BOOKLET
STEEM
SCIENCE TECHNOLOGY ENGINEERING
ECONOMIC EDUCATION AND
MATHEMATICS
2019

THE SYNERGY OF MULTIDISCIPLINARY RESEARCH AND
INNOVATION RESULT TO ANSWER THE GLOBAL CHALLENGES
OF THE REVOLUTIONARY ERA 4.0

Organized by:
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Speech and Oral Report
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Universitas Ahmad Dahlan, Indonesia

Technical and Logistic

Faizun  
Deni Supriyanto  

Universitas Ahmad Dahlan, Indonesia
PREFACE

Assalamualaikum warahmatullahi wabarakatuh

It is an honor and privilege to welcome you to the first Science Technology Engineering Economics Education Mathematics (STEEEM) Conference 2019 with Theme “The Synergy of Multidisciplinary Research and Innovation Results to Answer the Global Challenges of The Revolutionary Era 4.0”.

The Science Technology Engineering Economics Education Mathematics (STEEEM) Conference is held in Auditorium UAD Yogyakarta from 30 to 31 December 2019. The conference is organized by the Graduate Program of Mathematics Education at UAD. The STEEEM aims to provide a platform and media collaborator for academics, researchers, technology bearers and education practitioners to share their knowledge and ideas, expand their networks, present their research findings, experiences, improvisations, and expertise and explore other potential benefits that might contribute to effective management and utilization of Intellectual Property.

There are 191 participants from academics, government agencies, and industries, who contribute 139 papers on the field of applied science, technology, engineering, economics, education, mathematics, and health science that make the conference a unique platform for a productive, the interdisciplinary exchange of ideas with the most participants from Trisakti University was 46 speakers.

The STEEEM conference invited 6 plenary lectures delivered by: the first is Assoc. Prof. Dr. Abdulrasyid Tolangara, SPd., MSI., from Universitas Khairun, the second is Assoc. Prof. Dr. Yahya Hairun, M.Si., from Universitas Khairun, the third is Asbullah Muslim, S.Fil.I., M. Pd.I., from STIT Palapa Nusantara, the fourth is Assoc. Prof. Ahmad Diponegoro, Ph.D., from Universitas Ahmad Dahlan, the fifth is Dr. Sutaryo, M.Ed Tesol., from Universitas Khairun, and the last is Drs. Akmal, M.Hum., M.Sc., Ph.D., from Universitas Ahmad Dahlan. We also want to thank invited speakers Prof. Dwi Sulisworo from Universitas Ahmad Dahlan, Assoc. Prof. Dr. Astri Rinanti from Trisakti University, and Assoc. Prof. Dr. Rungchatchadaporn Veharchart from Thaksin University.

Finally, the success of this conference cannot be achieved without the contributor of the numbers of individuals. We would, therefore, express our sincere gratitude to all of the organizing committees, scientific committees, keynote speakers, presenters, participants, and all contributors who have put their finest effort to make this conference a big success. Last but not least, I hope all participants have a productive, rewarding and enjoyable experience from the event.

Thank you being here with us. We value your presence at the Science Technology Engineering Economics Education Mathematics (STEEEM) Conference. Enjoy the conference.
**RUNDOWN**

