Book of Abstracts
4th International Conference on Education (ICEDU 2018)

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Committee of the ICEDU- 2018
The International Institute of Knowledge Management (TIIKM)
Tel: +94(0) 11 3132827
info@tiikm.com
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Official website of the conference

www.educationconference.com

Book of Abstracts of 4th International Conference on Education (ICEDU 2018)

Edited by Prof. Eugene P. Sheehan

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Tel: +94(0) 11 3098521
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MESSAGE FROM THE HOSTING PARTNER ICEDU 2018

The University of Northern Colorado (UNC) is a proud hosting partner of the Fourth International Conference on Education to be held in Bangkok in April of 2018. This is our third time to collaborate with the International Institute on Knowledge Management to organize this important conference. The University is excited to be a part of a conference that allows scholars and practitioners in education from around the world, and especially South East Asia, to present their research and their practical ideas in order to enhance education.

We have a long tradition in education, having been founded in 1889 as a State Normal School to prepare elementary school teachers. Since then UNC has grown to become a comprehensive university of about 13,200 students that offers over 100 undergraduates programs and a wide range of graduate programs, especially in education. UNC prepares the largest number and broadest array of teachers in the Rocky Mountain Region of the United States. Our graduate programs, offered on campus and online, prepare educators for virtually every job in a school including superintendent, principal, teacher leader, teacher, educational coach, school psychologist, nurse, nutritionist, audiologist, and educators working with students with special needs, including the visually and hearing impaired.

UNC’s education programs have earned a range of prestigious awards including the Christa McAulliffe Award for Excellence in Teacher Preparation. Some of our programs have been nationally ranked by US News and World Reports. Our faculty members publish in high quality journals and are regularly the recipients of large grants, such as a recent $2.2 Million grant to collaborate with rural school districts in Colorado, USA.

This International Conference on Education fits with the mission of UNC to improve scholarship and educational practice worldwide. We believe that researchers and practitioners, coming together at conferences such as this one, can advance the quality of education received by students worldwide.

More information about UNC and our programs can be obtained from our website (www.unco.edu) or by talking to Eugene Sheehan (eugene.sheehan@unco.edu), Dean of the College of Education and Behavioral Sciences and Conference Chair, or Teresa McDevitt (Teresa.mcdevitt@gmail.com), conference keynote speaker and emeritus professor.
Hello and welcome to Bangkok, Thailand, and to the Fourth International Conference on Education.

It is my great pleasure to serve as conference chair for the third time for the International Conference on Education, organized by the International Institute of Knowledge Management (TIIKM). The University of Northern Colorado (www.unco.edu), my home institution, is proud to be a hosting partner. I attended the first conference in Beijing and was chair for the last two conferences in Bangkok and Kuala Lumpur. Both conferences were lively events where education researchers and practitioners from around the world came together to discuss a wide array of important issues in education.

This year promises to be equally stimulating. The theme around *Sharing Knowledge, Building Dreams* is purposely broad so that we could have an eclectic array of papers ranging over a variety of themes including such topics as innovative educational practices, learning sciences, curriculum that works, and more. We will have about 150 papers from about 25 countries. So we are truly international.

I want to thank TIIKM for organizing the conference and for attending to all the logistical details including the hotel, meals, program, and all aspects of conference planning.

I hope during your time at the conference that you take the opportunity to engage with your peers to discuss your ideas for research and practice and that you ask questions of the presenters. There will be plenty of opportunities for collaboration. We will all benefit from our combined participation at this Fourth International Conference on Education.

I also hope you spend some time exploring Bangkok, one of my favourite cities.

**Conference Chair ICEDU 2018,**
**Eugene P. Sheehan,**
Dean, College of Education and Behavioural Sciences,
University of Northern Colorado,
USA.
# PLENARY SPEECHES

Innovative Educational Practices: Problem Solving Method for Independent Learning in Mathematics  
*S.T. Mehmood*

Are You Working Hard? Comparing Two Measures of Mental Effort during a Learning Task  
*B.D. Beitzel*

# ORAL PRESENTATIONS

## INNOVATIVE EDUCATIONAL PRACTICES (A)

<table>
<thead>
<tr>
<th>Code</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>01</td>
<td>English as a Medium of Instruction in Secondary Schools in Sri Lanka: Challenges</td>
<td>A.R. Wijayatunga</td>
</tr>
<tr>
<td>A2</td>
<td>02</td>
<td>Transforming Academic Programs in Malaysian Higher Education for Thriving in Fourth Industrial Revolution</td>
<td>N.H.M. Saad and R.A. Alias</td>
</tr>
<tr>
<td>A3</td>
<td>03</td>
<td>Innovation and Challenges</td>
<td>R.A. Memon</td>
</tr>
<tr>
<td>A4</td>
<td>04</td>
<td>Teaching Blended Instruction through Blending</td>
<td>M.A. Williams-George and M.D. Williams-George</td>
</tr>
<tr>
<td>A6</td>
<td>06</td>
<td>Entrepreneurial Learning Transformations into Activities</td>
<td>12</td>
</tr>
<tr>
<td>-----</td>
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<td>--------------------------------------------------------</td>
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<tr>
<td></td>
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<td><em>B. Virginija</em></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>A7</th>
<th>07</th>
<th>Learning Leadership Matters: Preparing Academic Leaders in Higher Education</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><em>A. Zulfqar, M. Valcke and S.N. Hussain</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A8</th>
<th>08</th>
<th>Integration of Mathematics’ E-Learning in Resources-Based Learning</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><em>R.P. Yaniawati, B.G. Kartasasmita and R. Kariadinata</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A9</th>
<th>09</th>
<th>Development of Linear Algebra and Algebra Structure Teaching Materials Based Concept Maps</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><em>R. Kariadinata, R.P. Yaniawati and I. Nuraida</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A10</th>
<th>10</th>
<th>Can Think-Pair-Share Reduce Math Anxiety of Junior High School Students?</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><em>W.L.Y. Patricia</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A11</th>
<th>11</th>
<th>The Role of the Key Competencies of Vet Teachers in Enhancing Quality of Didactic Process</th>
<th>17</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><em>G. Gedvilienė and S. Daukilaš</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A12</th>
<th>12</th>
<th>Evaluation of Cooperative Learning: Does It Enhance Learning among the Gen Z Learners?</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><em>Y.Y. Teh and T.Y. Moy</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A13</th>
<th>13</th>
<th>Comparative Studies on Entrepreneurial Orientation and Engagement of University Students in Guangdong, Hong Kong and Macau</th>
<th>19</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><em>Y. Liu</em></td>
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</table>

