

Co-organized by

The Comparative Education Society of Asia *and*  
The Comparative Education Society of the Philippines



th  
BIENNIAL  
CONFERENCE

on COMPARATIVE EDUCATION

CESA 2016

**Diversity in Educational Policy  
and Practice:  
Challenges and Opportunities**

January 28-30, 2016  
5th Floor, Henry Sy Hall  
De La Salle University  
Manila, Philippines

Conference Program



# COMPARATIVE EDUCATION SOCIETY OF ASIA

The Comparative Education Society of Asia (CESA) is an association of educational scholars, throughout Asia and beyond, engaged in the comparative study of educational systems, traditions and practices. It was created in 1991 with the aim of promoting Comparative Education as a scholarly field, and lending more prominence to Asian voices in educational debate worldwide.

With these ends in view, CESA holds biennial conferences in various Asian locations – including, to date, China, Japan, Indonesia, Thailand, Taiwan, Hong Kong, Malaysia and the Philippines. We attach particular importance to reaching out to countries which seldom have the opportunity to host major international education conferences, and that therefore stand to gain especially from the opportunities that CESA's conferences provide.

CESA is a member of the World Congress of Comparative Education Societies (WCCES), in which its representatives play an active role. In addition to its biennial conferences, the Society is currently planning to extend its activities into new areas for example, by establishing an e-journal.

For news of our upcoming conferences, other information, and details of how to join CESA, please consult our website, or contact the Secretariat at: [cesa.secretariat@gmail.com](mailto:cesa.secretariat@gmail.com)

**Dr. Edward Vickers**  
*CESA Secretary-General*

CESA Japan Office  
Education Department  
Kyushu University  
6-19-1 Hakozaki,  
Higashi-ku,  
Fukuoka City 812-8581  
Japan





# COMPARATIVE EDUCATION SOCIETY OF THE PHILS.

The Comparative Education Society of the Philippines, Inc. (CESP) was registered with the Securities and Exchange Commission of the Philippines in 2013 as an organization consisting of faculty members from the University of the Philippines Diliman, University of Santo Tomas, and De La Salle University Taft in order to get the legal entity as a legitimate professional organization in our field of endeavor.

The CESP aims to achieve the following objectives: 1. strive for the advancement of the scientific study of comparative education, particularly on education in the Philippine context; 2. publish and disseminate the results of original scientific studies undertaken and to communicate with organizations within and outside the Philippines that are also engaged in such pursuit; 3. engage in scholarly activities in comparative education; 4. encourage the participation of members of the Society at local, regional, national, and international seminars/workshops/meetings/conferences on comparative education to broaden their insights and promote their professional growth.

At present, the officers are the following: Virgilio U. Manzano, President; Allan B. de Guzman, Vice-President; Rochelle Irene Lucas, Secretary; Emily B. Tan, Treasurer; and Arlyne C. Marasigan, Press Relations Officer. In addition, the board members are Elenita Que; Rolando Niño Agoncillo; Ry Sedrick D.V. Bolodo; Belinda de Castro; and John Addy Garcia.



COMPARATIVE EDUCATION SOCIETY OF THE PHILIPPINES

ideas which represents the organization's aim to actively organize activities and encourage participation in CESP activities geared towards professional growth.

The logo is a play of visual perception between negative and positive space when we look at its visual meaning. Viewed as a whole it forms the shape of a speech balloon and dissecting the myriad flow of lines would reveal the first letters of the words in the organization's name: C-E-S-P. The image of the speech balloon could also be used as a design element in all visual collaterals of the organization; in websites, print and other visual communication materials.

Historically, the Comparative Education Society of the Philippines started as a small group of scholars who share a common interest in the field of comparative education. In the 1990's Josephine Campomanes of St. Paul University, Tuguegarao City, Philippines wrote to the World Council of Comparative Education Societies (WCCES) expressing interest in the membership. Eleanor Rico, based at the University of Pittsburgh, USA, was invited as an observer to the WCCES meeting. In 1999, they gathered a group of interested scholars. Subsequently, Dr. Roberto Borrromeo, Chair of Educational Leadership at De La Salle University Manila, joined forces, and in 2001, to form the CESP in 2001. In March 2002, the application for the admission to the WCCES was approved.

The founding members of the CESP set as the society's aim the promotion of comparative education by assisting their respective universities in the Philippines to offer courses in this field of study. Motivated by the desire to improve the lives of the country's poverty stricken population, they have stressed the value of comparative education in mobilizing research competence to support the government's pursuit of education equity and efficiency.



# COMPARE WRITERS WORKSHOPS

For the past nine years, the British Association of International and Comparative Education (BAICE) has been organizing Compare Writer's Workshops – mainly to support researchers in the global 'South' in preparing high-quality academic papers for submission to international peer-reviewed journals such as Compare. Initially, all workshops were held in the UK, but from 2013 several have been held overseas: first in Ethiopia (2013), then in India (2014) and now in the Philippines. The workshops have proved highly effective. For example, about half of those participants submitting manuscripts to Compare have been successful (compared to the usual rate of 10-20%).

The India and Philippines workshops have benefitted from the generous support of the United Nations Gender Education initiative, which has provided funding to support the attendance of scholars who otherwise would not have been able to afford travel and accommodation expenses. The Manila workshop has also been made possible by the support of the School of Education, University of the Philippines (Diliman), which has both provided the venue, and arranged support for attendees from within the Philippines.

CESA's 2015 Manila conference is the first such CESA event that has featured an academic writing workshop, and we hope to make this a standard feature of our conferences in the future. This aspiration is supported by BAICE, which this time is also organizing a post-conference capacity-building 'Training of Trainers' workshop – with the aim of supporting more experienced academics who plan to take a role in supporting academic writing within their own institutions.

All of us at CESA would like to express our gratitude to Prof. Nitya Rao and colleagues at BAICE, to Prof. Leny Que, Prof. Virgilio Manzano and colleagues at UP, and to the UNGEI for their very generous support for this workshop.

Edward Vickers  
CESA Secretary-General



## MESSAGE

I would like to welcome all of you to the 2016 Comparative Education Society of Asia (CESA) International Conference at De La Salle University.

This event is jointly organized by DLSU Br. Andrew Gonzalez FSC College of Education and the Comparative Education Society of the Philippines (CESP) whose founding members are from the University of the Philippines Diliman, University of Santo Tomas and of course De La Salle University.



Comparative Education is a relatively new field of study in the Philippines and through this conference, we are hoping that we will be able to stir the interest of our graduate students and researchers to consider research collaboration in this field. Such academic engagement will definitely promote the culture of scholarship and research in our country.

I wish to congratulate and thank the World Council of Comparative Education Societies (WCCES) and the Comparative Education Society of Asia (CESA) for choosing the Philippines this year as the venue for this very important event. De La Salle University is indeed honored and privileged to be chosen as host for this conference.

A handwritten signature in dark ink, appearing to read 'Br. Raymundo B. Suplido'.

Br. Raymundo B. Suplido FSC  
President  
De La Salle University



## MESSAGE

Dear Colleagues,

On behalf of the Comparative Education Society of Asia, I am pleased and honored to invite you to the tenth biennial conference of the Comparative Education Society of Asia on "Diversity in Educational Policy and Practice: Challenges and Opportunities". This event will be held in the beautiful city of Manila, The Philippines from January 28 to 30, 2016, at De La Salle University. It is a great pleasure for us that this conference has induced interest from scholars in the field of comparative and international education around the world. Thanks are due to President of De La Salle University, the steering committee, CESP officers, Chair and consultants, and especially organizers of the event, for your extremely hard working,



The gathering here this year (CESA 2016) could be an important step towards the essential direction of educational policies and practices across Asia, as well as enhancing our understanding of the challenges that diversity poses for education, in Asia and beyond. It is hoped that the conference will offer practical alternatives and help advance development of our educational field; providing update research studies and information relevance to the comparative education; and bring betterment to our societies by improving the quality of comparative education in Asia. Thank you very much for your tremendous contribution toward the success of this year 2016 CESA conference.