<table>
<thead>
<tr>
<th>TIME</th>
<th>AGENDA</th>
<th>ROOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>07.00 - 08.00</td>
<td>Registration</td>
<td>AUDITORIUM</td>
</tr>
<tr>
<td>08.00 - 08.45</td>
<td>Opening and Photo Session</td>
<td>AUDITORIUM</td>
</tr>
<tr>
<td>08.45 - 09.00</td>
<td>Coffee Break</td>
<td>AUDITORIUM</td>
</tr>
<tr>
<td>09.00 – 09.50</td>
<td>Keynote Speaker 1&lt;br&gt;Prof. Dr. Ir. Dwi Sulisworo, M.T.</td>
<td>AUDITORIUM</td>
</tr>
<tr>
<td>09.50 – 10.40</td>
<td>Keynote Speaker 2&lt;br&gt;Assoc. Prof. Dr. Astri Rinanti, M.T.</td>
<td>AUDITORIUM</td>
</tr>
<tr>
<td>10.40 – 11.30</td>
<td>Keynote Speaker 3&lt;br&gt;Assoc. Prof. Dr. Rungchatchadaporn Vehachart</td>
<td>AUDITORIUM</td>
</tr>
<tr>
<td>11.30 – 12.00</td>
<td>Briefing: Publishing Manuscripts in a Scopus-indexed Journal</td>
<td></td>
</tr>
<tr>
<td>12.00-13.00</td>
<td>Lunch and Praying Break</td>
<td></td>
</tr>
<tr>
<td>13.00-15.00</td>
<td>Parallel Session</td>
<td>ROOM 1-9</td>
</tr>
<tr>
<td>16.00-16.15</td>
<td>Closing Ceremony, Best Paper &amp; Best Presenter Announcement</td>
<td>AUDITORIUM</td>
</tr>
<tr>
<td>TIME</td>
<td>ROOM 1</td>
<td>ROOM 2</td>
</tr>
<tr>
<td>------------</td>
<td>---------</td>
<td>------------</td>
</tr>
<tr>
<td>13.00-13.15</td>
<td>Assoc. Prof. Dr. Abdulrasyid Tolangara, S.Pd, M.Si</td>
<td>Assoc. Prof. Dr. Yahya Hairun, M.Si.</td>
</tr>
<tr>
<td>13.15-13.25</td>
<td>STEEEM-1</td>
<td>STEEEM-16</td>
</tr>
<tr>
<td>13.25-13.35</td>
<td>STEEEM-2</td>
<td>STEEEM-17</td>
</tr>
<tr>
<td>13.35-13.45</td>
<td>STEEEM-3</td>
<td>STEEEM-18</td>
</tr>
<tr>
<td>13.45-13.55</td>
<td>STEEEM-4</td>
<td></td>
</tr>
<tr>
<td>13.55-14.00</td>
<td>QUESTION AND ANSWER</td>
<td></td>
</tr>
<tr>
<td>14.00-14.10</td>
<td>STEEEM-5</td>
<td>STEEEM-20</td>
</tr>
<tr>
<td>14.10-14.20</td>
<td>STEEEM-7</td>
<td>STEEEM-21</td>
</tr>
<tr>
<td>14.20-14.30</td>
<td>STEEEM-8</td>
<td>STEEEM-22</td>
</tr>
<tr>
<td>14.30-14.40</td>
<td>STEEEM-10</td>
<td>STEEEM-23</td>
</tr>
<tr>
<td>14.40-14.50</td>
<td>STEEEM-11</td>
<td>STEEEM-25</td>
</tr>
<tr>
<td>14.50-14.55</td>
<td>QUESTION AND ANSWER</td>
<td></td>
</tr>
<tr>
<td>14.55-15.05</td>
<td>STEEEM-35</td>
<td>STEEEM-27</td>
</tr>
<tr>
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<td>STEEEM-38</td>
<td>STEEEM-28</td>
</tr>
<tr>
<td>15.15-15.25</td>
<td>STEEEM-39</td>
<td>STEEEM-29</td>
</tr>
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<td>15.25-15.35</td>
<td>STEEEM-40</td>
<td>STEEEM-30</td>
</tr>
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<td>15.35-15.45</td>
<td>STEEEM-119</td>
<td>STEEEM-179</td>
</tr>
<tr>
<td>15.45-15.55</td>
<td>STEEEM-118</td>
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<tr>
<td>15.55-16.00</td>
<td>QUESTION AND ANSWER</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TIME</th>
<th>ROOM 4</th>
<th>ROOM 5</th>
<th>ROOM 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.00-13.15</td>
<td>Assoc. Diponegoro, Ph.D Ahmad</td>
<td>Dr. Drs. Sutaryo, M.Ed Tesol</td>
<td>Drs. Akmal, M.Sc., Ph.D M.Hum.,</td>
</tr>
<tr>
<td>13.15-13.25</td>
<td>STEEEM-46</td>
<td>STEEEM-60</td>
<td>STEEEM-75</td>
</tr>
<tr>
<td>13.25-13.35</td>
<td>STEEEM-47</td>
<td>STEEEM-61</td>
<td>STEEEM-76</td>
</tr>
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<td>13.35-13.45</td>
<td>STEEEM-48</td>
<td>STEEEM-109</td>
<td>STEEEM-77</td>
</tr>
<tr>
<td>13.45-13.55</td>
<td>STEEEM-49</td>
<td>STEEEM-63</td>
<td>STEEEM-78</td>
</tr>
<tr>
<td>13.55-14.00</td>
<td>QUESTION AND ANSWER</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>STEEEM-86</td>
<td>STEEEM-64</td>
<td>STEEEM-79</td>
</tr>
<tr>
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<td>STEEEM-51</td>
<td>STEEEM-65</td>
<td>STEEEM-80</td>
</tr>
<tr>
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<td>STEEEM-52</td>
<td>STEEEM-66</td>
<td>STEEEM-81</td>
</tr>
<tr>
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<td>STEEEM-108</td>
<td>STEEEM-68</td>
<td>STEEEM-83</td>
</tr>
<tr>
<td>14.50-14.55</td>
<td>QUESTION AND ANSWER</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>STEEEM-55</td>
<td>STEEEM-111</td>
<td>STEEEM-85</td>
</tr>
<tr>
<td>15.05-15.15</td>
<td>STEEEM-88</td>
<td>STEEEM-41</td>
<td>STEEEM-50</td>
</tr>
<tr>
<td>15.15-15.25</td>
<td>STEEEM-89</td>
<td>STEEEM-42</td>
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</tr>
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<td>15.25-15.35</td>
<td>STEEEM-58</td>
<td>STEEEM-103</td>
<td>STEEEM-56</td>
</tr>
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<td>15.35-15.45</td>
<td>STEEEM-104</td>
<td>STEEEM-182</td>
<td>STEEEM-57</td>
</tr>
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<td>STEEEM-112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.55-16.00</td>
<td>QUESTION AND ANSWER</td>
<td></td>
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<td>ROOM 9</td>
</tr>
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<td>STEEEM-90</td>
<td>STEEEM-19</td>
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<td>13.10-13.20</td>
<td>STEEEM-34</td>
<td>STEEEM-15</td>
<td>STEEEM-123</td>
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<td>13.20-13.30</td>
<td>STEEEM-92</td>
<td>STEEEM-54</td>
<td>STEEEM-114</td>
</tr>
<tr>
<td>13.40-13.50</td>
<td>STEEEM-59</td>
<td>STEEEM-70</td>
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</tr>
<tr>
<td><strong>13.50-13.55</strong></td>
<td><strong>QUESTION AND ANSWER</strong></td>
<td><strong>13.55-14.05</strong></td>
<td>STEEEM-95</td>
</tr>
<tr>
<td>14.05-14.15</td>
<td>STEEEM-96</td>
<td>STEEEM-99</td>
<td>STEEEM-128</td>
</tr>
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<td>STEEEM-110</td>
<td>STEEEM-130</td>
</tr>
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<td>STEEEM-113</td>
<td>STEEEM-120</td>
<td>STEEEM-131</td>
</tr>
<tr>
<td><strong>14.45-14.50</strong></td>
<td><strong>QUESTION AND ANSWER</strong></td>
<td><strong>14.50-15.00</strong></td>
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</tr>
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<td>STEEEM-101</td>
<td>STEEEM-124</td>
<td>STEEEM-44</td>
</tr>
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<td>15.10-15.20</td>
<td>STEEEM-102</td>
<td>STEEEM-132</td>
<td>STEEEM-45</td>
</tr>
<tr>
<td>15.20-15.30</td>
<td>STEEEM-26</td>
<td>STEEEM-134</td>
<td>STEEEM-116</td>
</tr>
<tr>
<td>15.30-15.40</td>
<td>STEEEM-74</td>
<td>STEEEM-6</td>
<td>STEEEM-117</td>
</tr>
<tr>
<td>15.40-15.50</td>
<td>STEEEM-181</td>
<td>STEEEM-14</td>
<td><strong>15.50-15.55</strong></td>
</tr>
</tbody>
</table>
### CONTENTS