<table>
<thead>
<tr>
<th>A14</th>
<th>14</th>
<th>Rural University Education: An Approach to Sustainable Development in South Africa</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><em>C. Uleanya, Y. Rugbeer and H. Rugbeer</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A15</th>
<th>15</th>
<th>Graduate Teachers’ Readiness to Follow Online Teacher Training Courses</th>
<th>21</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><em>L.R. Gonsalkoralá</em></td>
<td></td>
</tr>
<tr>
<td>A16</td>
<td>16</td>
<td>Participatory Approach in the Design of Creative Community Spaces in Surabaya</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>D. Thamrin, L.K. Wardani, R.H.I. Sitindjak and L. Natadjaja</em></td>
<td></td>
</tr>
<tr>
<td>A17</td>
<td>17</td>
<td>Educational Attainment, Teaching Experience, Professional Development and Self-Efficacy as Predictors of Chemistry Content Knowledge: Implication for the Development of a National Promotion Examination</td>
<td></td>
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<tr>
<td></td>
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<td><em>A. Guidote, R.F. Nicdao and J.D.R. Galiza</em></td>
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<tr>
<td>A18</td>
<td>18</td>
<td>Intercultural Teaching Experiences of a Selected Group of Filipino Pre-service Teachers in an Overseas Practicum Immersion</td>
<td></td>
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<td></td>
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<td><em>F.D. Garcia</em></td>
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<tr>
<td>A19</td>
<td>19</td>
<td>Knock, knock! Who’s there? An Integrated Theory of Volunteer Work Related to Education in the Philippines and Nigeria</td>
<td></td>
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<tr>
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<td><em>V. M. F Salazar</em></td>
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<tr>
<td>A20</td>
<td>20</td>
<td>The Effect of Project – Based Learning on Undergraduate Students English for Specific Purposes (ESP) Courses</td>
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<td></td>
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<td><em>A. Kavlu</em></td>
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<tr>
<td>A21</td>
<td>21</td>
<td>Synergetic Language Matrix</td>
<td></td>
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<td></td>
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<td><em>V. Svistelnik</em></td>
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<tr>
<td>A22</td>
<td>22</td>
<td>Story Mapping Strategy for Increasing Reading Comprehension on Student with Intellectual Disabilities</td>
<td></td>
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<td><em>C. Oktavia and H. Indrijati</em></td>
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<tr>
<td>A23</td>
<td>23</td>
<td>Effectiveness of Remedial Writing Visual-Motor Integration to Improve Quality of Handwriting in Elementary School Students</td>
<td></td>
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<td></td>
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<td><em>Y. Hidayati and H. Indrijati</em></td>
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</tr>
<tr>
<td>A24</td>
<td>24</td>
<td>Utilizing Blogs in the Classroom to Improve Writing Skills</td>
<td></td>
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<tr>
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<td><em>E.D. Bacon</em></td>
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<tr>
<td>A25</td>
<td>25</td>
<td>The Efficacy of Teacher’s Written Corrective Feedback (WCF) towards Students’ Narratives</td>
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<tr>
<td></td>
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<td><em>R.C. Lagutan</em></td>
<td></td>
</tr>
<tr>
<td>A26</td>
<td>26</td>
<td>Overstay Teacher Transfers in Sri Lanka: Impact on Management and Teacher Performance in Public Schools</td>
<td></td>
</tr>
<tr>
<td>A26</td>
<td></td>
<td>A.R. Wijayatunga</td>
<td></td>
</tr>
<tr>
<td>A27</td>
<td>27</td>
<td>Implementation of Teacher Teaching in Teaching and Learning in Special Education National School</td>
<td></td>
</tr>
<tr>
<td>A27</td>
<td></td>
<td>R. Veloo, R. Subramaniam, T.L. Ling, A.P.T. Kosin, V.M. Niob and Y.M. Yong</td>
<td></td>
</tr>
<tr>
<td>A28</td>
<td>28</td>
<td>Understanding the Spirituality of Teacher Leaders in Selected Educational Institutions in Asia</td>
<td></td>
</tr>
<tr>
<td>A28</td>
<td></td>
<td>F.I.P. De Vera</td>
<td></td>
</tr>
<tr>
<td>A29</td>
<td>29</td>
<td>Mathematics Teachers’ Levels of ICT Expertise and Use, Their Beliefs about ICT Integration and Students’ Problem Solving Skills</td>
<td></td>
</tr>
<tr>
<td>A29</td>
<td></td>
<td>M.J.D. Pastor and LAC. Pedro</td>
<td></td>
</tr>
<tr>
<td>A30</td>
<td>30</td>
<td>Collaborative Peer Teaching and Self-Regulated Learning: The Effect on Students Conceptual Understanding</td>
<td></td>
</tr>
<tr>
<td>A30</td>
<td></td>
<td>M. Rusli, I.N.S. Degeng, P. Setyosari and Sihkabuden</td>
<td></td>
</tr>
<tr>
<td>A31</td>
<td>31</td>
<td>Perspectives of Lecturers and Graduates of International Degree Programmes on the Influential Factors in Selecting a Bachelor’s Degree from Private Higher Educational Institutes in Sri Lanka</td>
<td></td>
</tr>
<tr>
<td>A31</td>
<td></td>
<td>K.A.V. Abeygunawardena</td>
<td></td>
</tr>
<tr>
<td>A32</td>
<td>32</td>
<td>The Peculiarities of Self-Regulation of Future Music Teachers during the Practice</td>
<td></td>
</tr>
<tr>
<td>A32</td>
<td></td>
<td>R. Kirliausiene</td>
<td></td>
</tr>
<tr>
<td>A33</td>
<td>33</td>
<td>Exploration of Physics Problem-Solving Skills with Phenomena-Based Learning in Senior High School Students</td>
<td></td>
</tr>
<tr>
<td>A33</td>
<td></td>
<td>L. Yuliati and Parno</td>
<td></td>
</tr>
<tr>
<td>A34</td>
<td>34</td>
<td>Enrichment Activities in Mathematics: An E-learning Material for Kindergarten</td>
<td></td>
</tr>
<tr>
<td>A34</td>
<td></td>
<td>J. Kinguingan, W. Ligmayo, L.M. Espiritu and J.A. Doculan</td>
<td></td>
</tr>
<tr>
<td>A35</td>
<td>35</td>
<td>Enhancing Teacher Understanding in ONET Idea through Thinking Skills Focusing on Science Process Skills for Private School Teachers</td>
<td></td>
</tr>
<tr>
<td>A35</td>
<td></td>
<td>P. Nookorn</td>
<td></td>
</tr>
<tr>
<td>Page</td>
<td>Title</td>
<td>Authors</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>A36</td>
<td>Conducting Action Research in the Classroom: A Practical Asset in the Development of the Reflective Analytic Teacher Practitioner</td>
<td>M.D. Williams-George and M.A. Williams-George</td>
<td></td>
</tr>
<tr>
<td>A37</td>
<td>The Impact of Training on Micro-Teaching for Student Teachers in the College of Education at Kuwait University</td>
<td>J.T. Al-Tammar and S.J. Al-Jassar</td>
<td></td>
</tr>
<tr>
<td>A40</td>
<td>Student’s Media Literacy Skill’s Improvement Using Character Education Based Media Learning Model</td>
<td>D. Lyesmaya, I. Nurasiah, T. Hartati and I. Cahyani</td>
<td></td>
</tr>
</tbody>
</table>