In my capacity as CESA president, the society has indeed made a continuous progress, and all CESA members are significant parts of this achievement. Finally, I look forward to welcoming new members to CESA, particularly at our next biennial conference, as well as to participate in the World Council of Comparative Education Societies (WCCES). All are warmly invited not only to attend this conference, but also to make active use of CESA as a forum for networking with fellow scholars from Asia and other parts of the world.

We look forward to seeing you in Manila for an unforgettable experience that will be remembered for years to come.

Sincerely,

Associate Professor Chanita Rukspollmuang, Ph.D.  
President  
The Comparative Education Society of Asia (CESA)



## MESSAGE

We wish to welcome you all in the 10th Biennial Conference of the Comparative Education Society of Asia (CESA) that we jointly organized as member organizations of the World Council of Comparative Education Societies (WCCES) here in the Philippines. We, at the Comparative Education Society of the Philippines (CESP), are deeply honored to host this year the biennial conference in the Philippines. We are holding this year in the Philippines the 10th Biennial Conference of the Comparative Education Society of Asia with the theme "Diversity in Educational Policy and Practice: Challenges and Opportunities" in order to enable the educators in our region understand better the status of the research undertakings and innovations being undertaken in our field of study.



The two venues, Quezon City and Manila City, would enable us to interact with the educational leader and the speakers invited from various institutions who are currently engaged in doing research and policy formulation in organization, development and implementation of various innovations in the field of comparative education. The comparative education write shop is organized prior to the actual conference to help invited researchers in our region experience the latest trends on the process of planning and implementation process of comparative education publishable research manuscript preparation at the University Hotel of the University of the Philippines Diliman, in Quezon City, Philippines on January 26-27, 2016. The actual conference is scheduled to be formally held at the Henry Sy Building, De La Salle University, Taft Avenue, Manila, Philippines, on January 28-30, 2016. In order for the participants listen to keynote presentations, plenary sessions, and paper presentation that would surely enable us to explore the diversity of educational policy and practice in our region. In addition, school visits at the University of Santo Tomas and the University of Makati on January 30, 2015 are scheduled so that the participants would actually observe the current practices in education. The Compare Capability Building Workshop for comparative education researchers is also scheduled for some invited specialists in the field of comparative education by Compare.

It is my hope that this important event would enable us to have the opportunity to discuss together the pressing issues and concerns related to the use of comparative education studies in improving our educational practices in the Asian Region.

Prof. Virgilio U. Manzano  
UP College of Education  
President, Comparative Education Society of the Philippines



## MESSAGE

The internationalization of education ushers in opportunities to the member countries of the Comparative Education Society of Asia (CESA) in promoting varied socio-cultural diversity in the Asian region. In order to further collaboration among the Asian countries, it is then important to promote exchange of ideas through the organization of conferences and workshops as product of the concerted effort of the members of CESA.



CESA 2016 offers itself as venue for our educators in Asia to share the results of their individual researches undertaken in our field of study. It is also an avenue to exchange views and discuss ideas and pressing concerns related to the use of comparative education studies in our region. The Compare Writers' Workshop and the Capability Building Workshop, the pre- and post-Conference events, afford unique individualized support in writing and submitting research articles to invited researches from different Asian countries.

On behalf of the organizing committee, it is a great pleasure to welcome all of you to CESA 2016. To our esteemed speakers, thank you for sharing your time and expertise with us. To the British Association of International and Comparative Education (BAICE) and United Nations Gender Education Initiative (UNGEI), thank you for choosing UP Diliman as host of Compare workshops. To our participants, thank you for making CESA 2016 as your Conference. It is our hope that this Conference will further inspire you to actively pursue scholarly endeavors and contribute to the evolving field of comparative education.

To my colleagues in CESA, CESP, particularly to our president, Virgilio Manzano, and the University of the Philippines-College of Education, my warmest gratitude for the magnanimous support you have given to make this challenging yet noble task of organizing CESA 2016 both meaningful and professionally rewarding.

**Prof. Elenita Natalio Que**  
UP College of Education  
Conference Director  
CESA 2016



# SPEAKERS



**Dr. Maria Manzon**

Dr. Maria Manzon is Research Scientist at the Center for Research in Pedagogy and Practice, National Institute of Education (NIE), Nanyang Technological University, Singapore. She is Research Convenor of NIE's International and Comparative Studies Task Force. She is also Chair of the Admissions and New Societies Standing Committee of the World Council of Comparative Education Societies (WCCES) and Editor of CIElopedia, an online publication of who's who in comparative and international education. She is author/editor of several volumes on the institutional and intellectual histories of comparative education worldwide. Her research currently focuses on Asian pedagogies and parent involvement in education.

Prof. Francis Grace Duka-Pante is the Director of the ASEAN Training Center for Preventive Drug Education. It is an office mandated to conduct research and facilitate capacity-building activities in drug use prevention among ASEAN member states. She is also a member of the Colombo Plan's pool of global master trainers for the Universal Prevention Curriculum on Substance Use which trains prevention workers from the Philippines, Malaysia, Indonesia, Thailand, Singapore, Maldives, Fiji, Brazil, Bangladesh, Afghanistan, and Pakistan. Concurrently, she is a Health Education faculty at the College of Education, University of the Philippines.



**Prof. Francis Grace Duka-Pante**



**Dr. Hj Mohd Johan bin Zakaria**

Dr. Hj Mohd Johan bin Zakaria is currently the Centre Director of SEAMEO Regional Centre for Education in Science and Mathematics (SEAMEO RECSAM), Penang, Malaysia. He is responsible in developing SEAMEO RECSAM into a leading Centre in strengthening and consolidating research and training programs for science and mathematics education in the South East Asian region. He has gained a lot of experience in the field of teacher training and is actively engaged in providing consultation services to teachers undertaking PhD. courses. He is also a committee member of the National Curriculum and National Science and Mathematics.

Dr. Lorraine Pe Symaco is the founder-director of the Centre for Research in International and Comparative Education (CRICE) at the University of Malaya, Malaysia. She holds a DPhil in Education from the University of Oxford, UK. Lorraine is editor of the Journal of International and Comparative Education (JICE) and co-edits the series Education in the Asia-Pacific Region: Issues, Challenges and Prospects (Springer). Her recent book projects include Education in South East Asia (2013), Education, Poverty, Malnutrition and Famine (2014), Space, Place and Scale in the Study of Education (2015), and Education and NGOs (2016).



**Dr. Lorraine Pe Symaco**



## SPEAKERS



**Dr. Libing Wang**

Dr. Libing Wang is currently APEID Coordinator and Senior Programme Specialist in Higher Education, based in UNESCO Asia and Pacific Regional Bureau for Education, Bangkok, Thailand. His areas of responsibility with UNESCO cover higher education, teacher education, ICT in education, TVET, ESD, and research and foresight in Asia and the Pacific region. Dr. Wang got his doctoral degree in Comparative Education in 1994 at Hangzhou University, People's Republic of China. He was Assistant President and Professor of Comparative Education at Zhejiang University, People's Republic of China. He was a visiting fellow at the University of Sussex and University of Warwick in the United Kingdom in the early and late 1990s. He published widely in the areas of comparative education, higher education policies, and teacher education.

Dr. Saravanan Gopinathan obtained his doctorate in comparative higher education and education policy at SUNY, Buffalo, United States. He is currently Adjunct Professor at the Lee Kuan Yew School of Public Policy, National University of Singapore. He served as the Dean of the School of Education (Mar 1994 till June 2000) and was the former Dean of Initial Teacher Training (July 2000 till June 2003). He is presently Senior Advisor in the HEAD Foundation, an education think tank. He is founding editor of the Singapore Journal of Education, serves on the International Advisory Board of the Asia Pacific Journal of Education, and co-edits the Routledge Critical Studies in Asian Education. His two recent publications are *Education and the Nation State*, Routledge 2012 and *Globalization and Singapore Curriculum*, Springer 2013.