<table>
<thead>
<tr>
<th>KEYNOTE SPEAKER 1</th>
<th>Prof. Dr. Dwi Sulisworo</th>
<th>Self-Regulation Learning Profile Of Elementary Schools In Nusa Tenggara Timur</th>
<th>Universitas Ahmad Dahlan</th>
</tr>
</thead>
<tbody>
<tr>
<td>KEYNOTE SPEAKER 2</td>
<td>Astri Rinanti</td>
<td>Microalgae Carbon Capture and Storage: Biomitigation Approach to Enhance CO2 Removal Efficiency</td>
<td>Universitas Trisakti</td>
</tr>
<tr>
<td>KEYNOTE SPEAKER 3</td>
<td>Assoc. Prof. Dr. Rungchatchadaporn Vehachart</td>
<td>EDUCATIONAL THAILAND 4.0</td>
<td>Taksin University</td>
</tr>
<tr>
<td>INVITED SPEAKER 1</td>
<td>Assoc. Prof. Dr. Abdulsasyid Tolangara, S.Pd. M.Si</td>
<td>It will be delivered directly on the conference</td>
<td>Universitas Khairun</td>
</tr>
<tr>
<td>INVITED SPEAKER 2</td>
<td>Yahya Hairun, Wilda Syam Tonra</td>
<td>High Order Thinking Skill Based on Gender</td>
<td>Universitas Khairun</td>
</tr>
<tr>
<td>INVITED SPEAKER 3</td>
<td>Asbullah Muslim, S.Fil.I., M.Pd.</td>
<td>It will be delivered directly on the conference</td>
<td>STIT Palapa Nusantara, Indonesia</td>
</tr>
<tr>
<td>INVITED SPEAKER 4</td>
<td>Ahmad Muhammad Diponegoro, Fattah Hanurawan, Agungbudiprabowo</td>
<td>A Case Study on Guidance and Counseling Students’ Perception of Islamic Counseling Practices</td>
<td>Universitas Ahmad Dahlan</td>
</tr>
<tr>
<td>INVITED SPEAKER 5</td>
<td>Sutaryo</td>
<td>Use of Web 2.0 Technology in Remote Indonesian Universities: Challenges and Opportunities</td>
<td>Khairun University</td>
</tr>
<tr>
<td>INVITED SPEAKER 6</td>
<td>Akmal akmal</td>
<td>Direct–Unfocused-Corrective Feedback: A Model For Improving Writing Skill</td>
<td>Universitas Ahmad Dahlan</td>
</tr>
<tr>
<td>STEEEM-1</td>
<td>Saryanto</td>
<td>Manajemen Risiko Bencana Merapi dan Prestasi Belajar Siswa Kelas XII Jurusan Teknik Otomotif di SMK Muhammadiyah Cangkringan Sleman Yogyakarta</td>
<td>Yogyakarta State University</td>
</tr>
<tr>
<td>STEEEM-2</td>
<td>Rudi Setiawan, Yaddarabullah Yaddarabullah, Ari Setjadi Prihatmanto, Reza Darmakusuma</td>
<td>ICT Platform Design to Overcome Waste in DKI Jakarta</td>
<td>Trilogi University</td>
</tr>
<tr>
<td>STEEEM-3</td>
<td>Agus Eko Sujianto</td>
<td>The Estimation of Economic Crisis Based on Economic Employment in Indonesia</td>
<td>Institut Agama Islam Negeri Tulungagung</td>
</tr>
<tr>
<td>STEEEM-4</td>
<td>Arif Julianto Sri Nugroho</td>
<td>The Measuring of Quality Services on Posyandu Desa as The Effort To Enhance Mother and Children’s Health Degree</td>
<td>Universitas Widya Dharma Klaten</td>
</tr>
<tr>
<td>STEEEM-5</td>
<td>Firman Herdiansyah</td>
<td>Low Density Turbidite (LDT) Deposits Identification In Rambatan And Ciseureh River Brebes Central Java, Related To Oil And Gas Exploration</td>
<td>Universitas Trisakti</td>
</tr>
<tr>
<td>STEEEM-6</td>
<td>Somariah Fitriani, sintha wahjusaputri, Ahmad Diponegoro</td>
<td>The Development of Small and Medium-Sized Enterprises Through Triple Helix as a Model of a Knowledge-Based Economy: The Indonesian Case</td>
<td>University of Muhammadiyah Prof. DR. HAMKA</td>
</tr>
<tr>
<td>STEEEM-7</td>
<td>Saryanto Saryanto</td>
<td>Effect of Professional Competence, Supervising Principal and Motivation on Teacher Performance Junior High School 2 Karanggayam Kebumen</td>
<td>Yogyakarta State University</td>
</tr>
<tr>
<td>STEEEM-8</td>
<td>Yogesh Gupta</td>
<td>Spline Based Method for Singular Boundary Value Problem Occurring in Science and Engineering Applications</td>
<td>Jaypee Institute of Information Technology University</td>
</tr>
<tr>
<td>STEEEM-10</td>
<td>Faradiba Ruslan</td>
<td>The Effects of Physics Learning with Starter Experiment Approach (SEA) to Improve Student Learning Outcomes</td>
<td>Universitas Kristen Indonesia</td>
</tr>
<tr>
<td>STEEEM-11</td>
<td>Sintha Wahjusaputri</td>
<td>Development Strategy Model of Entrepreneurship and Creative Economy using Triple Helix and Role Identification Approach (Penta Helix) towards the Champion SMEs in West Java Province</td>
<td>Muhammadiyah Prof. DR. HAMKA University</td>
</tr>
<tr>
<td>STEEEM-13</td>
<td>Herru Darmadi, Ivan Reinaldo, Nadia Sarah Pulungan, Bonny A Suryawinata</td>
<td>Prototyping &quot;Color in Life&quot; EduGame for Dichromatic Color Blind Awareness</td>
<td>Bina Nusantara University</td>
</tr>
<tr>
<td>STEEEM-14</td>
<td>Padhila - Angraini, Suparman Suparman</td>
<td>Analisis Kebutuhan: Problematika Geometri Pada Siswa Kelas VII SMP Negeri 2 Pondong</td>
<td>Ahmad Dahlan University</td>
</tr>
<tr>
<td>STEEEM-15</td>
<td>Endah Sulistiawati, Imam Santosa</td>
<td>Techno-economic Assessment for Small and Medium Enterprise of Coconut Production towards Bio-economic Zone Based on Coconut Processing Product</td>
<td>Universitas Ahmad Dahlan</td>
</tr>
<tr>
<td>STEEEM-16</td>
<td>Galih Reka Mahendra</td>
<td>Peramalan Banyak Pengunjung Objek Wisata Pantai Baron Kabupaten Gunungkidul Menggunakan Model Arimax</td>
<td>Universitas Sebelas Maret</td>
</tr>
<tr>
<td>STEEEM-17</td>
<td>Ade Komariah Komariah</td>
<td>Effect of Valproic Acid on Cell Growth Inhibition in The Human Tongue Cancer</td>
<td>Trisakti University</td>
</tr>
<tr>
<td>STEEEM-18</td>
<td>Nina Zulida Situmorang</td>
<td>Work Family Balance and Gratitude as Employee Subjective Wellbeing Predictor</td>
<td>Universitas Ahmad Dahlan</td>
</tr>
<tr>
<td>STEEEM-19</td>
<td>Laila Fatika Nuari, Suparman - Suparman</td>
<td>Kemampuan Operasi Hitung Siswa Tunagrahita Terhadap Siswa Kelas 2 SD</td>
<td>Ahmad Dahlan University</td>
</tr>
<tr>
<td>STEEEM-20</td>
<td>Nur Lailatul Badriyah, Anik Anekawati, Lutfiana Fazat Azizah</td>
<td>Application of PjBL with Brain-Based STEAM Approach to Improve Learning Outcomes and Science Process Skills of Students</td>
<td>Wiratama University</td>
</tr>
<tr>
<td>STEEEM-21</td>
<td>Aslamiah Pulungan</td>
<td>Analisis Kebutuhan Media Interaktif Matematika Berbasis Android untuk Menstimulus Berpikir Kritis Siswa</td>
<td>Universitas Ahmad Dahlan</td>
</tr>
<tr>
<td>STEEEM-22</td>
<td>Nunik Triharyati</td>
<td>The students’ mathematical reflective thinking skill in mathematical problem solving</td>
<td>Universitas Sebelas Maret</td>
</tr>
<tr>
<td>STEEEM-23</td>
<td>Ema Puspitasari, Aulia Muflida Izzatul Mahtiana, Bambang Widi Pratolo</td>
<td>Students’ perception toward Interactive Game to Facilitate Student’s Achievement</td>
<td>Universitas Ahmad Dahlan</td>
</tr>
<tr>
<td>STEEEM-25</td>
<td>Andreast Wahyu Sugiyarta</td>
<td>Deskripsi E-Modul Berbasis Guided Discovery untuk Menstimulus Kemampuan Berpikir Kritis Siswa Slow Learner</td>
<td>Universitas Ahmad Dahlan</td>
</tr>
<tr>
<td>STEEEM-26</td>
<td>Nur Lailatul Fitri, Suparman</td>
<td>Problematika Pembelajaran Pecahan Pada Siswa Sekolah Menengah Pertama</td>
<td>Universitas Ahmad Dahlan</td>
</tr>
</tbody>
</table>