**CURRICULUM THAT WORKS (B)**

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Improving the Quality of Learning Environment through Process Oriented Guided Inquiry Learning (POGIL) Enriched by Socioscientific Issues (SSI) on Chemistry Solution</td>
<td>S. Rahayu, F. Aldresti and F. Fajaroh</td>
</tr>
<tr>
<td>B2</td>
<td>Collaboration Skills of 8th Grade Secondary Students in Science Learning with Engineering Design Activity</td>
<td>F. Nuraeni, A. Permanasari and Riandi</td>
</tr>
<tr>
<td>B3</td>
<td>Fostering Research-Based Learning in Online Higher Education</td>
<td>M. Valcke, L. Wagemans, L. De Backer, C. Jaramillo-Baquerizo and B. De Wever</td>
</tr>
<tr>
<td>B4</td>
<td>Career Counseling Based on BIH (Believes, Ideals and Hobbies) for Increasing Career Maturity</td>
<td>R. Hidayati, I. Lestari and Sucipto</td>
</tr>
<tr>
<td>No</td>
<td>Page</td>
<td>Title</td>
</tr>
<tr>
<td>----</td>
<td>------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>B6</td>
<td>46</td>
<td>Career Decision and K to 12 Curriculum Exits of Senior High School Students</td>
</tr>
<tr>
<td>B7</td>
<td>47</td>
<td>Managing Children’s Depression Behaviour to Promote Mental Health Well-Being in the Classroom</td>
</tr>
<tr>
<td>B8</td>
<td>48</td>
<td>Representation Microscopic Level Assisted Visualization Technology and Student’s Understanding of Chemistry Concepts</td>
</tr>
<tr>
<td>B9</td>
<td>49</td>
<td>Development of Curriculum for Regional Based Education to Optimize Student Potential of Indonesia</td>
</tr>
<tr>
<td>B10</td>
<td>50</td>
<td>Analyzing Business Graduates Employability through Soft Skills Development: Graduates and Employers Perspective</td>
</tr>
<tr>
<td>B11</td>
<td>51</td>
<td>Community Outreach Program: An Effective Approach for Two-Way Learning Process</td>
</tr>
<tr>
<td>B12</td>
<td>52</td>
<td>Evaluation of the Physical Education and Sports Teacher Undergraduate Program (The Case of Turkey)</td>
</tr>
</tbody>
</table>

**EFFECTIVE TECHNOLOGY IN THE CLASSROOM (C)**

<table>
<thead>
<tr>
<th>No</th>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>53</td>
<td>Engaging Polytechnic Students with Student Generated Videos</td>
<td>A. Low</td>
</tr>
<tr>
<td>C2</td>
<td>54</td>
<td>Enhancing Learning in Undergraduate Introductory Physics Course Using Photovoice</td>
<td>J.T. Cuansing</td>
</tr>
</tbody>
</table>
C3 55 Campus Support Model to Enhance Online Instruction 62
L. Chen

C4 56 Learning Beekeeping Online: Exploring the Effectiveness of Internet-Based Distance Learning in Basic Beekeeping Training 63
A.J. Paigao and E. Centeno

C5 57 Blended Learning in Indonesian Higher Education: Benefits and Challenges 64

C6 58 Internet Usage and Juvenile Delinquency in High School Students in Surabaya Indonesia 65
H. Indrijati, E. Mastuti and Prihastuti

C7 59 Teachers’ Technological Pedagogical Content Knowledge (TPACK) in the K to 12 Mathematics Curriculum: Basis for an ICT Training Program 66
J.M.B. Lumabao and L.A.C. Pedro

C8 60 The Effectiveness of Infographic on the Kinematics of Rectilinear Motions Concept on Student Results in Senior High School 67
N. Apriyanti, M.S.N. Shaharom and S.S.A. Rahim

C9 61 Teacher’s Perspectives on the State of Today’s Education and the Mobile Learning BYOD (Bring Your Own Device) Effect on Student Learning in Higher Education 68
P. Coelhoso

C10 62 ICT Challenges to the Teaching – Learning Process: Basis for the Development of Digital Literacy Program 69
M.G.L. Apale

C11 63 The Animal Kingdom: An ELMBC 70
J.J. Nipahoy, M.M. Daniels, D. Lobhoy and J.A. Doculan

C12 64 Utilization of Environment Learning Media around through Modeling Activities to Increase the Teacher Ability and Ability of Environment Problems around Basic School Students in the Border Region 71
M. Tindangen
### LEARNING SCIENCE (D)

<table>
<thead>
<tr>
<th>D1</th>
<th>68</th>
<th>Model of Science Learning through TPACK Framework Based on Hybrid Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><em>W.H.F. Rorimpandey, N. Degeng, P. Setyosari and S. Ulfa</em></td>
</tr>
<tr>
<td>D2</td>
<td>69</td>
<td>“I’m Too Old to Learn New Technology”: Senior Teachers’ Self Concept in Using ICT in Educational Practices</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>R.I. Nur and A. Asmawi</em></td>
</tr>
<tr>
<td>D3</td>
<td>70</td>
<td>The Effect of Principal’s Technology Leadership on Teacher’s Technology Integration</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>R. Thannimalai and A. Raman</em></td>
</tr>
<tr>
<td>D4</td>
<td>71</td>
<td>Students’ Motivational Beliefs, Values and Goals as Related to Academic Hardiness: Implications to Mathematics Teaching and Learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>E.M. Santos</em></td>
</tr>
<tr>
<td>D5</td>
<td>72</td>
<td>Status of the Faculty and Their Teaching Performance Towards the Students’ Academic Performance</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>M. S. Matusalem and K. P. Tagudin</em></td>
</tr>
<tr>
<td>D6</td>
<td>73</td>
<td>Enhancement of Employment Satisfaction on Emotional Needs and Work Persistence</td>
</tr>
</tbody>
</table>

---

C13 65 Earth and Space: An ELMSC  
*C.M. Veranga, A. Cabilinan, A.L. Cabilinan and J.A. Doculan*

C14 66 The Factors of Reflective Learning through Web Technology  
*K.P. Ngam, T. Kantawatana and P. Pimdee*

C15 67 A Mobile Learning Tool for Students with Dyscalculia  
*A.M. De Los Reyes, A. Acuña, H. Javier and G. Oliveros*
<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>D7</td>
<td>Challenges in Self-Regulated Learning among Local and International Students in Malaysia</td>
<td>M. Mohamad, S.N.A. Rabu and K.N.A Kamaruddin</td>
<td>81</td>
</tr>
<tr>
<td>D8</td>
<td>Relationship between Social Support and Catharsis Adjustment in Student Athletes</td>
<td>A.R.M. Shariff, N.A. Majid and N.A. Ahmad</td>
<td>82</td>
</tr>
<tr>
<td>D9</td>
<td>Self-Efficacy of Malaysian Maritime Education and Training Instructors in Adopting TPACK Model in Teaching</td>
<td>L.C. Heong, C.P. Kin, P. Moses and E.P. Hoon</td>
<td>83</td>
</tr>
<tr>
<td>D10</td>
<td>Teachers’ Awareness about Novelty, Predictability and Assessment to Enrich Learning Environment</td>
<td>K. Zaheer</td>
<td>84</td>
</tr>
<tr>
<td>D11</td>
<td>Reflection of Character Values on Curriculum 2013 Implementation in Elementary School: Indonesian Context</td>
<td>E. Meivawati</td>
<td>85</td>
</tr>
<tr>
<td>D12</td>
<td>Shadow Education System in Bangladesh: A Blessing or a Curse?</td>
<td>M. Mustary</td>
<td>86</td>
</tr>
<tr>
<td>D13</td>
<td>The Relationship between Spiritual Intelligence, Locus of Control and Knowledge Concept of Ecology with Environmental Altruistic Behavior</td>
<td>M.A. Umar</td>
<td>87</td>
</tr>
<tr>
<td>D14</td>
<td>How Social and Cognitive Awareness Instruction Can Promote Learning</td>
<td>C. Lin and H. Tsai</td>
<td>88</td>
</tr>
<tr>
<td>D15</td>
<td>The Ability of (Linguistic and Mathematical) Multiple Intelligence in Predicting the Achievement of Higher Primary Stage Students in Jordan in the Courses of Arabic and Math</td>
<td>O.S. Murad</td>
<td>89</td>
</tr>
</tbody>
</table>
D16  83  An Analysis of Monitoring and Evaluation System Launched by Punjab Education Department