**Dr. Saravanan Gopinathan**



**Dr. Ryoko Tsuyenoshi**

Dr. Ryoko Tsuyenoshi is a professor at the Graduate School of Education, The University of Tokyo, and is the present Director for the Center of Excellence in School Education there. She is an executive board member of the Science Council of Japan, and is a present executive committee member of the Intercultural Education Society of Japan and the Japan Educational Research Association. She earned her Ph.D. at the Department of Sociology, Princeton University. She conducts cross-cultural comparisons of schooling through fieldwork, and she has also written extensively on multicultural issues. Her books in English include *The Japanese Model of Schooling: Comparisons with the United States* (Routledge Falmer, 2001), and *Minorities and Education in Multicultural Japan*.

Dr. Nitya Rao is currently Professor of Gender and Development at the University of East Anglia, Norwich, United Kingdom. With academic specializations in rural management and development studies, she has worked since 1985 as a researcher, teacher, trainer and social activist focusing on gender equality and women's empowerment, within broader issues of resource rights, social equity and rural development. Prof. Rao is a member of UN Women's South Asia Regional Consultative Committee and Global Expert Group on Enhancing women's economic agency and entitlements to productive assets as well as Member of the Global Advisory Committee of the UN Girls' Education Initiative.



**Dr. Nitya Rao**



# PROGRAMME

## PRE-CONFERENCE ACTIVITIES

COMPARE WRITERS WORKSHOP (University Hotel, University of the Philippines Diliman)  
January 26-27, 2016, Tuesday & Wednesday

CESA BOARD MEETING (De La Salle University, Manila)  
January 27, 2016, Wednesday

## CESA 2016 CONFERENCE - DAY 1

28 January 2016, Thursday  
Henry Sy, Bldg. De La Salle University  
Taft Ave., Manila

- |               |   |
|---------------|---|
| 7:30 - 9:00   | Registration  |
| 9:00 - 10:15  | Opening Ceremony  |
|               | Opening Address: Dr. Raymundo B. Suplido<br>President<br>De La Salle University   |
|               | Welcome Remarks: Dr. Virgilio Manzano, CESP President<br><i>Report by the President of CESA</i><br>Dr. Chanita Rukspollmuang  |
|               | Keynote Address: "Comparative Education as a Field in Asia"<br>Dr. Maria Manzon<br><i>National Institute of Education, Singapore</i>  |
| 10:15 - 10:35 | Tea Break   |
| 10:35 - 12:15 | Panel Discussion I<br><i>"Construction of Comparative Education as a Field:<br/>Implementation Practices"</i>   |
|               | <b>Dr. Lorraine Pe Symaco</b><br>Head, Centre for Research International and Comparative Education (CRICE),<br>Institute of Research Management & Monitoring,<br>Deputy Vice Chancellor (Research & Innovation), Malaysia |



# PROGRAMME

**Prof. Grace Duka-Pante**

Director, ASEAN Training Center for Preventive Drug Education

Faculty, College of Education, University of the Philippines

**Dr. Hj Mohd Johan bin Zakaria**

Centre Director of SEAMEO Regional Centre for Education in Science and Mathematics (SEAMEO RECSAM)

Penang, Malaysia

12:20 - 13:30	Lunch
13:30 - 15:10	<b>Parallel Session I</b>
15:10 - 15:30	Tea Break
15:30 - 17:10	<b>Parallel Session II</b>

## **CESA 2016 CONFERENCE - DAY 2**

29 January 2016, Friday

Henry Sy, Bldg. De La Salle University

Taft Ave., Manila

7:30 - 8:30	Registration
8:30 - 10:10	<b>Parallel Session III</b>
10:10 - 10:30	Tea Break
10:30 - 12:10	<b>Parallel Session IV</b>
12:10 - 13:30	Lunch
12:40 - 13:20	Biennial General Meeting of CESA Members (Featuring a report from the Secretary-General and Question-and-answer session)
13:30 - 14:15	<b>Keynote Address: "Diversity in Comparative Education"</b> Dr. Libing Wang APEID Coordinator and Senior Programme Specialist in Higher Education UNESCO Asia and Pacific Regional Bureau for Education Bangkok, Thailand
14:15 - 14:25	Tea Break



# PROGRAMME

14:25 - 16:05

Panel Discussion II  
"Challenges of Diversity in Asian Education"

Prof. Saravanan Gopinathan  
Adjunct Professor, Lee Kuan Yew School of Public Policy  
National University of Singapore

Prof. Ryoko Tsuyenoshi  
Professor of Comparative Education, Graduate School of Education  
The University of Tokyo, Japan

Prof. Nitya Rao  
Professor of Gender and Development  
School of International Development  
Co-editor, Compare, University of East Anglia, UK

16:05 - 16:15

Tea Break

16:15 - 17:00

Synthesis  
Closing Ceremony  
Closing Remarks by CESA President  
Announcement of CESA 2018 host

## CESA 2016 CONFERENCE - DAY 3

30 January 2016, Saturday

University of Makati/University of Sto. Tomas

8:00 - 12:00

Field Visits

8:00 - 5:00

Compare Capability Building Workshop  
University Hotel, University of the Philippines Diliman



# PARALLEL SESSIONS 1A - DAY 1

28 January 2016, Thursday

13:30 - 15:10

Comparing Pedagogical Innovations, Ways of Learning and Educational Achievement <i>Venue: Room Y407</i>	Comparing Pedagogical Innovations, Ways of Learning and Educational Achievement <i>Venue: Room Y408</i>	Comparing Pedagogical Innovations, Ways of Learning and Educational Achievement <i>Venue: Room Y409</i>	Comparing Pedagogical Innovations, Ways of Learning and Educational Achievement <i>Venue: Room Y507</i>
<p><b>Scientific Approach and Authentic Assessment Based Learning Model in Elementary Schools</b></p> <p>Ali Mustadi <i>Yogyakarta State University, Yogyakarta, Indonesia</i></p>	<p><b>Children's Literature Festival: Beyond Texts and Test for Promoting a Culture of Multiple narratives and critical thinking</b></p> <p>Saba Saeed <i>Idara-e-Taleem-o-Aagahi (ITA-Centre of Education &amp; Consciousness) Pakistan</i></p>	<p><b>Course Syllabus of the Department of Oriental language and literature, Faculty of Liberal arts, Ubonratchathani University: Students' Gratification and uses</b></p> <p>Passapong Pewporchai <i>Ubonratchathani University Thailand</i></p>	<p><b>Evaluating teaching effectiveness in business education: A Chinese perspective</b></p> <p>Qing Hui Wang, Rongchang Yang, Junyu Ge &amp; Min Chen <i>Shanghai Business School China</i></p>
<p><b>May I Know You? An Action Research Integrating Service Learning in a General Psychology Course</b></p> <p>Jennifer Luna Tuazon <i>Iloilo Science and Technology University (Formerly Western Visayas College of Science and Technology) Philippines</i></p>	<p><b>Differentiated Instruction in Grade 7 Mathematics Textbooks in the Philippines: An Illusion or a Reality?</b></p> <p>Ma. Victoria Castillo Magayon Emily Bayaugo Tan <i>University of Santo Tomas Philippines</i></p>	<p><b>Qur'anic Learning Centers Types, Models and Features: Case of Semi-Urban Rural and Remote Rural Qur'anic Schools in Banjarnegara Regency in Central Java</b></p> <p>Wiji Astuti <i>Hiroshima University Japan</i></p>	<p><b>Shadow Education: What are the Patterns, Costs, and Scale of Private Supplementary Tutoring in English at Urban Dhaka in secondary schooling in Bangladesh?</b></p> <p>Rafsan Mahmud <i>University of Hongkong</i></p>
<p><b>Academic Writing in Comparative Education: Challenges and Suggestions from Japan</b></p> <p>Masahiro Chikada <i>Kobe University Japan</i></p>	<p><b>The Problems and New Practices of Teacher Training Programs in Japan: Focus on Teacher Training Center</b></p> <p>Kaeko Suzuki <i>Teikyo University Japan</i></p>	<p><b>A Case Study on Effectiveness of Study Assistant (SA) in University Library in Japan</b></p> <p>Miki Watanabe <i>Tokyo Metropolitan University Japan</i></p>	<p><b>Nutrition, School, Home: Detriments of Academic Performance</b></p> <p>Rebecca Alcuizar <i>Mindanao State University-Iligan Institute of Technology Philippines</i></p>
<p><b>The Gap between Pre-primary Curriculum and Practice in Bangladesh: Focusing on Learning through Play</b></p> <p>Ai Kadomatsu <i>Kyoto University Japan</i></p>	<p><b>Addressing Online In-service Teacher Training Learning Difficulties: A case study on Math Teachers in Beijing</b></p> <p>Masaki Onuma, Somang Yeo Jukkrit Pitija, Ms. Arlyne Marasigan <i>Beijing Normal University China</i></p>	<p><b>Effectiveness of Mixed group dynamics on Education for Sustainable Development</b></p> <p>Taro Komatsu <i>Sophia University Japan</i></p>	<p><b>A Comparative Study on The Development of Students Pragmatic Competence Taught through Panauricon Technique and Storytelling Technique Assisted with Series of Pictures</b></p> <p>Desak Putu Deni Putri Adnyani, S.Pd, M.Sc <i>Stockholm - Sweden</i></p>
<p><b>Perceptions of High School Science Teachers About Lesson Study</b></p> <p>Joel C. Canceran Marissa G. Canceran <i>Holy Spirit National High School Philippines</i></p>	<p><b>Challenges of Education Assessment Reforms in Tanzania: Teachers' Conceptions and Practices</b></p> <p>Joyce Joas Kahembe <i>The University of Hong Kong</i></p>	<p><b>Integrating Cultural Diversity: A Pedagogical Approach to Enhance Learning</b></p> <p>Lourdes M. Ferrer <i>University of Guam USA</i></p>	<p><b>Democratic Approach for Developing Desirable Student Attitudes: The Case of Sexuality Education in Thailand</b></p> <p>Mina Chiba <i>Waseda University Japan</i></p>