viii
<p>| STEEEM-27 | Caraka Putra Bhakti | “Postsecondary Options” Android Application for Junior High school Student: A Model Hypothetical | Universitas Ahmad Dahlan | 33 |
| STEEEM-28 | Ganis Yoga Purnama | Analisis kebutuhan E-LKPD penunjang model pembelajaran CTL untuk menstimulus kemampuan berpikir kritis siswa | Universitas Ahmad Dahlan | 34 |
| STEEEM-29 | Wahyu Andriyani | Analisis Kebutuhan E-Modul Untuk Berpikir Kreatif Siswa Tunarungu | Universitas Ahmad Dahlan | 35 |
| STEEEM-30 | Ambarwati Budi rahayu, Nadella Lesmana, Didik Murwantono | The Impacts Of Consumptive Behaviors Toward American Society In Modern Era As Reflected In The Film The Joneses | | 36 |
| STEEEM-31 | Awarul Ifsiarohmah Adiyani | Analisis Kebutuhan E-Lkpd Untuk Menstimulus Kemampuan Pemecahan Masalah | Universitas Ahmad Dahlan | 37 |
| STEEEM-32 | Esa Khairiyatul Barokah | Analisis Kebutuhan E-LKPD Untuk Menstimulus Kemampuan Berpikir Kritis | Universitas Ahmad Dahlan | 38 |
| STEEEM-33 | Fatimatus Solihah | Analisis Kebutuhan Multimedia Pembelajaran Untuk Menstimulus Kemampuan Komunikasi Matematis | Universitas Ahmad Dahlan | 39 |
| STEEEM-34 | Rusmin R. M. Saleh. Suparman | Deskripsi Bahan Ajar Berbasis PjBL Untuk Menstimulus Kemampuan Komunikasi Matematis | Universitas Ahmad Dahlan | 40 |
| STEEEM-35 | Aludin Gute, Suparman | Analisis Kebutuhan Multimedia Interaktif dengan Pendekatan Problem Based Learning Untuk Mengembangkan Kemampuan Komunikasi Matematis Siswa | Universitas Ahmad Dahlan | 41 |
| STEEEM-36 | Joko Eliyanto | Reduksi Dimensi untuk Meningkatkan Performa Metode Fuzzy Klastering pada Big Data. | Yogyakarta State University | 42 |
| STEEEM-37 | Eka Luthfiana Lathifah | Think Pair Share to Improve Students Motivation to Learn in Mathematics | | 43 |
| STEEEM-38 | Fachrul Rozi | Deskripsi E-LKPD Untuk Membangkitkan Berpikir Kritis Peserta Didik Melalui Pembelajaran Discovery Learning | Universitas Ahmad Dahlan | 44 |
| STEEEM-39 | Agung Hendra Setiawan | Layout guide Dekripsi E-Modul Untuk Membangkitkan Kemampuan Komunikasi Matematis Siswa Melalui Pembelajaran Problem Based Learning | Universitas Ahmad Dahlan | 45 |
| STEEEM-40 | Arie Nursela Putri | Analisis Kebutuhan E-LKPD Untuk Menstimulus Kemampuan Komunikasi Matematis Siswa | Universitas Ahmad Dahlan | 46 |
| STEEEM-41 | Fauzia Harun | Analisis Kebutuhan Multimedia Untuk Menstimulus Kemampuan Komunikasi Matematis Siswa | Universitas Ahmad Dahlan | 47 |
| STEEEM-42 | Hesti Wulandari | Analisis Kebutuhan E-LKPD untuk Menstimulus Kemampuan Berfikir Kritis | Universitas Ahmad Dahlan | 48 |
| STEEEM-43 | Harun Al Azies | Spline Nonparametric Regression Approach For Modeling Factors Affecting Vocational National Exam Results in Surabaya | PGRI Adi Buana University | 49 |
| STEEEM-44 | Sumargiyani sumargiyani, | Learning Community and Think Pair Share | Universitas | 50 |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Authors</th>
<th>Institution</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td>Bidayatun Nafi'ah Learning Models Towards Calculus Learning Outcomes Observed by Student Motivation</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>51</td>
</tr>
<tr>
<td>45</td>
<td>Analis Kebutuhan Multimedia Interaktif Untuk Menstimulus Mathematics Critical Thinking Skill (MCTS)</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>52</td>
</tr>
<tr>
<td>46</td>
<td>Analis kebutuhan E-LKPD untuk menstimulus kemampuan berpikir kritis dengan model pembelajaran discovery learning</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>53</td>
</tr>
<tr>
<td>47</td>
<td>Analisis Kebutuhan Bahan Ajar Matematika Berbasis Discovery Learning Untuk Mengembangkan Kemampuan Berpikir Kritis</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>54</td>
</tr>
<tr>
<td>48</td>
<td>Analisis kebutuhan E-LKPD dengan pendekatan saintifik untuk menstimulus kemampuan berpikir kritis</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>55</td>
</tr>
<tr>
<td>49</td>
<td>Analisis Kebutuhan E-LKPD Berbasis CTL untuk Menstimulus Kemampuan Berpikir Kritis</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>56</td>
</tr>
<tr>
<td>50</td>
<td>Komparasi Algoritma Klasifikasi Data Mining</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>57</td>
</tr>
<tr>
<td>51</td>
<td>A Comparison of Outlier Detection Techniques in Data Mining</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>58</td>
</tr>
<tr>
<td>52</td>
<td>English in Homeschool and Formal school: A case study at 2 to 5 years old children in Indonesia</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>59</td>
</tr>
<tr>
<td>53</td>
<td>Deskriptif Multimedia Interaktif Berbasis Contextual Teaching and Learning Untuk Menstimulus Kemampuan Komunikasi Matematik</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>60</td>
</tr>
<tr>
<td>54</td>
<td>Minimum Wage Correlation Judging from the Prediction of The Consumer Price Index Using The Support Vector Regression Method</td>
<td>Ahmad Dahlan</td>
<td>Universitas Islam Majapahit</td>
<td>61</td>
</tr>
<tr>
<td>55</td>
<td>The Students’ Error Analysis of Writing in Recount Text for The Milineal Students</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>62</td>
</tr>
<tr>
<td>56</td>
<td>Analisis Kebutuhan Subject Specific Pedagogy (SSP) Berbasis Problem Based Learning (PBL) untuk Menstimulus Kemampuan Pemecahan Masalah Siswa SMK kelas X</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>63</td>
</tr>
<tr>
<td>57</td>
<td>Analisis Kebutuhan Math Comic untuk menstimulus Kemampuan Berpikir Kritis</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>64</td>
</tr>
<tr>
<td>58</td>
<td>University Student’ Perceptions of Implementation of English Online Learning System</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>65</td>
</tr>
<tr>
<td>59</td>
<td>Deskripsi E-LKPD Untuk Menstimulus Kemampuan Berfik Kritis Siswa Slow Learner</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>66</td>
</tr>
<tr>
<td>60</td>
<td>Upaya Meningkatkan Komunikasi Matematika Melalui e-Lkpd Untuk Materi Bangun Datar Dengan Pendekatan Model Pembelajaran Kooperatif Tipe STAD</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>67</td>
</tr>
<tr>
<td>61</td>
<td>Modeling and Strategy of Marketing Antecedent to Enhance Consumer Loyalty on Batik Cloth</td>
<td>Ahmad Dahlan</td>
<td>Universitas Ahmad Dahlan</td>
<td>68</td>
</tr>
<tr>
<td>STIEEEM-63</td>
<td>Wildan Aji Darussalam</td>