H.A. Nadeem and A.M. Saadi

D17  84  Principal’s Best Practices on Parents and Community Engagement of Schools in Malaysia

N.A. Ahmad, R. Idris, N. Majid, A.F.A. Rahman and A.R.M. Shariff

D18  85  The Impact of Communication Skills, Leadership and Critical Thinking in Generic Skills on Achievement Development of Pre-University Students in Malaysia

R. Idris and N.A. Ahmad

D19  86  Re-Design of Basic Physic Experiment to Build Science Process Skills (SPS) Pre Service Physics Teacher

S. Utari

D20  87  Designing Classroom Activity: To Understand the Key Psychological Perspectives in an Introductory Course

R. Kabir

D21  88  Improvement of Evaluation of Educational Program by Educational Development in the Border Region through Focus Group Discussion (FGD) Activity

A. Hardoko

D22  89  Analysis of Learning Difficulties about “Introduction to Accounting and Finance of Worksheet Material Learning” a Case Study of Student at Financial Expertise Class Program - SMK Negeri 1 Banjarmasin

M. Suratno and R.H. Rizky

D23  90  Indonesian Academics Work Motivation

L. Linda

D24  91  Test Anxiety, Computer Self Efficacy, and Perceived Ease of Use in Completing Computer-Based Test on First Year Students

E. Mastuti

xviii
### ASSESSMENT AND RELIABILITY (E)

<table>
<thead>
<tr>
<th>E1</th>
<th>92</th>
<th>The Mediating Role of Self-Confidence in Predicting Academic Achievement by Effort for Different Ability Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>K.L. Chue</td>
</tr>
<tr>
<td>E2</td>
<td>93</td>
<td>Data Mining for Student Achievements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L. Chen</td>
</tr>
<tr>
<td>E3</td>
<td>94</td>
<td>Validation of English Placement Test of Batangas State University</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R.P. Perez</td>
</tr>
<tr>
<td>E4</td>
<td>95</td>
<td>The Career Adapt-Abilities Scale-Indonesian Form: Psychometric Properties and Construct Validity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>W. Sulistiani</td>
</tr>
<tr>
<td>E5</td>
<td>96</td>
<td>STEM and 21st Century Skill Initiatives in the United Arab Emirates Education Sector(s)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A. Rhodes</td>
</tr>
</tbody>
</table>

### WORKING WITH DIVERSE POPULATIONS (G)

<table>
<thead>
<tr>
<th>G1</th>
<th>97</th>
<th>Preferred Communication Channels among Omani Students for Academic Advising</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B.A. Omari and A. Saqr</td>
</tr>
<tr>
<td>G2</td>
<td>98</td>
<td>Educating for Sexual Diversity at University</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N. Nodin</td>
</tr>
<tr>
<td>G3</td>
<td>99</td>
<td>Indigenous Education in Siberian Arctic: Technologies and Perspectives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N.P. Koptseva and A.A. Sitnikova</td>
</tr>
<tr>
<td>G4</td>
<td>100</td>
<td>Teaching Social Science Research Methods to Non-Native English Speaking Students of International Relations in Thailand</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R.M. Rudolph</td>
</tr>
</tbody>
</table>

xix
G5 101 Innovation & Indian Thinking

D. Hridayash

G6 102 Design Guidelines for the Use of Indigenous Knowledge in Interactive Exhibits Linked to the School Curriculum

A. Potgieter, T. Schellens and M. Valcke

G7 103 Weekend Recreational Activities of Academic Staff of the Federal University Wukari

E.G. Gonap, A.B. Dante, J.E. Ali and U. Benjamin

G8 104 Bruneian Students’ Adjustment Experiences in the UK: An Exploratory Study of Their Adaptation Journey

S.M. Salleh

G9 105 Fostering Servant Leadership among Public Elementary School Heads in Batangas Province

L.M. Asi

G10 106 Good Governance Framework for the Management of the Student Research Program

E.J.S. Cunanan and R.P. Cunanan

G11 107 Senior High School Students’ Use of Social Media and Its Perceived Effects on Academic Performance

M.L.N. Macabale, M. Ishigaki, D.L. Rareza and M. Cequeña

G12 108 Ethical Perceptions and Intentions among Undergraduate Students in Singapore

C.W. Xin and A. Tali

G13 109 Enhancing Creativity through Batik Training as an Attempt to Preserve Cultural Awareness in Primary Schools

L.K. Wardani, S.M. Sari and A. Christianna

G14 110 Developing Cultural Competence: The Impact of an Immersion Program in Cambodia for Australian Pre-Service Teachers

C. Lembke and W. Boyd

G15 111 Professional Competencies of the Contemporary Music Teacher: Attitude of Students

J. Abramauskienė
G16 112 Rethinking Educational Communication as a Domain of Development Communication

*R.L. Mendiola, M. Moscoso and E. Centeno*

G17 113 Using Books in Addressing the Socio-Emotional Problems of Children with Hearing Impairment

*R.V. De La Cruz and M.C.C. Colendrino*

G18 114 Acceptance of Inclusion among Regular Education Teachers in the Philippines

*M.C.C. Colendrino*

G19 115 Education Meets Globalization –An Ethnographic Collaborative Study on Global Education

*S.M. Manning, L. Galves and I. Iqbal*

---

**POSTER PRESENTATIONS (P)**

P1 116 The Differences in the Attitudes of the Students with and Without Learning Disabilities towards Including Their Peers with Mild Intellectual Disability in Regular Elementary Schools

*M. Sayyah and N. Tazi*

P2 117 The Influence of Social and Humanitarian Effects of Education in Life Quality of Northern Territory Residents in Krasnoyarsk Region

*A.A. Lukyanova, G.S. Savolaynen, L.A. Didenko and E.S. Kononova*

P3 118 Enhancing Social and Emotional Education in Vietnam

*L. Addimando, D. Antognazza, D. Kappler, P.T. Hien and N.V. Trung*

P4 119 The Effectiveness of Electronic Module in Blended Learning to Improve Learning Achievements in Learning

*K.A. Sugiani, I.N.S. Degeng, P. Setyosari and Sultan*

P5 120 Blended Learning for IR4.0

*J. Jowati*
P6  121 Analysis of Self Directed Learning Readiness and Academic Success Based on Fuzzy Logic
   
   D.B. Lasfeto, P. Setyosari, E.T. Djamika and S. Ulfa

P7  122 Sweet Brine: Innovative Procedure to Convert Hard-Rinded Fruit Wastes to Bonbon Desserts

