Pisistha Ratanavararak
- Prof Li Chun NPC China (retired): replaced by Prof Hu Gang. Prof Gang (retired) replaced by Prof Fanglin Peng
- Dr Aziz Fatima Hasnain NPC Pakistan (retired): replaced by Prof. F.M. Nazar.

ASPEN Workshops and Meeting

Some details are incomplete (but will be completed before publication)

1. ASPEN 4th General Assembly and Regional Workshop on “Active Learning Methods in Physics”, University of Peradeniya, Sri Lanka, Nov 2002
2. Laos Workshop 2001?
3. ASPEN Trainers Workshop on “Interactive Physics teaching”, Ateneo De Manila, Quezon City, Manila, Philippines Feb 2001
4. National Active Learning Workshop at the University of Peradeniya, Sri Lanka (Feb. 2001)
5. Seminar-Workshop on Multimedia Physics Education: Promoting Active Learning in Introductory Physics Courses July 9-15, 2000 Chonbuk National University, Chonju, Korea
6. UNESCO/ASPEN Meeting UUFCP Asia 2000 Review and Strategic Planning Meeting for the UNESCO University Foundation Course in Physics (UUFCP) Bangkok, Thailand, 17-22 November 1999

7. ASPEN Workshop on Physics Demonstrations and Classroom Innovations
Nov 11 - 14, 1999 National University in Hanoi, Hanoi, Vietnam
8. ASPEN Workshop on Physics Curriculum Design and Content 23-26
February 1999 National University of Laos, Vientiane, Laos PDR
9. NSF "Chautauqua" workshop on Promoting Active Learning in Physics
Education 27-29 January 1999 Swinburne University, Melbourne, Australia
(11 ASPEN participants were funded for this workshop)

ASPEN participation in other Regional and International Meetings

1. KPS Workshop on "IT-based Physics Education", Chonbuk National
University, Chonju, Korea, 12-16 July 2001
2. International Conference on "Physics Education in Cultural Context", KNUE,
Cheongwon, South Korea, Aug 2001.
3. National Seminar and Workshop on "Multimedia Approach in Learning
Physics and Engineering", SMILE 2001, Universiti Tenaga Nasional, Kajang,
Selangor, Malaysia, June 2001

Other ASPEN Activities

1. "Virtual Physics" Lecture Demonstration Video Clips Vol. 1, PC/MAC CD-
ROM, containing 25 high resolution video clips, 2002
2. Preparation and publication of UUFCEP-based physics education material in
electronic form on a WWW platform 2000.
3. Development and maintenance of ASPEN web page

Budget Information

Income:

- \$1000USD (\$1521AUD) transferred from Exec Secretariat (Malaysia) to
Executive Secretariat (Australia)

Expenditure:

- Supplement UUFCEP Bangkok shortfall [NPC Pakistan airfare] \$390USD
(\$680AUD)
- Supplement Manila Trainers' Workshop shortfall [NPC Korea airfare
contribution] \$250USD (\$502AUD)
- Contribution to participation in Malaysian Conference [NPC Australia airfare]
(339AUD)
- *Balance:*
- \$0

Conclusion

ASPEN has an important role to play in initiating and assessing the development of physics education reform in the Asian region. With the ongoing support of our partner UNESCO, the good work that has already commenced in the last 5 year period should continue to grow in the next 5 year period. A successful model has been developed around the concept of local “Active Learning Workshops” using ASPEN-trained resource personnel wherever possible. This model needs to be fine tuned via careful and quantitative assessment so that the work we do is efficient and effective in improving physics education in developed and developing countries in our region.

The task in the next 5 years will be a difficult one, not because of factors within ASPEN but rather the global factors without. International terrorism has created distrust and fear on an international scale. The ASPEN community has a proud history of cooperation in physics education activities regardless of race, religion or culture. Hopefully our continued work in ASPEN will help, if only in a small way, to show what can be achieved in our region with goodwill and respect.

Dr Alex Mazzolini
Executive Secretary
29th November 2002