<td>Pengaruh Kinerja Keuangan Terhadap Nilai Perusahaan Dengan Good Corporate Governance Sebagai Variabel Moderasi (Studi empiris pada perusahaan Go Public non keuangan yang memiliki skor Corporate Governance Perception Index tahun 2008-2017)</td>
<td>Universitas Trisakti</td>
<td>69</td>
</tr>
<tr>
<td>STIEEEM-64</td>
<td>Yeremias Polii</td>
<td>Pengaruh Profitabilitas, Pembagian Dividen, Kebijakan CSR, dan Kepemilikan Asing terhadap Nilai Perusahaan dengan Stabilitas Keuangan sebagai variabel moderasi (study empiris perusahaan property, real-estate, dan construction yang terdaftar di BEI tahun 2016-2018)</td>
<td>Trisakti University</td>
<td>70</td>
</tr>
<tr>
<td>STIEEEM-65</td>
<td>Suhartono Suhartono</td>
<td>Design Calculation of 100 kWe Downdraft Open Top Gasifier for Refuse Derived Fuel (RDF)-Pellets</td>
<td>Universitas Jendral Achmad Yani</td>
<td>71</td>
</tr>
<tr>
<td>STIEEEM-66</td>
<td>Andry Prima</td>
<td>Unfolding the message behind the statistical data of Indonesia city gas distribution sector by developing linear model</td>
<td>Universitas Trisakti</td>
<td>72</td>
</tr>
<tr>
<td>STIEEEM-67</td>
<td>Vinola Herawaty</td>
<td>Carbon Emission Disclosure, Competition And Company's Characteristics</td>
<td>Universitas Trisakti</td>
<td>73</td>
</tr>
<tr>
<td>STIEEEM-68</td>
<td>Edison Edison</td>
<td>Acreage Response Under Price Policy Program On Agricultural Corn Production</td>
<td>University of Jambi</td>
<td>74</td>
</tr>
<tr>
<td>STIEEEM-70</td>
<td>Yusuf Suryo Utomo</td>
<td>Conceptual Design of a 100kW RDF-fueled Gasifier</td>
<td>(Pusat Penelitian Tenaga Listrik dan Mekatronik – LIPI Bandung)</td>
<td>75</td>
</tr>
<tr>
<td>STIEEEM-72</td>
<td>ZAITUN - Kaharuddin</td>
<td>Learning Gurindam Dua Belas Based on Role Playing with Audio Visual To Strengthen Social Sensitivity Value Of Students</td>
<td>University of Indonesia</td>
<td>76</td>
</tr>
<tr>
<td>STIEEEM-73</td>
<td>Eva Marthinu, Yahya Hairun, Hernita Pasongli</td>
<td>Development Concept on Student’s Responsibility Environment Behavior</td>
<td>Khairun University</td>
<td>77</td>
</tr>
<tr>
<td>STIEEEM-74</td>
<td>Ahmad Rizani</td>
<td>Economic Performance Analysis and Region Potency Identification of Tana Tidung Regency Post-Proliferation</td>
<td>Universitas Borneo Tarakan</td>
<td>78</td>
</tr>
<tr>
<td>STIEEEM-75</td>
<td>Radeni Sukma Indra Dewi</td>
<td>The Effect of Edmodo-Assisted Project-Based Learning Applications on the Inquiry Skills and the Writing Skills of Prospective Teachers in Indonesia</td>
<td>Semarang State University</td>
<td>79</td>
</tr>
<tr>
<td>STIEEEM-76</td>
<td>Muhammad Hasbi Rizqur Rahman</td>
<td>Retrofitting Thermal and Lighting Condition of a Production Warehouse</td>
<td>Universitas Sebelas Maret Surakarta</td>
<td>80</td>
</tr>
<tr>
<td>STIEEEM-77</td>
<td>Refinda Rahmadhani</td>
<td>Energy Saving Performance Using EDGE for Implementation of Greenbuilding</td>
<td>Universitas Sebelas Maret</td>
<td>81</td>
</tr>
<tr>
<td>Title</td>
<td>Authors</td>
<td>Abstract</td>
<td>Institution</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Students’ Perception of The Use Of Mobile Application Duolingo For Learning English</td>
<td>Pramesti Pramesti, ani susanti</td>
<td>Students’ Perception of The Use Of Mobile Application Duolingo For Learning English</td>
<td>Universitas Negeri Malang, Universitas Ahmad Dahlan</td>
<td>82</td>
</tr>
<tr>
<td>Pedagogical Competencies of PPKn Vocational School Teachers Certified in Management of Semester Learning (Case Study of State Vocational School Teachers in Ternate City)</td>
<td>Irwan Djumat, Hasmawati Hasmawati, Nani I Rajaloa</td>
<td>Pedagogical Competencies of PPKn Vocational School Teachers Certified in Management of Semester Learning (Case Study of State Vocational School Teachers in Ternate City)</td>
<td>Khairun University</td>
<td>83</td>
</tr>
<tr>
<td>Pengaruh Leader-Member Exchange Dan Komunikasi Pada Intention to Quit Pada Spg/Spb Di Kota Surakarta</td>
<td>Muhammad Hafiz, Muhammad Cholil</td>
<td>Pengaruh Leader-Member Exchange Dan Komunikasi Pada Intention to Quit Pada Spg/Spb Di Kota Surakarta</td>
<td>Sebelas Maret University</td>
<td>84</td>
</tr>
<tr>
<td>Internalization of Philosophy of Siri’ na Pacce in Reducing the Misuse of Village Fund</td>
<td>Syarif syahrir Malle</td>
<td>Internalization of Philosophy of Siri’ na Pacce in Reducing the Misuse of Village Fund</td>
<td>UIN Alauddin Makassar</td>
<td>85</td>
</tr>
<tr>
<td>Analysis of Economic Disparity In Kalimantan Island</td>
<td>Ferica Christinawati Putri</td>
<td>Analysis of Economic Disparity In Kalimantan Island</td>
<td>Universitas Borneo Tarakan</td>
<td>86</td>
</tr>
<tr>
<td>Management Infrastructure as A Learning Resource Production Units in SMK Muhammadiyah 1 Bantul And SMK Muhammadiyah 1 Imogiri</td>
<td>Hilda Sabrina Nirwanti</td>
<td>Management Infrastructure as A Learning Resource Production Units in SMK Muhammadiyah 1 Bantul And SMK Muhammadiyah 1 Imogiri</td>
<td>Yogyakarta State University</td>
<td>87</td>
</tr>
<tr>
<td>Preliminary Study of Freezing-Thawing Pretreatment for Phycocyanin Extraction from Wet Spirulina platensis</td>
<td>Endah Sulistiawati, Arief Budiman</td>
<td>Preliminary Study of Freezing-Thawing Pretreatment for Phycocyanin Extraction from Wet Spirulina platensis</td>
<td>Universitas Ahmad Dahlan</td>
<td>88</td>
</tr>
<tr>
<td>Evaluation of Higher Education Training Programs towards Excellent Study Programs</td>
<td>Slameto - Slameto</td>
<td>Evaluation of Higher Education Training Programs towards Excellent Study Programs</td>
<td>President University Jaba Beka Indonesia</td>
<td>89</td>
</tr>
<tr>
<td>Analisis Kebutuhan E-Book Untuk Menstimulasi Berpikir Kreatif</td>
<td>Sagita Dyah Putranti, Sagita Dyah Putranti Suparman</td>
<td>Analisis Kebutuhan E-Book Untuk Menstimulasi Berpikir Kreatif</td>
<td>Universitas Ahmad Dahlan</td>
<td>90</td>
</tr>
<tr>
<td>Simulation of radionuclide dispersion model following routine releases to water body around nuclear area</td>
<td>Ambar Winansi</td>
<td>Simulation of radionuclide dispersion model following routine releases to water body around nuclear area</td>
<td>Universitas Indonesia</td>
<td>91</td>
</tr>
<tr>
<td>Student Problem-Focused-Coping Ability for Reducing Technostress in Higher Education</td>
<td>Budi Astuti, Rizqi Lestari, Caraka Putra Bhakti</td>
<td>Student Problem-Focused-Coping Ability for Reducing Technostress in Higher Education</td>
<td>Universitas Ahmad Dahlan</td>
<td>93</td>
</tr>
<tr>