   M.G.R. Datinguinoo and D. Baes

P8  123 Student Profile in Completing Questions Based on Cognitive Level of Bloom’s Taxonomy by Anderson and Kreatwohl

   W.N. Arlianty

P9  124 The Application of Life Skills Capabilities on Manufacturer of Making of Alum from Canned Waste

   B.W. Febriana

P10  125 Employability, Employment and Learning Possibilities for the 45+ in the European Countries: Comparative Perspective

   G. Gedviliené and V. Tūtlys


VIRTUAL PRESENTATIONS

126 Designing an Internship Program of Authentic Entrepreneurial Learning Experience for Students in Entrepreneurship Class

   S.M. Inaya, O. Nina, R. Wisudani and N.P. Hana

127 A Comprehensive Approach: Reveals the Success of Conservation Education in College

   W. Rahmaningtyas, H.N. Purasani, N. Oktarina and I.S. Melati

128 Analysis of Management Information System Requirements for Learning Office Practices

   H.N. Purasani, N. Oktarina, Ismiyati, I.S. Melati and W. Rahmaningtyas

129 Character Education Based on National Culture

   N. Oktarina, H. Pramusinto, W. Rahmaningtyas, I.S. Melati and H.N.
Purasani

130 Math Game as a Learning Media Fun for Kids  
*M.I.P. Nasution*

131 The Use of Cooperative Instructional Strategies to Cater for the  
Learning Style Differences among Grade 11 Learners’ to Enhance  
Their Academic Achievement in Physical Sciences  
*S. Danso and E. Mushayikwa*

132 Inquiry-Based Learning Embedded in 5E Learning Strategy to  
Investigate Learning Progression of Grade 9 Students for Force and  
Effects of Resultant Forces Acting on Objects Concepts  
*T. Kanokwan and R. Prissana*

133 Assessment of ICT Usage among Secondary School Computer  
Teachers and Students in Nsukka Education Zone of Enugu State,  
Nigeria  
*U.U. Ugwu*

134 Analyzing Business Graduates Employability through Soft Skills  
Development: Graduates and Employers Perspective  
*A. Sultana*

135 Understanding the Power of Digital Literacy and Famous Online  
Transportation for Students’ Social Behavior  
*A. Fadillah, Tusyanah, N. Oktarina and R.N. Anissa*

136 Exploring the Influence of Social Proof and Purchasing Intention on  
Students’ Purchasing at Marketplaces  
*R.N. Anissa, Tusyanah, R. Setiyani and A. Fadillah*

137 Simulated Computer-Based Instruction—An Intervention for Lessons  
Missed due to Absences  
*Reyes, Y.D. Rosa, Agbay and N. Gomez*

138 The Impact of Simulations on Prospective Teachers Training  
*J. Paz-AlboPrieto, J.R. Jor’dan and A.H. Escobar*
139 High School Culture in Malaysia
Merlina

140 EFL Undergraduate Learners’ Readiness towards Mobile Learning
Z. Moosavi, D. DeWitt and Z. Naimie

141 Investigating the Impact of E-Marketing Teaching and Social Media Activeness on Students’ Entrepreneurial Interest
Tusyanah, H. Yanto, R.N. Anissa and A. Fadlilah

142 Chinese Students’ Cultural and Behavioural Differences among Domestic and Internationally Oriented Educational Institutions
R. Haarms, J. Holtzman, T. Xue and D. Darbyshire

143 Communicative Language Teaching Compared to the Training of Students’ Professional Direction
S.V. Gridneva

144 Digital Inclusion in the Teaching Planning Process in the UTSV
L.A.K. Morales, E.M. Reyes and E.G. Manuel

145 Mathematics Skills as Predictor of Chemistry Students’ Performance in Senior Secondary Schools in Akoko South Local Government Area Ondo State, Nigeria
T. Orimogunje

146 Implementing Multiple Intelligences, Map Concept and Portfolio Assessment to Improve Classroom Atmosphere and Undergraduate Nutrition Students’ Performance in Nutrition Care Process
S. Rahmawaty
ENHANCING CREATIVITY THROUGH BATIK TRAINING AS AN ATTEMPT TO PRESERVE CULTURAL AWARENESS IN PRIMARY SCHOOLS

L.K. Wardani, S.M. Sari and A. Christianna

Faculty of Art and Design, Petra Christian University, Indonesia

ABSTRACT

Batik is an Indonesian cultural heritage that can enhance one’s creativity in order to obtain independent achievements. The skill of batik making has been passed down through generations in family circles and taught in formal educational institutions. Batik training is one that is conducted in the field of arts (learning about art and learning through art). Art education generally emphasizes on creativity in order to encourage an appreciative and creative character through teaching materials in the curriculum, learning methods, learning environment, and human resources of the educator. The research object in this paper are primary school children from grades 5 and 6. Specific targets determined for this research are to assist primary students in discovering their talents, developing their skills and creativity in creating motifs that are sourced from the natural environment, implementing them in patterns, and training one’s self through batik techniques. To achieve these goals, the research adopts the experimental method through training of batik writing and batik colel. The learning materials give students opportunities to gain a deeper knowledge of batik, learning by observing, learning by doing and learning to process together. Research results reveal that children are able to produce various creative works that are inspired by plants and animals. The increase of the student’s creativity has been influenced by factors such as the student’s personality, the facilitator as external motivational drivers, creative activity processes, and works as evidence of the children’s learning outcomes.

Keywords: Batik training, children creativity, primary school
Enhancing Creativity Through Batik Training as An Attempt to Preserve Cultural Awareness in Primary Schools

Laksmi Kusuma Wardani\textsuperscript{1}, Sriti Mayang Sari\textsuperscript{2}, Aniendya Christianna\textsuperscript{3}

Faculty of Art and Design, Petra Christian University,
\textsuperscript{1}laksmi@petra.ac.id, \textsuperscript{2}sriti@petra.ac.id, \textsuperscript{3}aniendya@petra.ac.id
ENHANCING CREATIVITY THROUGH BATIK TRAINING AS AN ATTEMPT TO PRESERVE CULTURAL AWARENESS IN PRIMARY SCHOOLS

Abstract: Batik is an Indonesian cultural heritage that can enhance one’s creativity in order to obtain independent achievements. The skill of batik making has been passed down through generations in family circles and taught in formal educational institutions. Batik training is one that is conducted in the field of arts (leaning about art and learning through art). Art education generally emphasizes on creativity in order to encourage an appreciative and creative character through teaching materials in the curriculum, learning methods, learning environment, and human resources of the educator. The research subject in this paper are primary school children from grades 6. Specific targets determined for this research are to assist primary students in discovering their talents, developing their skills and creativity in creating motifs that are sourced from the natural environment, implementing them in patterns, and training one’s self through batik techniques. To achieve these goals, the research adopts the participatory action research method through training of batik writing and batik colet. The learning materials give students opportunities to gain a deeper knowledge of batik, learning by observing, learning by doing and learning to process together. Research results reveal that children are able to produce various creative works that are inspired by plants and animals. The increase of the student’s creativity has been influenced by factors such as the student’s personality, the facilitator as external motivational drivers, creative activity processes, and works as evidence of the children's learning outcomes.