# PARALLEL SESSIONS 1A - DAY 1

Comparing Pedagogical Innovations, Ways of Learning and Educational Achievement

Time: 13:30 - 15:10

Venue: Room Y407

## Scientific Approach and Authentic Assessment Based Learning Model in Elementary Schools

All Mustadi

Yogyakarta State University, Yogyakarta, Indonesia

The study aims: 1) to produce Scientific Approach and Authentic Assessment based learning model in elementary school, 2) to determine the effectiveness of Scientific Approach and Authentic Assessment based learning model in elementary school. The subjects were teachers and 87 students grade V of Labschool Giwangan Elementary School, Yogyakarta. The study used Research and Development (R&D) model which was simplified into 4 main stages: 1) exploration (preliminary research), 2) product development and expert judgment, 3) try out and revision, and 4) product validation and dissemination. The data were collected through in-depth interview, expert judgment, observation, pre-test and post-test of learning achievement, questionnaire. The qualitative data were analyzed by using an interactive analysis technique from Miles and Hubberman, while the quantitative data were analyzed by using statistical analysis both independent sample t-test and ANOVA. The result shows that: 1) based on the expert judgment, scientific approach and authentic assessment based learning model are "very good" and appropriate in use, in which the score of syllabus is 4.521 (very good) lesson plan is 46.8 (very good), achievement test instruments is 21.7 (very good); 2) scientific approach and authentic assessment based learning model is positively influence to students learning achievement of  $p < 0.05$  and it is positively effective to improve students learning achievement in the experiment class of  $p = 0.0001$ .

## May I Know You? An Action Research Integrating Service Learning in a General Psychology Course

Jennifer Luna Tuazon

Iloilo Science and Technology University, Philippines

The purpose of this participatory action research was to understand the experiences of participants as they enact their service learning project in a General Psychology course. Seven groups of freshmen students coming from two sections of a local university prepared and facilitated a seminar-workshop on personality development to their chosen communities. Data sources included transcripts of focus group discussions, student-generated observation notes, and reflection journals which were analyzed using the thematic analysis. Findings showed that the tensions and problems students encountered in enacting their service learning project focused on issues surrounding: (1) the participation and receptivity of local community members; (2) their fears and apprehensions in giving a talk for the first time to a crowd; (3) their difficulties in the preparation, in resolving conflicts among group members, in time and financial management, and fears in going to unknown places. Majority of the students reported that through the process, they have: (1) grown in their intrapersonal and interpersonal skills, (2) improved their self-esteem and self-concept, (3) developed a sense of responsibility towards those they were serving, (4) deepened their understanding and appreciation of their own personality, (5) appreciated the value of learning through experience and sharing with others, (6) experienced a sense of success and personal satisfaction, (7) tapped their inner resources as a speaker, and (8) reflected on their personal experiences that empowered them to change their wrong perceptions about themselves and others. In view of the numerous benefits of integrating service learning in a course, it is recommended that service learning shall be integrated not only in the general psychology courses but also in all other courses of the University.

## Academic Writing in Comparative Education: Challenges and Suggestions from Japan

Masahiro Chikada

Kobe University, Japan

The fieldwork-based study can approach the real life of people by keeping in touch with atmosphere in the local communities. On the other, there is a risk that the research can be a patchwork of the trivia on the specific topics. According to the semi-structured interviews, the following challenges are found on writing articles; thesis statement is self-evident or unclear; each sentence is too long and complicated; logical argument is unclear; students find little literature on the research topics. In order to solve them, the presentation shows four suggestions as learning methods on writing comparative education. The first is to learn about logical argument such as 'categorical syllogism'. Students fill the worksheets to form their thesis statements, research questions, hypotheses, and methodologies to argue the hypotheses. The second is to make each sentence as short as possible eliminating words but one subject, one predicate and one message. The third is to do the literature review from the multi-dimensions using the idea of hyponymy. The fourth is to reconsider the implication of their fieldwork experiences and learn about the education of the researchers' home country. To gain the deep implications from the fieldworks, students need comparison on the education of the research fields and their home countries.



# ORGANIZING COMMITTEES

## STEERING COMMITTEE



COMPARATIVE EDUCATION SOCIETY of the PHILIPPINES

Dr. Virgilio Manzano  
 Dr. Allan De Guzman  
 Dr. Rochelle Irene Lucas  
 Dr. Emily Tan  
 Dr. Belinda De Castro  
 Dr. John Addy Garcia  
 Prof. Elenita Que  
 Prof. Ry Sedrick DV Bolado  
 Ms. Arlyne Marasigan



COMPARATIVE EDUCATION Society of ASIA (CESA)

Dr. Chanita Ruksapollimuang  
 Dr. Mark Bray  
 Dr. Maria Manzon  
 Dr. Edward Vickers

Conference Director

Prof. Elenita Que



# ORGANIZING COMMITTEES

## Program Committee

Chairperson: Prof. Elenita Que

Co-Chairperson: Prof. Virgilio Manzano

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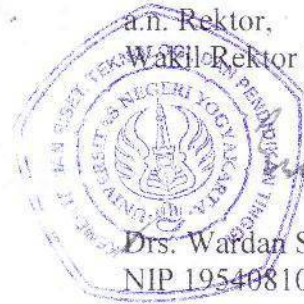
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# Scientific Approach and Authentic Assessment Based Learning Model in Thematic-Integrative Learning for Elementary Schools

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## Abstract

The study aims: 1) to produce Scientific Approach and Authentic Assessment based learning model in elementary school, 2) to determine the effectiveness of Scientific Approach and Authentic Assessment based learning model in elementary school. The subjects were teachers and 87 students grade V of Labschool Giwangan Elementary School, Yogyakarta, The study used *Research and Development* (R&D) model which was simplified into 4 main stages: 1) exploration (preliminary research), 2) product development and expert judgment, 3) try out and revision, and 4) product validation and dissemination. The data were collected through in-depth interview, expert judgment, observation, pre-test and post-test of learning achievement, questionnaire. The qualitative data were analyzed by using an interactive analysis technique from Miles and Hubberman, while the quantitative data were analyzed by using statistical analysis both independent sample t-test and *Anova*. The result shows that: 1) based on the expert judgement, scientific approach and authentic assessment based learning model are ‘very good’ and appropriate in use, inwhich the score of syllabus is 4.521 (very good), lesson plan is 46.8 (very good), achievement test instruments is 21.7 (very good); 2) scientific approach and authentic assessment based learning model is positively influence to students learning achievement of  $p < 0,05$  and it is positively effective to improve students learning achievement in the experiment class of  $p = 0,0001$ .