<td>Design of Mathematical Module Based on CTL Approach to Increase Learning Motivation and 4C Skill at Student in Indonesia</td>
<td>Athifah Rahmi</td>
<td>Design of Mathematical Module Based on CTL Approach to Increase Learning Motivation and 4C Skill at Student in Indonesia</td>
<td>Universitas Ahmad Dahlan</td>
<td>94</td>
</tr>
<tr>
<td>Cultural Literation on Early Childhood</td>
<td>Radjiman Ismail</td>
<td>Cultural Literation on Early Childhood</td>
<td>Institut Agama Islam Negeri Ternate</td>
<td>95</td>
</tr>
<tr>
<td>Profile of Antioxidant Active Compounds from Ethyl Acetate Extract Gandaria Stems (Bouea macrophylla Griff)</td>
<td>Tarso Rudiana</td>
<td>Profile of Antioxidant Active Compounds from Ethyl Acetate Extract Gandaria Stems (Bouea macrophylla Griff)</td>
<td>Program Studi Kimia Universitas Mathla’ul Anwar</td>
<td>96</td>
</tr>
<tr>
<td>The English Google Translation of Indonesian Lecturer’s Academic Writing – A Preliminary Study</td>
<td>Menik Winiharti</td>
<td>The English Google Translation of Indonesian Lecturer’s Academic Writing – A Preliminary Study</td>
<td>Universitas Pendidikan Indonesia</td>
<td>97</td>
</tr>
<tr>
<td>The Teachers Professional Development to Sampoerna</td>
<td>Deshinta Puspa Ayu Dwi</td>
<td>The Teachers Professional Development to Sampoerna</td>
<td>Sampoerna</td>
<td>98</td>
</tr>
<tr>
<td>No</td>
<td>Title</td>
<td>Authors</td>
<td>Abstract</td>
<td>University</td>
</tr>
<tr>
<td>-----</td>
<td>------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>95</td>
<td>Argaswari</td>
<td>Promote Algebraic Thinking Skills</td>
<td>Grammatical Errors in Speaking Made by Graduated Students of Ahmad Dahlan University</td>
<td>Ahmad Dahlan University</td>
</tr>
<tr>
<td>96</td>
<td>Siti Wulan Asih, Asrianto Asrianto, Didik Murwantono</td>
<td>Grammatical Errors in Speaking Made by Graduated Students of Ahmad Dahlan University</td>
<td>Semantics Analysis On Song Daughtry Lyrics “Home”</td>
<td>Ahmad Dahlan University</td>
</tr>
<tr>
<td>97</td>
<td>Ambarwati Budi Rahayu</td>
<td>Semantics Analysis On Song Daughtry Lyrics</td>
<td>Grammatical Errors in Speaking Made by Graduated Students of Ahmad Dahlan University</td>
<td>Ahmad Dahlan University</td>
</tr>
<tr>
<td>100</td>
<td>Umi Rokhyati</td>
<td>Learning strategies used by good achievers in speaking English</td>
<td>The Meaning of Believing in Close Friends of Students</td>
<td>Universitas Ahmad Dahlan</td>
</tr>
<tr>
<td>101</td>
<td>Nina Zulida Situmorang, Irusya Nurul Fajri</td>
<td>The Meaning of Believing in Close Friends of Students</td>
<td>The Meaning of Believing in Close Friends of Students</td>
<td>Universitas Ahmad Dahlan</td>
</tr>
<tr>
<td>102</td>
<td>Pardi Affandi Affandi</td>
<td>Optimal Control For Dysentery Epidemic Model With Treatment</td>
<td>The Meaning of Believing in Close Friends of Students</td>
<td>Universitas Ahmad Dahlan</td>
</tr>
<tr>
<td>103</td>
<td>Salsabila Hasiana Tanjung, Suparno Suparno</td>
<td>Stimulating the Ability to Understand Environmetal Problems by Using Images in Children in Kindergarten</td>
<td>Stimulating the Ability to Understand Environmetal Problems by Using Images in Children in Kindergarten</td>
<td>Yogyakarta State University</td>
</tr>
<tr>
<td>104</td>
<td>Riesti Triyanti</td>
<td>Role of Coastal Women In Fisheries Processing Business In Kendal District</td>
<td>Role of Coastal Women In Fisheries Processing Business In Kendal District</td>
<td>Research Center for Marine and Fisheries Socio Economics</td>
</tr>
<tr>
<td>106</td>
<td>Rizka Mrs. Septiana, Sutrasno Kartohardjono</td>
<td>Impact Analysis Of Lng Boil-Off Gas Treatment Towards Techno-Economy: Case Study Of Lng Receiving Terminal And Future Lng Regasification Unit In Eastern Indonesia</td>
<td>Impact Analysis Of Lng Boil-Off Gas Treatment Towards Techno-Economy: Case Study Of Lng Receiving Terminal And Future Lng Regasification Unit In Eastern Indonesia</td>
<td>University of Indonesia</td>
</tr>
<tr>
<td>107</td>
<td>Hadijah Hadijah, Rondiyah Rondiyah, Didik Murwantono</td>
<td>EFL Students’ perspective toward video log (v-log) as a teaching model in millenial 4.0 eraA</td>
<td>EFL Students’ perspective toward video log (v-log) as a teaching model in millenial 4.0 eraA</td>
<td>Universitas Ahmad Dahlan</td>
</tr>
<tr>
<td>108</td>
<td>Iwan Setiaji</td>
<td>Lead Acid Battery Material Inventory Control with An Artificial Neural Network and Periodic Review Method Approach</td>
<td>Lead Acid Battery Material Inventory Control with An Artificial Neural Network and Periodic Review Method Approach</td>
<td>Universitas Indonesia</td>
</tr>
<tr>
<td>109</td>
<td>Faradillah Haryani</td>
<td>Flexibility in Mathematics: Case of Open-Ended Graphing Task in College Algebra</td>
<td>Flexibility in Mathematics: Case of Open-Ended Graphing Task in College Algebra</td>
<td>Sampoerna University</td>
</tr>
<tr>
<td>110</td>
<td>Dewi Yuniasih</td>
<td>Snakebite as a Neglected Tropical Diseases in Indonesia: A Review</td>
<td>Snakebite as a Neglected Tropical Diseases in Indonesia: A Review</td>
<td>Ahmad Dahlan University</td>
</tr>
<tr>
<td>111</td>
<td>Ida Rahmah Andansari, Okta Widia Sari, Didik Murwantono</td>
<td>The Students’ Error Analysis of Writing in Recount Text for Millineal Students</td>
<td>The Students’ Error Analysis of Writing in Recount Text for Millineal Students</td>
<td>Universitas Ahmad Dahlan</td>
</tr>
<tr>
<td>112</td>
<td>Yenni Carolina</td>
<td>The Effect of Participative Budgeting towards Budgetary Slack in SOEs (Banking) in Indonesia through Employee Motivation</td>
<td>The Effect of Participative Budgeting towards Budgetary Slack in SOEs (Banking) in Indonesia through Employee Motivation</td>
<td>Maranatha Christian University</td>
</tr>
<tr>
<td>113</td>
<td>Manege Purbo Negoro</td>
<td>The aging properties of thin surfacing hot mix asphalt containing crumb rubber as aggregate</td>
<td>The aging properties of thin surfacing hot mix asphalt containing crumb rubber as aggregate</td>
<td>Universitas Ahmad Dahlan</td>
</tr>
<tr>
<td>Title</td>
<td>Authors</td>
<td>Institution</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>A Descriptive Study on the Ability of English Writing in Recount Text at Darul Hijrah</td>
<td>Pajrian Noor, Alifa Sandra Rahmawati, Umi Rokhyati</td>
<td>Universitas Ahmad Dahlan</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>STEM (Science, Technology, Engineering, and Math) approach in Learning Cycle 7E</td>
<td>Rahmah Zakiah</td>