Keywords: Batik training, children creativity, primary school

Introduction

Batik is a piece of wasstra or cloth made with traditional technique of blocked dyeing using batik wax to prevent colors from penetrating (Doellah, 2002). The skill of batik has been passed down over generations. Batik is taught in non-formal institutions and some artisans are engaged in home industry for independent economic improvement. Batik contains local wisdom of Indonesian culture that may lead to enhance one’s creativity towards an independent achievement. When we explore batik making, we will identify a number of techniques, methods, and cultural values supporting the establishment of character, personality, and disposition of a particular person. The basic idea of this study is that a good character has to be shaped and established since the early age. Therefore, the skill of batik making is a part of creative process that may lead to the improvement of independent attitude and behavior among children. Accordingly, children should have learned how to make batik since they are in primary schools. However, in Surabaya, there is not a single primary school that implement batik making in its academic curriculum. Primary schools should accommodate adequate local content in their curriculum in order to allow children to be familiar with cultural heritage and sustain them through cultural art works and vocational artisanship.

One of the objectives of art education is enhancing the creativity among children. Through art training, children will have acquire positive characters that shape their values of appreciation, critical thinking, and creativity through learning methods, media usage, and teachers. Batik training ensures the development of creative character. Students are expected to be responsive to visual forms, sensitive to environmental issues, and skillful in potential self-development. At the same time, students should be skilled at critical evaluation, have perseverant, thorough, and careful task accomplishment, as well as pride to one’s self art works. They are expected to possess certain qualifications such as having factual knowledge in doing simple tasks using the...
Laksmi Kusuma Wardani, Sriti Mayang Sari, Aniendya Christianna / Enhancing Creativity Through Batik Training as An Attempt to Preserve Cultural Awareness in Primary Schools

specified tools, rules, and processes under the supervision of teachers. They should also be fully responsible for the process and accomplishment of the task.

Batik training is aimed towards cognitive development (knowledge), psychomotoric improvement (productive skill), and affective enhancement (attitude). This training emphasizes the importance of the learning of art and learning through art (Pinta, 2015). Training that is centered on cognitive development, psychomotor improvement, and affective enhancement will result in creative students. UNESCO (2009) reported that high-quality education has to lead to the achievement of four learning principles. They are 1) learning how to be, 2) learning how to learn, 3) learning how to do, and 4) learning to work together. The implementation of the four principles will ensure the extensive enhancement of students’ creativity in the society (Shaheen, 2010). Parents, teachers, and community play important roles in the enhancement of a child’s personality. Therefore, both internal and external school environment should provide adequate free space for creative activities.

The objectives of this batik training, using the techniques of painting and brushing (colet), are to identify the children’s talents, improve skills, and enhance creativity. The traditional technique of batik painting involves the application of batik wax on a piece of cloth using a pen-like tool called canting. The coloring technique of batik colet is done by applying colors using a paintbrush without dyeing. Therefore, this technique is more simple and easy to learn for primary school students. This activity ensures interaction between students, teachers, and trainers that accordingly, may lead to direct dialogue, suggestion, and transfer of knowledge and skill.

Research Method

Formal educational institutions provide appropriate places for the students to learn in order that the students can optimally enhance their talent and creativity in compliance with their personal needs. Education institutions should encourage students to create creative works through creative activities or creative processes. The environment that provides chances and opportunities for the students to perform creative activities and creative processes will lead to the production of creative works (Munandar, 2002).

This study employs participatory action research emphasizing the principle of learning by doing. Students, teachers, headmasters, facilitators, and researchers were engaged in the study. The subjects of the study are grade 6 students of Sekolah Dasar Negeri Simolawang KIP 156 Surabaya and Sekolah Dasar Negeri Sidodadi II Surabaya. Data was collected through observation on the process and outcome. Descriptive analysis was employed in this study to describe the learning processes oriented to the enhancement of cognitive, psychomotor, and affective aspects (action planning) to result in creative works. Students underwent the following four action learning steps:

1. Students explored active traditional batik artisans to enhance students’ skill (seeing, listening, and learning from experts), and explored the city park to enhance students’ sensitivity to creative personal potentials using the environment as the source of ideas. It is expected that they can document various motifs of flora and fauna (factual data of observation).

2. Students produced designs to improve the students’ creativity through batik motif making and composition development.

3. Students joined batik training to improve students’ skill through the making of batik works using both painting and brushing technique.

4. Students held work exhibitions to obtain appreciation, criticism, suggestion, and compliment in an attempt to objectively evaluate the success rate of the learning program.

Results and Discussion

Batik training is intended for the transfer of knowledge (scientific knowledge of batik art), creativity enhancement (motif making, composition, and coloring), and skill improvement (technique of batik making).
Creativity is a popular term in art and design. It particularly refers to creative activities that result in new ideas and innovation (Hurlock, 1978). The creative activities of batik training include introduction, knowledge transfer, and direct learning through seeing, touching, and feeling. Eventually, trainees will have to make or create an artwork. Acceptance, participation, and evaluation as parts of affective behavior will have to be enhanced since the early age. Knowledge, comprehension, analysis, application, and evaluation are intended to enhance cognitive aspects. Meanwhile, perception, preparedness, guided movement, accustomed movement, complex movement, movement adjustment, and work speed are intended to improve psychomotor aspects (Wardani, 2002). The creative processes in batik training will be further elaborated in the following discussions.

In the exploration of batik artisans, primary school students were expected to see, observe, know, and learn to know directly from the artisans in the batik home industry in Jetis, Sidoarjo, East Java (figure 1). The artisans shared knowledge about process, materials, tools, and their creative products. The skillful artisans shared their batik skills to the public since they are aware that batik has to be preserved by the new generation. Learning by directly observing artisans’ activities and having a dialogue with them enabled the students to acquire knowledge regarding motifs, colors, and techniques. Therefore, students will be motivated to learn further.

The exploration of batik artisans also enabled the students to identify and explain the creative economic potentials and understand various kinds of creative products. Direct observation is needed to stimulate students’ curiosity on something new or something that they have not studied at school. Students will give higher appreciation to traditional cultural values and the artisans’ perseverance and creativity in the process of batik making. Outdoor learning through direct observation of artisans’ activities is both enjoyable and educational. However, the information that the artisans gave to the students were occasionally not optimally recorded by the students.

Therefore, teachers had to prepare worksheets to be filled up by students when they have an outdoor learning activity. They are requested to report what they have observed. However, in spite of the possibility of inadequate data recording in students’ memory (optimally or less optimally remembered), this initial activity is beneficial and useful as a warming up exercise to enhance the children’s creativity (figure 2).

Figure 1 Students had a field exploration to the workshop of Batik Amri Jaya, Jetis, Sidoarjo, East Java – Indonesia. The students enthusiastically watched and listened to the explanation of traditional batik making process. This exploration is beneficial for the students to be able to appreciate the artisans’ profession. In addition, it is also useful for the students in identifying traditional art and culture existing and developing in local societies.
Figure 2 Students made a report in the batik artisans’ workshop by filling up the worksheet prepared by the researcher to identify how much they can record the information provided by the artisans.