Keywords: Scientific approach, authentic assessment, elementary school.

## Introduction

The Indonesian government always makes changes for the sake of realizing the ideals of Indonesia to become a nation of intelligent in terms of academic, spiritual, as well as social. One of the changes that occur in the field of education is the change of the curriculum, from School-based Curriculum (SBC) into Thematic-Integrative Curriculum. Thematic-Integrative Curriculum has an objective to prepare the Indonesian people to possess the ability to live as individuals and citizens who are productive, creative, innovative, and effective, and able to contribute to the society, nation, state and world civilization (*Permendikbud* No. 66 of 2013). The main aspects of the Thematic-Integrative Curriculum are graduate competence standards (*Standard Kompetensi Lulusan/SKL*), core competence (*Kompetensi Inti/KI*), basic competence (*Kompetensi Dasar/KD*), and indicators. All of which are based scientific approach and authentic assessment. Thematic-Integrative Curriculum is also characterized by the emphasis on the attainment of attitudes, knowledge, and skills. The formulation of the Core Competence (KI) uses the following notation: a) KI-1 for core competence of spiritual attitude; b) KI-2 for core competence for social attitudes; c) KI-3 for core competence of knowledge; and d) KI-4 for core competence of skills. The core competences of grade II in Annex I *Permendikbud* No. 57 (2014, p.6) are: (1) believe and worship their religious practices, (2) be honest, discipline, responsible, polite, caring, and confident in interacting with family members, friends, and teachers, (3) understand the factual knowledge by observing (hearing, seeing, reading) and eager to ask because of curiosity about themselves, about God's creatures and their activities, and the objects they encounter at home and at



school, (4) present factual knowledge in a clear and logical language, in aesthetical artworks, in a movement reflecting healthy children, and in actions reflecting the behavior of faithful and noble children.

The implementation of Thematic-Integrative Curriculum is intended to achieve better quality education. The primary education level uses thematic learning through scientific approach that prioritizes children's real learning experiences in developing the concept of knowledge. Learning by employing scientific approach covers three domains: attitude, knowledge, and skills. The steps of learning in Thematic-Integrative Curriculum form a network for all subjects (*Modul Pelatihan Kurikulum*, 2013, p.230). Thematic-Integrative Curriculum is presented in a thematic-integrative learning model that uses a theme to link several subjects and materials to provide a meaningful experience for the learners. According to Warso (2013, p.27), thematic learning is one of the models in integrated instruction. It is a system involving several subjects to provide a meaningful experience to the students. It is meaningful because by using the thematic learning, students will understand the concepts learned through direct experience and connect them to other concepts that have been understood. This thematic-integrative learning merges subjects with common materials into a theme taught at the same time. Thematic learning is usually applied in primary school because of the characteristics of learners who look at something as a whole. They have not sort out a concept and various disciplines. The concept of thematic-integrative learning was proposed by Frederiks, Meinbach, and Rothein (1995, p.5) as follows,

A thematic approach to learning combines structured, sequential, and well-organized, activities, children's literature, and material used to expand a particular concept. A thematic unit is multidisciplinary and multidimensional; it knows no boundaries. It is responsive to the interest, abilities, and needs of children and is respectful of their developing aptitudes and attitudes. In essence, a thematic approach to learning offers students a realistic arena in which they can pursue learning using a host of contexts and a panorama of literature.

The above statement conveys that a thematic approach in learning is done by combining the subjects in order to broaden the students' knowledge. The thematic approach let students think that they can use a variety of sources as they want to. Fogarty (2009, p.95) explains that integrated model can be used as an inductive process to distinguish the essential skills of attitude as well as concepts where those skills are embedded in the disciplines. The more we share, the more similarities we find. It is concluded that through thematic learning, students can learn various things at the same time. Then more efficient time resulted. Integrative model is a combination of four subjects where each finds its main priority, namely attitude, skills and knowledge. Furthermore, thematic learning proposes some of its characteristics: (1) centered on the learners, (2) provide direct experience, (3) no clear separation among subjects, (4) presents concept in a variety of subjects, (5) flexible, (6) the learning outcomes are in accordance with the students' interests and needs, and (7) using the principle of learning while playing and having fun.

Scientific approach is completed with a system of learning assessment called authentic assessment. This kind of assessment is conducted by assessing learners with the emphasis on what should be assessed, both the process and the results. It is carried out with a variety of assessment instruments adapted to the demands of competence, both in the core competence and basic competence (Kunandar, 2013, p.35). Scientific approach is the approach employed in Thematic-Integrative Curriculum. Nasser (2014, p.5) states that "the approach elicited the knowledge of stakeholders and experts in the field". It can be interpreted that the approach is able to generate knowledge and stakeholders who will be expert in their fields. In practice, the 'scientific' has been used as an approach as well as a method. However, the characteristics of the scientific approach are not different from the scientific method. In accordance with



Graduate Competence Standard, both the approach and the method have the same learning objective, namely developing the realm of attitudes, knowledge, and skills which is elaborated for each educational unit. Using scientific approach in the learning process is intended to provide insight for learners where they will be able to identify and understand various materials, the information could have come from anywhere, anytime, and they should not rely on the one-way information from the teacher. Therefore, the learning condition is expected to encourage students to find out knowledge or concept from various sources of observation, not to be told. This is corroborated by Iheriohanma (2013, P.20) that "scientific knowledge is tentative, as every knowledge or information is needed to solve problems or to delve into the unknown." In other words, the scientific knowledge digs any existing information in order to solve problems and find unknown matters.

Thematic-Integrative Curriculum mandates the essence of scientific approach to learning. The scientific approach is believed to be the golden point of growth and development of attitudes, skills, and knowledge of the learners. The steps learning by using scientific approach include observing, questioning, trying, processing, presenting, summing, and creating (Abdul Majid, 2014, p.211). Observing method is very beneficial for the fulfillment of students' curiosity, so that the learning process will be highly meaningful. Goldston and Downey (2013, p.132) state that "it is important to encourage the student to use all their senses (visual, auditory, tactile, olfactory, and taste when appropriate) to provide maximum information when observing science event or phenomenon". The statement implies that encouraging students to use all the senses is very beneficial to provide maximum information when they are observing natural phenomena or seeing an object. The activity of questioning can lead or guide students to learn well. When the teacher is answering the questions of students, at the same time she also encourages students to become listeners and good learners. Questioning is the central tool for both teacher and student. Teacher can ask questions of students as means testing understanding about a topic. Student can ask questions of the teacher to clarify the meaning about the topic". In other words, question is the ultimate tool for teachers and students. Teachers can ask questions of students as a means to test their understanding of a certain topic. Then students can also ask questions to the teacher to explain the meaning of a particular topic. Trying is aimed at gaining real or authentic learning outcomes. Learners should possess processing skills to enhance their knowledge on the surrounding environment, as well as should be able to use scientific method and scientific attitude to solve the problems they face every day. In terms of experimental activities, Erdogan (Ozturk, Ezel, and ACAT, 2010, P.18) states that,

The main point of making experiment is to establish correlation between variables by setting up a hypothesis and with the help of it. Extract and the predictions, identifying variables, editing the collected information, using variables, and controlling are determination of the system's limits, subsystems, components inputs and outputs, variables which are open to change through the interaction.

The statement implies that the part which very important in experimenting is to build relationships between variables. Students can guess before, recognize the components, collect and organize some information, then revise the information collected and the information is open to change through interaction. Reasoning activity in the learning context in Thematic-Integrative Curriculum with scientific approach much refers to the theory of association or associative learning. The term association in learning refers to the ability of grouping ideas and associating diverse variety of events and then putting it into a fragment of memory. While transferring special events to the brain, experiences are stored in a reference to other events. According to Hosnan (2014, P.68), the learning process which happen in reasoning is processing the information that has been collected. The information can be either the one obtained simply from the activities of collecting information or the results of observing and



collecting. The information processing is starting from the one which adds its breadth and depth to the one aims at finding solutions from a variety of sources that have different or even contradictory opinions. Goldston and Downey (2013, p.137) explain that the communication activities undertaken by learners are "having student communicate through word and graphic representations such as pictographs, maps, symbols, illustrations, and reports". The statement implies that communication can be done via words and graphical representations such as pictographs, histograms, graphs, tables, tracks, models, stories, diagrams, photographs, maps, symbols, illustrations and reports.