<td>UPI, Universitas Pendidikan Indonesia</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>Technical Audit Of District Road Drainage System In Magetan District</td>
<td>yogi sasonko setiyobudi</td>
<td></td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>How is the Relation: Mathematical Abstraction and Mathematical Connection</td>
<td>Nurika Mittahljannah</td>
<td>Yogyakarta State University</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Developing Digital Module for Human Literacy and Technology Literacy</td>
<td>Ika Maryani, Puguh Wahyu Prasetyo, Ega Asnatasia Maharani, Intan Puspitasari, Diah Asta Putri, Oktira Roka Aji, Wachid Eko Purwanto</td>
<td>Universitas Ahmad Dahlan</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Comparative Study of Continuous Biodiesel Production from PFAD Via Hydrolysis-Esterification and Esterification-Transesterification Processes</td>
<td>Muhammad Syauqi, Hartim Isnia Suratiwi, Arief Budiman</td>
<td>Universitas Gadjah Mada</td>
<td>121</td>
<td></td>
</tr>
<tr>
<td>Perbandingan Regesi Linier Berganda dan Regresi Buckley-James Pada Analisis Survival Data Tersensor Kanan</td>
<td>Erzylia Herlin Brilliant</td>
<td>Universitas Islam Indonesia</td>
<td>122</td>
<td></td>
</tr>
<tr>
<td>Immunomodulatory Effects of Probiotics BacteriaLactobacillus acidophilus and Streptococcus thermophilusas Fermenter in Soygurt</td>
<td>Sayu Putu Yuni Paryati</td>
<td>Universitas Jenderal Achmad Yani</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>Analisis Kebutuhan LKS Berbasis Problem Based Learning untuk Menstimulasi Kemampuan Berpikir Kreatif Siswa</td>
<td>Gendis Ayuwandari</td>
<td>Ahmad Dahlan University</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Analisis Kebutuhan Modul Aljabar Berbasis Problem Based Learning Untuk Menstimulasi Kemampuan Pemecahan Masalah</td>
<td>annisa sulistyaningsih</td>
<td>Ahmad Dahlan University</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Shortest Path Determination on Trans Semarang using Floyd Warshall Implementation</td>
<td>Nisa ul Hafidhoh, Rizky Pranedya Wibisono</td>
<td>Universitas Dian nuswantoro</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>Investigating Pre-Service Mathematics Teachers’ Number Sense Ability</td>
<td>Nourma Pramestie Wulandari</td>
<td>Universitas Mataram</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>Analisis Kemampuan Berpikir Kreatif Siswa Tunanetra pada Materi Segitiga dan Segiempat</td>
<td>Suhendri Suhendri, Andriyani Andriyani</td>
<td>Universitas Ahmad Dahlan</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Board Game to Teach Vocabulary to Second Graders of Junior High School: An Experimental Study</td>
<td>Soviyah Soviyah</td>
<td>Universitas Ahmad Dahlan</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td>Analisis kebutuhan E-LKPD Untuk Menstimulasi Kemampuan Berpikir Kritis dan Pemecahan Masalah</td>
<td>Riana Julian</td>
<td>Universitas Ahmad Dahlan</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>Analisis Kebutuhan Pengembangan Modul Pembelajaran Matematika Berbasis Guided Discovery Untuk Menstimulus Kemampuan Berpikir Kreatif Siswa Tunarungu</td>
<td>Reza Yuliansyah, Suparman</td>
<td>Universitas Ahmad Dahlan</td>
<td>131</td>
<td></td>
</tr>
<tr>
<td>Standardisasi Ekstrak Metanol Akar Mangrove</td>
<td>Mahmiah Mahmiah</td>
<td>Universitas</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>Rhizophora mucronata Poiret dari Perairan Pantai Timur Surabaya</td>
<td>Hang Tuah</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-131</td>
<td>Roswita Aboe</td>
<td>Need Analysis and the challenge of 21st Century Education in Learning English for Specific</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-132</td>
<td>Harianto Taib</td>
<td>Purposes (ESP) at SMK 1 Vocational School Ternate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-134</td>
<td>Nanang Nanang Nanang</td>
<td>Pelatihan Cai-Contextual Dalam Pembelajaran Matematika Bagi Guru Untuk Meningkatkan Ketuntasan Belajar Siswa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-135</td>
<td>Rini Setiati, Septoratno Siregar, Taufan Marhaendrajan, Deana Wahyuningrum, Sugiatmo Kasmungini</td>
<td>Green Chemistry Processing Of Surfactant Synthesized From Bagasse Using Microwave Radiation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-136</td>
<td>Irfan Marwanzo, Wiwik Dahani, Subandrio, Masagus Ahmad Azizi, Riskaviana Kurniawati, Irsan Farhan</td>
<td>Variogram Modeling of Lime Saturation Factor on Limestone Quarry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-137</td>
<td>Agung Sediyono, Yani Nur Syamsu, Binti Sholihah</td>
<td>Impact of Wide Variety Feature on Accuracy of Offline Signature Verification Using Distance of Mass Centroid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-138</td>
<td>Wegig Murwonugroho, Lelitasari</td>
<td>Creative Gamification in Kahoot! For Worker’s Health and Safety Learning Assessment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-139</td>
<td>Firman Herdiansyah, Dewi Syavithri, Muhammad Burhannudinnr, Mellya Widyanto</td>
<td>Non-Channelized Tubidite Deposit Identification in Rambatan and Ciseureh River Brebes Central Java, Related to Oil and Gas Exploration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-140</td>
<td>Farah Margareth Leon &amp; Rizki Kusuma Nugraha</td>
<td>Corporate Governance And Enterprise Risk Management in the Banking Industry of Indonesia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-141</td>
<td>Rizka Dinda Puteri, Rositayanti Hadisoebroto, Riana Ayu Kusumadewi</td>
<td>Effect of Mixing Speed on Turbidity and Dyes Removal from Wastewater with Tiger Shrimp Shells as Biocoagulant Effect of Mixing Speed on</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-142</td>
<td>Sarwosri Moertiningsih, Dedes Nurgandarum, Otty Nurfanty</td>
<td>Sense of Place Dynamics in Historic City Centre of Tangerang</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-143</td>
<td>Otty Nurfanti, Dedes Nurgandarum, Sarwosri Moertiningsih</td>
<td>Permeability characteristics of Unplanned Settlements in Jakarta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-145</td>
<td>Handini Putri, Rositayanti Hadisoebroto, Asih Wijayanti</td>
<td>Determination of Design Parameter on Coagulation Process for Removing Turbidity and Dye Color from Screen Printing Wastewater</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-146</td>
<td>Pizza Agradiana, Nurhikmah Budi Hartanti</td>