The students also had another exploration activity in the city park of Surabaya. The objectives of this activity are to provide a learning medium and to explore the natural potentials in the development of batik motifs. Environmental exploration encourages students’ creative sensitivity with the environment being the source of idea. The output of the exploration is the documentation of various motifs of flora and fauna. In the activity, each school was divided into small groups with one facilitator. The facilitators were the students of interior design department of Petra Christian University. The researchers ensured that the facilitators and school teachers facilitated the students in observing the trees, leaves, flowers, animals, and other natural objects that can potentially be resources for the development of batik motifs (stimulating the emergence of idea through observation of natural objects). When the students have observed various kinds of plants and animals in the park, the students created their own motif after discussing it with the group and the facilitator. They imitated and drew what they have observed based on their own imagination. The students observed, recorded, and identified the potential and characteristics of the objects. Furthermore, they identified, selected, drew, and created alternative motifs based on observation of nature.

Figure 3 The students made motifs with the environment being their source of idea. They were facilitated by the facilitators and school teachers
Natural environmental exploration is beneficial to identify various kinds of natural potentials. Equally important is that it encouraged the students’ ability to identify their personal potentials that they are capable of making particular motifs and realized that they can find various kinds of alternative motifs based on environmental observation. The output of this exploration are various kinds of attractive, unique, and child-like flora and fauna motifs. Although they imitated what they saw directly, they created spontaneous and attractive forms of expressions (figures 4 and 5).

Figure 4 A number of sample leaf motifs created by the students of Sekolah Dasar Sidodadi II and Sekolah Dasar Simolawang KIP 156. Lines and arches are the shapes easily captured by children’s visual sense. Therefore, the created expression is a well-arranged leaf.

Figure 5 A number of sample animal motifs created by the students of Sekolah Dasar Sidodadi II and Sekolah Dasar Simolawang KIP 156. The students captured 3-dimentional shapes by their visual sense. Then they expressed them on a piece of drawing paper. They output was a two-dimensional shape. The shapes were the output of spontaneous expression, which was the specific characteristic of 10-year-old children.

In the design making, the teachers and facilitators assisted the students in identifying the uniqueness of their talents in a simple method. The tools and materials needed were only sample motifs made of paper, cotton cloth, and pencil (figure 6). In this training, two methods were applied. In the first method, the facilitators shared the motif already made by the students. Then they made a model with a piece of thick paper. Therefore, the students just made the composition on a piece of cloth based on the already prepared model. In the second model, the students made a motif with free composition on a piece of cloth. In the second method, the students were expected to have a free imagination and creation in a flexible time just like in the first method already practiced at school. Facilitators facilitated and divided the motif compositions into groups. The results of the activity indicated the students’ eagerness in training. They were truly delighted and motivated.
Batik training includes the transfer of knowledge/theory on batik integrated into batik making with simple techniques. The work of batik making starts from the application of wax on a piece of cloth by a pen-like tool called *canting*. The next step is the coloring with the Colet technique. The final step is the wax removal or locally known as *nglorod*. At the initial step of batik making, the traditional technique with *canting* was introduced to students. They practiced how to apply wax to the previously prepared motif composition. The tools and materials needed among others are 1) wax for *nglowong*; 2) medium-sized *canting* to make motif outline or *nglowong* and small-sized *canting* for *isen-isen* (filling) or *cecek* (dots), or large-sized *canting* to give emphasis on the lines to be distinguished, 3) wax boiler and stove filled with kerosene, 4) hurdle for hanging the cloth.

Batik is made of textile colored with a particular specific motif and wax-blocked dyeing. The technique of batik making is the process ranging from the textile preparation to the batik completion. The preparation work includes the preparation of the textile including *nggirah/ngetel* (washing), *nganji* (starching), and *ngemplong* (ironing, calendaring). Students of primary school did not need to perform this task. They only needed the knowledge of basic techniques. The process of batik making includes wax application on particular motifs of textile, *celup* (dyeing), *colet*, painting, printing to the removing of wax from the textile (Susanto, 1980). Batik painting with *colet* technique involves the use of *canting* for painting and coloring on the expected motif and dyeing technique to provide basic color for the batik. In this project, the students accomplished these activities together with teachers and facilitators or trainers (figure 7). Teachers and facilitators helped students find the uniqueness of their talent and appreciate them through realizing their drawings in the form of batik motifs. Involvement of teachers in the learning process by practicing would result in the improvement of the students’ self-confidence.
The coloring process using the *colet* technique is an interesting creative process for students. Togetherness with teachers and facilitators can motivate students to learn more. Even the students will be motivated to try further. The coloring process used the remazol paint with the help of a brush (figure 8). Batik colors are obtained in different ways. First, batik can be colored with brush, drying, fixation, and *nglorod* (wax removing) and washing. In the process, the brushed textile is placed in a waterless solution for fixation. After that, the wax was removed from the textile in the boiling water. This process is known as *nglorod*. The textile is then dried in a place away from direct sunlight. The process is more simple and quick, without any process of dyeing as in the process of batik making with indigosol paint. Second, batik can also be colored with fifty grams of remazol paint per one liter of water, or five grams per 100 cc of water. Third, coloring can be obtained by fixation with water glass or sodium silicate of 50% or 30°. Fourth, fixation takes 60 minutes at room temperature (cooling). Fifth, the batik *colet* still uses the batik painting technique through the process of *nglorod* without boiling. Sixth, to have a red color or the substitute color for one piece of textile ten grams of remazol paint (200 cc of paint solution) and 0.25 liters of sodium silicate solution of 50% or 30° Be or water glass would be required. At this stage, the researchers had prepared all materials for this project.
Laksmi Kusuma Wardani, Sriti Mayang Sari, Aniendya Christianna / Enhancing Creativity Through Batik Training as An Attempt to Preserve Cultural Awareness in Primary Schools

Figure 8 Coloring stage on the composition already made with the *colet* technique using a brush.

The evaluation of activities revealed that remazol paint is safe for children and hence for the primary school children. The process was simple and fast. It could be easily and practically applied like the usual process of batik making. Therefore, the *colet* process with remazol color did not require a new difficult technique. In addition, the color was bright. The real color would soon appear after the students apply the brush on the textile. This condition simplified the process of color composition making. The batik had a bright color and good quality. It was also economic and thus it is affordable to middle-to-lower groups. The application was also practical and simple. Water glass or sodium silicate was used for fixation or washing in order to ensure that the color did not fade. The selected colors for the *colet* process in the training were yellow, wine-red, Turkish blue, green, orange, violet, and pink. Meanwhile, the materials were size one and two oil paint brushes as the *colet* tools, cups to contain paint, foam to color large areas, cotton buds to color little motifs, and water glass for fixation.

After the *colet* process was over, the next process was fixation with water glass. The textile was dried at room temperature for several hours. In real practice, fixation takes minimally 1 hour. In this training, considering the limited time, the fixation took only 15 to 30 minutes before the textile was dried. After the textile dried, it was placed in boiling water (*nglorod*). It was then dried again. The evaluation revealed that the students were very happy and were eager to perform further experiments. The students carried out all the processes perseveringly and orderly. They passed the stages independently under the guidance of facilitators and teachers. The students were very proud of their final output. Teachers and trainers had been engaged in the training and working. They contributed much to the success of the activities. The students enjoyed the process of batik making with teachers and facilitators under the supervision of the headmasters and researchers. The students’ works can be used for decoration of interior design elements. The bright color compositions make students’ batik decoration distinguished when they are placed on the walls, a representation of the children’s cheerful character in the learning process (figure 9).
Figure 9 Fixation stage (the process of fixing the color to prevent from fading away) using water glass, removing the wax with boiling water, washing with cold water, and drying the batik.