Authentic assessment is commonly known as the actual assessment obtained from learners. According to Mardapi (2013, p.166), "authentic assessment differs from traditional assessment in some aspects". Authentic assessment is also commonly called performance-based assessment because all aspects are assessed from both the results and the process. In addition, Kunandar (2013, p.36) says that authentic assessment is assessing the learners by putting emphasis on what should be assessed in both the process and the results with a variety of research instruments that are tailored to the demands of the standard of competence which consist of core competences and basic competences. In Thematic-Integrative Curriculum, there is a change from result-based assessment gained through tests to authentic assessment based on the competence of attitudes, skills and knowledge. According to Nitkho & Brookhart (2011, pp.246-247), "authentic assessment usually means presenting the student with tasks that are directly meaningful to their education ..." The definition implies that authentic assessment means assessing the task given to students that are significant to their education. The definition of authentic assessment is identical with the assessment used to measure aspects of the overall learners' competence. Newman, King, & Charnicahel (2007, p.3) describe the aspects of authentic assessment as follows,

Authentic is used here not suggest that student are always unmotivated to succeed in conventional academic work or that basic skill and proficienes should be devalutaed but only to identify some kinds of intellectual work as more complex and socially or personally meaningful than other.

The statement conveys that authentic assessment is used to identify which kinds of intelligence are more complex and meaningful for learners than the others either personally or socially. Authentic assessment is expected to significantly portray the learners in terms of attitude and knowledge and also the skills performed. Besides, it is also meant to assess the ability of learners comprehensively during and after the learning process. The assessment desired in this textbook analysis is the one which is in accordance with Thematic-Integrative Curriculum which assesses the overall aspects of attitudes, knowledge, and skills during and after the learning process. According to Kunandar (2013, P.39), the characteristics of authentic assessment are: (1) can be used for both formative and summative, (2) measures the skills and performance, not about memorizing facts, (3) is sustainable and integrated, ( 4) can be used as a feedback. The assessment of learners' learning outcomes covers the competence of attitudes, knowledge, and skills where all are assessed in a balanced way so it can be used to determine each learner's relative position towards the established standards. This is reinforced by Ministry of Education and Culture (2014b) stating that Thematic-Integrative Curriculum implements authentic assessment to assess the learners' progress that includes attitudes, knowledge, and skills. The coverage of assessment includes the scope of the material, the subject competence/ content competence/ program competence and the process.

In Thematic-Integrative Curriculum, teachers assess the competence of attitude that is divided into two, namely spiritual and social attitude. Attitude assessment is an assessment used to observe the learners' attitudes during the learning process. The attitude assessment is very important because it determines the learners' behavior. This is in line with what Johnson & Johnson (2002, p.168) state that "attitude are important of behavior". Based on this



explanation, the attitude assessment can be carried out with a variety of assessment methods suited to the attitude that is intended to develop in the basic competence. The technique and form of attitude competency assessment can be divided into four: (1) observation, (2) self-assessment, (3) peer assessment, and (4) journal assessment.

There are some attitudes considered in this assessment. They are spirituality, honesty, discipline, etc. In peer assessment, students are guided to be more sensitive to their friends' behaviors during the learning process. In self-assessment, learners are invited to know themselves more. With honesty, learners can understand their own strengths and weaknesses after involving a learning process. The journal assessment is used by teachers to record the activities of each learner in following the learning process. In relation to the competence of knowledge, it is assessed through written tests, observation in discussion activities, question and answer and conversation, as well as assignments. Meanwhile, in assessing skills, teacher conducts it through performance appraisal. It is an assessment that requires students to demonstrate a certain competence in a practice test, project, and portfolio assessment.

Authentic assessment requires students to apply their skills and abilities in real life. It involves direct examination of the students' ability to apply knowledge to perform the tasks they encounter in real life. Therefore, there should be more opportunities for teachers to observe the process where learners finally reach an answer or response. The approach and strategy of learning are the most prominent matters in Thematic-Integrative Curriculum. Mindset transformation from the old teaching methods to the new learning methods in accordance with the Thematic-Integrative Curriculum should be made by all teachers. A good teacher is the one who would accept changes, improvement and development in education. Teachers also have to prepare learning devices to support the learning process in the classroom so that the learning process runs well as what is expected. Learning device is the actualization of learning model that will be applied in the learning process. So the device needs to be designed in order to create a fun learning. Furthermore, learning devices are a number of instructional tools, materials, media, as well as its instructions and guidelines to be used in the learning activities.

The components of learning devices developed in this study are syllabus, lesson plans, and achievement test. Syllabus is a document with a description of the subject, its objectives, list of competencies associated with the assessment criteria, list of topics, or a combination of some or all of them. Syllabus also indicates the general themes that will be developed and the tasks to be fulfilled by learners. The principles of this syllabus development are: (1) scientific; (2) relevant; (3) systematic; (4) consistent; (5) adequate; (6) actual and contextual; (7) flexible; and (8) thorough (Hidayat, 2013, pp.102-104).

The second component is lesson plan. It is a plan that describes the procedures and organization of learning to achieve one basic competence set in the Content Standard (*Standar Isi/SI*) and elaborated in the syllabus. As expressed by Mulyasa (2007, 183), lesson plan is a plan that describes learning procedures and management to achieve one or more basic competence(s) specified in SI and described in the syllabus. The components of lesson plan are (1) the identity of the school; the name of the educational unit; (2) the identity of the subject or the themes/sub-themes; (3) the class /semester; (4) the subject matter; (5) the allocation of time which is determined in accordance with the need for achieving basic competences and learning load; (6) learning objectives which are formulated based on the basic competences; (7) the basic competences and indicators of competence achievement; (8) learning materials which include the facts, concepts, principles, and the relevant procedures in accordance with the formulation of indicators; (9) the learning method: to create the atmosphere and the learning process so that learners are able to achieve the basic competences, (10) learning media, the supporting media to deliver the subject matter; (11) learning resources, such as books, printed/electronic media, and the natural surroundings; (12)



the steps of learning which are carried out through preliminary, core, and closing; and (13) the assessment of learning outcomes.

The assessment, which means a systematic procedure, should be well prepared. This is systematic because the procedures include collection, analysis, and interpretation of information to determine how far a learner can achieve the learning objectives. A good teaching and learning process should be preceded by good preparation. Without this, it is hard to realize a good learning. Therefore, teachers should be able to develop a learning model based on scientific approach and also to develop it so well that its implementation can be run in accordance with the rules of scientific approach learning. To be able to apply the learning model which is expected in accordance with Thematic-Integrative Curriculum, before teaching, presumably teacher can prepare lesson plans in accordance with the learning model to be applied. This is one of the efforts carried out by teachers in achieving the educational goals.

The learning devices as well as the achievement tests developed by teacher should be centered on the learners and adjusted to what has been stated in the syllabus. Thus, both lesson plan and evaluation are designed and implemented in accordance with the learning model that will be applied in Thematic-Integrative Curriculum in order to produce learners who are independent and who never want to stop learning.

In the learning process, teachers find it is difficulties in directing the learners to be active, such as when they are in a discussion or when they have to express their ideas. Learners are accustomed to only receive the information delivered by the teacher. It becomes a problem for teachers in implementing learning process which enable learners to be more active. Not only in terms of creating active learners, teachers are also experiencing difficulties in the assessment system, theme-based towards subject-based. This raises a question of how teachers must create forms of assessment which facilitates the needs of learners, both in the mastery of material and achievement of other competencies. Another problem comes from the handbook for teachers and learners.

Based on the observation and interview on the preliminary study (need analysis) which were conducted in August 2014 in one of Yogyakarta State University (YSU) Labschools, namely Giwangan Elementary School, there are several obstacles in the implementation of Thematic-Integrative Curriculum: (1) teachers have not developed learning models based on scientific approach and authentic assessment in the class, (2) teachers are still having problem in developing the learning model based on scientific approach and authentic assessment, and (3) the teacher needs learning models which are based on scientific approach and authentic assessment in the classroom. These are the problems causing less optimal learning in class V. Developing a learning model which is based on scientific approach and authentic assessment will be able to link a concept of learning to other concepts so that the realization learning objectives is possible.