The final activity was exhibition and joint work display. The exhibition is the final step in the training. Evaluation of the final works of the students revealed the display of student potentials as such as imagination, creation, and production of good works. This final step was an important moment for the students to show their personal existence and expression in the society. It was also intended to reveal students achievement to the society and to enhance self-confidence and self-awareness in one’s potential (figure 10).

Figure 10 Joint exhibition as the final activity of the training to nurture the sense of pride among the students in the society.

The evaluation of the final products of the students revealed that the students generally applied free composition and centered arrangement, since the textile used for the training was in the form of a square (figure 11). In general, the students were very happy with free expression. Initially, they were encouraged to use three motif compositions. However, they had their own creation and developed the compositions at their own will.
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PRODUK KARYA

Figure 11 Students’ final products representing the students’ final expression in a free creation.

Overall, the evaluation results in batik training revealed positive outcomes of the students’ intellectual development as summed up in table 1.

Table 1. Intellectual Behaviors Enhanced in the Batik Training for Primary School Students

<table>
<thead>
<tr>
<th>No</th>
<th>Stages of Batik Training</th>
<th>Cognitive</th>
<th>Psychomotoric</th>
<th>Affective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Exploration of technique and skill of batik makers. Visit to batik makers in the surrounding community</td>
<td>Get acquainted and familiar with various kinds of batik technique and the process of batik production.</td>
<td>Students learn to prepare, pay attention, hear, see, record the results demonstrated.</td>
<td>Students orderly pay attention, ask, and appreciate batik makers and creative resources.</td>
</tr>
<tr>
<td>2</td>
<td>Exploration of natural resource potentials Visit to city park, surrounding natural environment.</td>
<td>Know and understand various kinds of motif and natural potential sources in the surrounding environment as the source of idea in the making of batik motifs.</td>
<td>Students learn to search, select, determine, hold, touch and write exploratory findings, and study within groups.</td>
<td>Students are able to identify, choose, orderly discuss options, and report on exploration results.</td>
</tr>
<tr>
<td>3</td>
<td>Motif design making Batik motif making (various creations)</td>
<td>Students are able to find an idea and make various kinds of motif to be chosen in the batik composition making. Reactions are directed, imitations, create motifs, designing motives with the group.</td>
<td>Students are able to discuss, perform, and complete the making of motifs.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Design making Batik motif composition making</td>
<td>Students are able to compose simple motif using the natural composition technique.</td>
<td>Students make a reaction that is directed, make development, and try a new arrangement, designing with the group.</td>
<td>Students are able to show, connect, combine, organize and refine the arrangement of motives.</td>
</tr>
<tr>
<td>5</td>
<td>Design Criticism Reciprocal observation, mutual appreciation and input to students works among students or between trainers or teachers and students</td>
<td>Students are able to criticize the strength and weakness of students works together with the trainers and teachers. Natural reactions, showing each other a good composition, discussions with teachers, facilitators, and groups.</td>
<td>Students listen to input / accept or reject criticism, able to differentiate, maintain, and improve the results already produced.</td>
<td></td>
</tr>
</tbody>
</table>
Enhancing Creativity Through Batik Training as An Attempt to Preserve Cultural Awareness in Primary Schools

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<tbody>
<tr>
<td>6</td>
<td>Design making</td>
<td>Developing the composition previously prepared based on the inputs</td>
<td>Students are able to develop shape composition based on suggestion / inputs / criticism from trainers and teachers.</td>
<td>Students improve, make changes, and work quickly.</td>
</tr>
<tr>
<td>7</td>
<td>Pattern and composition making</td>
<td>Moving the motif and composition of batik to the textile</td>
<td>Students are able to make batik composition pattern on textile.</td>
<td>Natural reactions, complex reactions, and creativity are developed by the scraping of pencil on the cloth.</td>
</tr>
<tr>
<td>8</td>
<td>Wax application</td>
<td>Process of batik painting on textile</td>
<td>Students are able to understand and comprehend the technique of batik painting on textile.</td>
<td>A complex reaction, creativity is developed by the drawing with wax onto a cloth.</td>
</tr>
<tr>
<td>9</td>
<td>Coloring</td>
<td>Process of coloring with the technique of Colet using a brush</td>
<td>Students are able to comprehend and understand the basic technique of batik Colet, choosing colors and making composition.</td>
<td>A complex reaction, creativity is developed by painting the color with a brush on a cloth.</td>
</tr>
<tr>
<td>10</td>
<td>Fixation</td>
<td>Process of color fixing with water glass</td>
<td>Students are able to understand tools, materials, techniques, of color resisting techniques in order that the color does not fade away.</td>
<td>Directed reactions, complex reactions, adaptation to ways / techniques, tools and materials</td>
</tr>
<tr>
<td>11</td>
<td>Nglorod</td>
<td>Process of removing the wax from the textile in the boiling water</td>
<td>Students are able to understand tools, materials, and techniques of wax removal from textile.</td>
<td>Directed reactions, complex reactions, adaptations to methods / techniques, tools, and materials</td>
</tr>
<tr>
<td>12</td>
<td>Washing and drying Batik cloth</td>
<td>Process of washing the residue of wax from the textile and dry it</td>
<td>Students are able to finish the final step by removing the residue of wax from the textile and dry it.</td>
<td>Directed reactions, complex reactions, adaptations to, ways / techniques, tools, and materials</td>
</tr>
<tr>
<td>10</td>
<td>Exhibition of Works</td>
<td>Exhibition of batik already made by students</td>
<td>Students are able to make comparison and show existence.</td>
<td>Installing works, composing and placing works in exhibition displays</td>
</tr>
</tbody>
</table>

Conclusion

The process of learning how to be, learning how to learn, learning how to do, and learning to work together can be successful depending on the of students’ personal factors such as willingness to study, having a curiosity, willingness to try, and willingness to do. Such conditions had resulted from the engagement and motivation of teachers and facilitators. In addition, mutual observation and reciprocal suggestion contributed much to the success of the work. Students were motivated to achieve further. Through the process of batik training, students practiced and developed skills, and enhanced their creativity in the field of art. It was apparent that students were able to produce various kinds of creative works. From the research, it was found that batik training for primary school students is influenced by four factors. They are personal factor (willingness and motivation to
learn), motivator (support, appreciation, and compliment from environment, teachers, parents, and community), process (opportunity provided by schools for students to be engaged in creative activity to produce creative works), and product creation (students’ creative works).

Appreciation to the art inherited from the ancestors of Indonesia should be preserved over generations through formal education since early years of education in primary schools. The research has revealed that batik training can enhance the students’ cognitive, psychomotoric, and affective behaviours and potentials. When the characteristics of art training that is adjusted to the competence, knowledge, and skills of primary school students, batik art training have the potential to develop into official education in formal education institutes with its specific techniques. Batik art can become a prospect for further development of the society and hence should be included in the curriculum of art and culture. As such, skillful teachers with excellent batik skills would be required in the future and this would start from existing teachers’ willingness to learn and share with the younger generation.

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