Developing thematic integrative learning model based on scientific approach and authentic assessment in the elementary schools of YSU Labschools is necessary for the realization of appropriate learning objectives. The material selected in developing this learning model is the second theme on Life Events with its subtheme Human and Natural Events. Learners need to know what events happen in life to always be ready to face the challenges of times. Within this subtheme, much information is quite difficult to be directly observed because most of it studies the natural events that happen throughout Indonesia. Therefore, appropriate learning models should be developed so that learners can easily understand this material.

Based on the background above, the research questions of this study are as follows: 1) how is a valid scientific approach and authentic assessment based learning model in in thematic-integrative learning for elementary schools? 2) how effective scientific approach and



authentic assessment based learning model in in thematic-integrative learning for elementary schools? The aims of this study are: 1) to produce a learning model based on scientific approach and authentic assessment which is valid in thematic-integrative learning for elementary schools; 2) to determine the effectiveness of the learning model based on scientific approach and authentic assessment in thematic-integrative learning for elementary schools.

## Methodology

This is a research and development study. There are 10 steps conducted in this study as proposed by Borg and Gall in Nana Syaodih Sukmadinata (2010: 169). They are (1) research and information collecting, (2) planning, (3) developing a preliminary form of product, (4) preliminary field testing, (5) main product revising, (6) main field testing, (7) operational product revision, (8) operational field testing, (9) final product revision, (10) dissemination and implementation. Of the ten steps, they are modified by simplification in three stages: (1) preliminary studies, (2) product development, and (3) field testing. The research was conducted in elementary labschool of YSU, namely Giwangan Elementary School, Jl. Tegalturi No. 45, Giwangan, Umbulharjo, Yogyakarta from August to September 2014. The subjects of this research were the students of Giwangan Elementary School at Jl. Tegalturi No. 45, Giwangan, Umbulharjo, Yogyakarta.

The data of this study consist of pre-research data, data of product development process, feasibility data of the resulting product, and trial data. The data were obtained from several data collection techniques. The techniques employed in this study are (1) need analysis interview with classroom teachers, (2) product assessment by experts, (3) participative observation, (4) test, including pretest and posttest, and (5) response structured questionnaire. In accordance with the data collection techniques, the instruments used in this study are in the form of interview guide, assessment sheet for the validity of syllabus, lesson plans and achievement test, observation sheet of the learning activities, and questionnaire of the teachers' response.

This study used qualitative and quantitative data analysis in accordance with the development procedures undertaken. The data collected prior to the conduct of research in the form of interviews and observations were analyzed using descriptive techniques with interactive analysis model of Miles & Huberman. The early stage was done by collecting information for the initial trial. Then, a number of quantitative data were analyzed to obtain the expected research product, namely learning model based on scientific approach and authentic assessment in thematic-integrative learning for fifth grade students of elementary school. The feasibility data of the product were analyzed by tabulating the data, calculating the mean score, and changing the score to five-scale criteria with some categories.

**Table 1**  
**Interval Conversion of Mean Scores into Criteria in the Assessment of the Learning Model based on Scientific Approach and Authentic Assessment**

Score	Score Interval	Categories
A	$X > X_i + 1,8 S_{Bi}$	Very good
B	$X_i + 0,6 S_{Bi} < X \leq X_i + 1,8 S_{Bi}$	Good
C	$X_i - 0,6 S_{Bi} < X \leq X_i + 0,6 S_{Bi}$	Acceptable
D	$X_i - 1,8 S_{Bi} < X \leq X_i - 0,6 S_{Bi}$	Poor
E	$X \leq X_i - 1,8 S_{Bi}$	Very poor

In this study, the minimum score for the product was "B" with "Good" criteria. Thus, if the final result of the expert assessment is "B" or "Good", the developed product fits for use. However, if the result of the data analysis did not meet the "Good" category, a revision should be done to revise the learning devices before being tested. The data of teachers' and learners'



activities comprise two choices, namely (1) = ‘yes’ and (0) = ‘no’. The data obtained were then grouped in each meeting and each type of observation.

**Table 2**  
**The Observation Criteria of Teachers’ and Learners’ Activities**

Interval		Category
Teachers’ activities	Students’ activities	
$72 < \bar{M}$	$42 < \bar{M}$	Very good
$57,6 < \bar{M} \leq 72$	$34 < \bar{M} \leq 42$	Good
$43,2 < \bar{M} \leq 57,6$	$26 < \bar{M} \leq 34$	Medium
$28,8 < \bar{M} \leq 43,2$	$18 < \bar{M} \leq 26$	Less
$\bar{M} \leq 28,8$	$\bar{M} \leq 18$	Bad

The learning activities using the developed learning device are said to have met the criteria if the minimal category of observation is “Good”. If it has not yet achieved, the device needs to be revised based on the experts’ input. The data resulted from the questionnaire for teachers which use rating scale in the form of quantitative data were analyzed descriptively.

**Table 3**  
**Interval Conversion of the Mean Score of Teachers’ Questionnaires**

Value	Score interval	Category
A	$X > X_i + 1.8 S_{bi}$	Very good
B	$X_i + 0.6 S_{bi} < X \leq X_i + 1.8 S_{bi}$	Good
C	$X_i - 0.6 S_{bi} < X \leq X_i + 0.6 S_{bi}$	Medium
D	$X_i - 1.8 S_{bi} < X \leq X_i - 0.6 S_{bi}$	Less
E	$X \leq X_i - 1.8 S_{bi}$	Bad

Before being analyzed, the scores of students’ learning evaluation, the currently existing one from the government, in the control group were compared to those of the experimental class. The analysis of the learning evaluation is then continued with statistical tests namely test for mean difference, normality test, homogeneity test, and independent sample t-test.

## Results and Discussions

Giwangan Public Elementary School (SDN Giwangan) is one of the excellent primary schools in Yogyakarta. It is proved by the many awards obtained. The thematic-integrative learning has been applied in SDN Giwangan as the implementation of Thematic-Integrative Curriculum has also been done there since 2013. However, the learning devices made by teachers, especially lesson plans, are not relevant to the draft of Thematic-Integrative Curriculum. In addition, in terms of implementation, the lesson plans are not drawn up daily. Therefore, lesson plan is an obstacle for teachers because they do not have much time to prepare it every day. At the stage of the literature study, the researcher conducted a study of theories which are relevant to the learning model based on scientific approach and authentic assessment in thematic-integrative learning to be developed. The theories related to learning devices in elementary school were then formulated into operational definitions. Then, the instruments or the products of learning devices consisting of lesson plan and achievement test were created. The observation was conducted with an aim to obtain data about the learning devices used by teachers of primary school in thematic integrative learning. During the learning process, students had sat in groups. The members of each group had been divided

equally which means no one was more dominant than the others in the group. The discussion method had also been applied in everyday learning process but only a few were active. In the learning activities, teachers have used the handbook and each student had also used the student's handbook provided by the government. However, teachers at SDN Giwangan had not associated the learning process with scientific approach and authentic assessment. Therefore, the learning had not led to an atmosphere of a fun, creative, and innovative learning for students.

From the results of the above preliminary studies, it could be concluded that SDN Giwangan has implemented thematic integrative learning using Thematic-Integrative Curriculum for students of grade V. However, the teachers of grade 5 claimed to not understand comprehensively what is meant by thematic-integrative learning. Furthermore, the classroom teachers need but have not able to create the thematic-integrative learning based on scientific approach and authentic assessment. That is why the researcher intended to develop learning devices in accordance with Thematic-Integrative Curriculum. The teachers' need of the learning devices is the researcher's basic reason to develop learning devices which based on scientific approach and authentic assessment for grade 5 students of Giwangan Public Elementary School.

The early draft of the learning devices was designed based on the selected theme, namely the Life Events. The syllabus was based on 10 aspects, including: (a) syllabus component, (b) syllabus coverage which has been suited to the learners' development levels, (c) basic competences, (d) indicators, (e) learning activities, (f) learning materials, (g) assessments, (h) time allocation, (i) the subjects' integration, and (j) learning resources. The lesson plan developed in this study is based on Permendikbud No. 65 of 2013 on the Standard Process of Thematic-Integrative Curriculum which consists of several components: (a) the identity of the school; (b) the identity of the subject/theme; (c) the class/semester; (d) the subject matter; (e) the allocation of time; (f) learning objectives; (g) the basic competencies; (h) the learning materials; (i) the learning method, and (j) the learning media. The product of achievement test consists of: (a) the material, (b) the structure, (c) the language, and (d) the benefits / usefulness.

On the assessment of the preliminary draft, the product of syllabus obtained 104 (4.521) on its mean score and categorized "very good" with the following criteria: the syllabus has complete components, the scope of the syllabus fits the learners' level of development, the selection of the basic competences have been in accordance with the theme of "Life Events", the syllabus is completed with indicators and learning goals, the learning activities are described coherently, the learning materials are easily understood by learners, the syllabus uses authentic assessment, the time allocation corresponds to the depth of the material, the combined subjects are in accordance with the theme of "Life Events", and the learning resources employed fit the indicators.

The product of lesson plan obtained 140 (4.352) on its mean score and categorized "good" with the following specifications: it has included the core competences, basic competences, indicators, learning objectives, approach/ method, learning activities, allocation of time, learning resources, and assessment; the selection of the basic competences fit well to the theme of "Life Events" which reaches 4 core competences; the formulation of indicators supports the basic competences and includes the cognitive, affective, and psychomotor abilities; the formulation of learning objectives fits the basic competences and the indicators; the selection of the learning materials has been in accordance with the purpose and the theme of "Life Events"; the allocation of time has been in line with the breadth/depth of the material as well as the learning stages; the selection of approaches, models and methods is in accordance with the learning material and the theme of "Daily Life Events"; the learning activities are detailed, clear, and able to build the learners' understanding; the language is



easy to understand and appropriate for the students' level of thinking; the selection of learning resources and media is in accordance with the scientific approach and the learning objectives; and the instruments of the learning assessment have been capable of measuring the achievement level of the learning objectives and time allocation.

The product of achievement test obtained the mean score of 70 (5) and categorized "very good" with the following criteria: the test is completed with the identity of learners and also instruction; its coverage is capable of measuring all the indicators set; each question of the test is clear and easy to understand; the test is completed with guidelines for scoring and it is in accordance with the determined plan; each question is formulated by using words/questions/orders demanding answers from the learners and it does not generate multi-interpretations; the language fits the learners' level of thinking; it is easy to understand and is in accordance with the appropriate writing, spelling and punctuation; the achievement test has been capable of distinguishing several learning competencies and able to measure the learners' understanding of the learning materials.

### ***The Result of the Limited Trial***

In the first meeting, the mean score obtained in the implementation of the learning model with the learning devices being developed was 71.00. The observation of meeting 2 obtained a mean score of 71.00. The lesson plan applicability was categorized "very good", which means all the elements therein can be carried out easily by teachers. At the first meeting, the preliminary activity obtained a total score of 13.0 categorized "very good". The core activity obtained a total score of 47.0 with "very good" category. Then the closing activities obtain a total score of 9.0 with "very good" criterion. At the second meeting, the preliminary activity obtained a total score of 13.0 categorized "very good". The core activities obtained a total score of 47.0 in the category of "very good" and the closing activity obtain a total score of 9.0 with "very good" criterion. Based on the result of the achievement test, it is found that the highest score students obtained is 87 and the lowest one is 67.

### ***The Result of Field Trial***

There is no significant difference in the means of the learners' initial ability between the control class and the experimental class 1. The learning activities were carried out both in the control class and the experimental class in grade V of SD N Giwangan for 5 lesson-hours. The mean scores for lesson plan observation are: 66.5 for the first meeting, 69.5 for the second meeting, 70.0 for the third meeting, 70.5 for the fourth meeting, 71.0 for the fifth meeting, and 71.5 for the sixth meeting. Those scores show that the lesson plan for meeting 1, 2,3,4,5, and 6 can be accomplished with "very good" result. The observation of the teachers found that at the first meeting, the score obtained was 62 with "very good" category. At the second meeting, it obtained a score of 64 with "very good" category. At the third one, the obtained score was 67 with "very good" category. Then, at the fourth meeting, it obtained a score of 69 with "very good" category. At the fifth one, the obtained score was 69 with "very good" category. Then, at the sixth meeting it obtained 71 with "very good" category. This is in line with the result of the observation towards students of which the scores increased from the first meeting to the last one. The achievement of the learning outcomes is seen from the pretest and posttest in both classes. The mean score obtained on the pretest in the control class was 76.43 with a standard deviation of 4.15. The experimental group obtained a mean score 76.07 with a standard deviation of 4.16. Then, the mean score of the posttest in the control group was 81.55 with a standard deviation of 3.33 while the experimental group obtained a mean score of 84.76 with a standard deviation of 4.66. The main result of a learning process is learning outcomes. Thus, in addition to the analysis of differences of improvement, an analysis on the learning outcomes between students in the control class and experimental class

needs to be conducted. The analysis found that, at the end, the abilities of the students in those three classes are different. Students of the experimental class have higher mean score than those of the control class. It is shown by the significant increase of the scores obtain by students of the experimental class than the control class. Therefore, it can be concluded that in total, the scores of students of the experimental group were better than those of the control class.

### ***Product Revision***

The revision was carried out at each stage of development. It is conducted based on the advices from the experts, peers, and teachers. The final products of this study are thematic-integrative learning devices based on scientific approach and authentic assessment with a theme “Life Events” and subtheme “Human and Natural Events” which consist of syllabus, lesson plans, instructional media, and achievement test. The developed syllabus makes teachers can easily and quickly prepare the similar syllabus but with more comprehensive materials. The lesson plans make them quickly prepare more coherent and complete learning activities. The achievement test makes them evaluate the learners’ ability more easily and fast. The learning devices developed in this study fits for use in a thematic-integrative learning in elementary schools. It is because the syllabus, according to the experts, obtained a mean score of 104 categorized "very good", the lesson plans got a mean score of 148 categorized "very good" and the achievement test obtained a mean score of 70.0 categorized "very good".

Those learning devices are effective, either the syllabus, lesson plans, or the achievement test. The mean scores of the students’ learning outcomes achievement has increased as indicated by the scores of pre-test and post-test. Based on the observations in the limited trial and field trial, during the learning activities, the students looked happy, so excited and enthusiastic, especially when they carried out some experiments outside the classroom, had discussions, discovered or searched for information in the surrounding environment. The strengths of the products include (1) those learning devices, all of which contain elements of scientific approach and authentic assessment; (2) the learning process will be more effective, efficient and enjoyable because all the major learning devices needed have been available within these ones.

### **Conclusions**

The learning model which is in the form of thematic-integrative learning devices on the theme of “Life Events” is said to be appropriate in use. The thematic-integrative syllabus and lesson plan was developed based on scientific approach and authentic assessment that it is relevant to the learners’ needs. Overall, as a united learning device with a theme of “Everyday Life Events”, this developed product is highly effective and it can make 58 students (100%) achieved a complete learning and acquired classical completeness for 92.60%.

### **Recommendation**

In terms of its advantage, the learning model by using thematic-integrative learning devices based on scientific approach and authentic assessment which was developed can be used by teachers with a purpose of developing the learners’ competences in elementary school. It can be employed as a prototype or a guide to create the similar learning design but with different themes. Besides, schools can also use it as a blueprint which then can be changed, added, or reduced to better suit the conditions of learners and to be used as a source of reference for teachers in implementing the thematic-integrative learning especially on the theme of “Everyday Life Events” for students in the fifth grade of elementary school. Based on the trial result of the operational products, the learning devices are effective to improve the students’ learning outcomes. Then, in its implementation, cooperation among teachers, school



leaders and the government is needed to provide the necessary facilities. This is important because, in practice, the implementation of the learning model through the developed learning devices require additional facilities and costs when compared to conventional learning.

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