<td>The Walkability of Street Corridors and Pedestrian Preferences in Jakarta Old City Heritage Area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEEM-147</td>
<td>Untung Sumotarto, I. Hary</td>
<td>Ore Mineral Exploration at Sungai Paguh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Page</td>
<td>Name(s)</td>
<td>Title</td>
<td>Affiliation</td>
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<tr>
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</tr>
<tr>
<td>147</td>
<td>Sunaryo, Setiawan</td>
<td>Area, West Sumatra</td>
<td>Trisakti</td>
<td></td>
</tr>
<tr>
<td>148</td>
<td>Rahel Situmorang, Antariksa, Surjono, Agus Dwi Wicaksono</td>
<td>The Perception of Stakeholders on Studentification in Malang City, Indonesia</td>
<td>Universitas Trisakti</td>
<td>149</td>
</tr>
<tr>
<td>149</td>
<td>Yolanda Masnita, Dini Reskasugih, Mangku Rasyawal</td>
<td>Nthropomorphism Brand Uniqueness: Products Marketed Offline Versus Online</td>
<td>Universitas Trisakti</td>
<td>150</td>
</tr>
<tr>
<td>150</td>
<td>Riski Trisci, Hanny Wahidin Wiranegara, Yayat Supriatna, Anindita Ramadhani</td>
<td>Balanced Housing Policy Optimization</td>
<td>Universitas Trisakti</td>
<td>151</td>
</tr>
<tr>
<td>151</td>
<td>Shelly Permata Sari, Hanny Wahidin Wiranegara, Harry H. Hardjakusumah, Marselinus Nirwan Luru</td>
<td>The Level of Walkability of Commercial Corridors for Pedestrian on Sudirman, Dr. Satrio and Casablanca Corridors</td>
<td>Universitas Trisakti</td>
<td>152</td>
</tr>
<tr>
<td>152</td>
<td>Boris Metheny, Rosyida Permatasari, Muhammad Sjahrl Annas</td>
<td>Savonius-Darrieus Turbine Modeling Design for Sea Current Electric Power Plant</td>
<td>Universitas Trisakti</td>
<td>153</td>
</tr>
<tr>
<td>153</td>
<td>Ardha Rafano Naradhipa, Syaifuludin, Syandra Sari, Wegig Murwonugroho</td>
<td>Knowledge Management System for Broiler and Laying Cultivation</td>
<td>Universitas Trisakti</td>
<td>154</td>
</tr>
<tr>
<td>154</td>
<td>Hanif Yahya Alyazidi, Syaifuludin, Gatot Budi Santoso</td>
<td>Knowledge Management System Of Furniture Production And Distribution</td>
<td>Universitas Trisakti</td>
<td>155</td>
</tr>
<tr>
<td>155</td>
<td>Soeharjoto, Debbie Aryani Tribudhi, Dini Hariyanti, Erny Tajib</td>
<td>Determinant of liquidity: the case of conventional banks in indonesia</td>
<td>Universitas Trisakti</td>
<td>156</td>
</tr>
<tr>
<td>156</td>
<td>Irfan Arie, Tazkiaturrizki, Winarni</td>
<td>Performance Evaluation of Sindang Pasekan Water Treatment Plant</td>
<td>Universitas Trisakti</td>
<td>157</td>
</tr>
<tr>
<td>157</td>
<td>RizkyEkaAdeliani, AnggraeniAdiwardhani</td>
<td>Relationship Of Tear Quantity And Quality with Symptoms Of Dry Eye in Smokers</td>
<td>Universitas Trisakti</td>
<td>158</td>
</tr>
<tr>
<td>158</td>
<td>Rachel Dista Zebua, Riana Ayu Kusumadewi, Winarni</td>
<td>Water Demand of Gambung Water Supply System, Bandung Regency, West Java</td>
<td>Universitas Trisakti</td>
<td>159</td>
</tr>
<tr>
<td>159</td>
<td>Sri Bakti Yunari</td>
<td>The Procedure of Execution on Foreign Arbitral Awards in Indonesia and Issues</td>
<td>Universitas Trisakti</td>
<td>160</td>
</tr>
<tr>
<td>160</td>
<td>Rizki Akbar, RiniSetiati, Abdul Hamid</td>
<td>Improving Zonal Isolation with Foam Cementing</td>
<td>Universitas Trisakti</td>
<td>161</td>
</tr>
<tr>
<td>161</td>
<td>Listyowati Sumanto</td>
<td>The Future of Publication System on Land Registration in Indonesia</td>
<td>Universitas Trisakti</td>
<td>162</td>
</tr>
<tr>
<td>162</td>
<td>Edepea, M.; Susetyarto, M.B.</td>
<td>The Six Tactics in Architectual Qualitative Research at Nua Bena, Flores</td>
<td>Universitas Trisakti</td>
<td>163</td>
</tr>
<tr>
<td>163</td>
<td>Andry Prima, Astri Rinanti, Onnie Ridialani, Wiwik Dahani, Mustamina Maulani, Abdul Hamid and Bayu Satiyawira</td>
<td>Unfolding the Message Behind the Statistical Data of Indonesia City Gas Distribution Sector by Developing a Linear Model</td>
<td>Universitas Trisakti</td>
<td>164</td>
</tr>
<tr>
<td>164</td>
<td>Yudhisman Imran, Pukovisa Prawirohardjo, Martiem Mawi, Peter Pratama</td>
<td>Correlation of Carotid Intima Media Thickness (CIMT) with memory function in Indonesian productive age population</td>
<td>Universitas Trisakti</td>
<td>165</td>
</tr>
<tr>
<td>165</td>
<td>Yudhisman Imran, Donna Adriani, Patwa Armani, Irmiya Rachmiyani, Pukovisa Prawirohardjo</td>
<td>Association between Brain Gym and Cognitive Function in Postmenopausal Women</td>
<td>Universitas Trisakti</td>
<td>166</td>
</tr>
<tr>
<td>STEEEM-166</td>
<td>V.Herawaty, Veronica Pernanda P</td>
<td>Carbon Emission Disclosure, Competition and Company’s Characteristics</td>
<td>Universitas Trisakti</td>
<td>167</td>
</tr>
<tr>
<td>STEEEM-167</td>
<td>Wildan Aji Darussalam and Vinola Herawaty</td>
<td>The Effect of Financial Performances on Firm Value with Good Corporate Governance as Moderating Variable (Empirical study on Go Public companies that have a Corporate Governance Perception Index score period 2008-2017)</td>
<td>Universitas Trisakti</td>
<td>168</td>
</tr>
<tr>
<td>STEEEM-168</td>
<td>Denny Suwanda Djoho, Benyamin Sapiie, Emmy Relawati, Agus Guntoro</td>
<td>Petrology and Geomechanics Characterization Shale of The Lower Baong Formation as A Potential Reservoir In A Shale Hydrocarbon System In Langkat-Aru, North Sumatra.</td>
<td>Universitas Trisakti</td>
<td>169</td>
</tr>
<tr>
<td>STEEEM-170</td>
<td>Yolanda Masnita, Dini Reskasugih, Mangku Rasyawal</td>
<td>Anthropomorphism Brand Uniqueness: Products Marketed Offline Versus Online</td>
<td>Universitas Trisakti</td>
<td>171</td>
</tr>
<tr>
<td>STEEEM-171</td>
<td>Abdul Haeba Ramli, Siti Mariam</td>
<td>The Influence of Work Environment And Organisational Commitment On Job Performance In Banking Industry</td>
<td>Universitas Trisakti</td>
<td>172</td>
</tr>
<tr>
<td>STEEEM-172</td>
<td>Bahtiar Usman, Henny Setyo Lestari</td>
<td>Board Characteristic on Manufacturing Firm Performance in Indonesia</td>
<td>Universitas Trisakti</td>
<td>173</td>
</tr>
<tr>
<td>STEEEM-173</td>
<td>Popi Puspitasari, Agustin R. Lakawa</td>
<td>Revealing the Vernacular Concept Through Proportions in Architecture</td>
<td>Universitas Trisakti</td>
<td>174</td>
</tr>
<tr>
<td>STEEEM-174</td>
<td>Wiky Firmantyo, Erny Tajib, Muhammad Nisfiannoor</td>
<td>The Affect Aging Anxiety and Contact Quality on Favorable Attitude and Willingness and Its Impact on Work Engagement to Work with Older People in BCA Millenial Employees in Jakarta</td>
<td>Universitas Trisakti</td>
<td>175</td>
</tr>
<tr>
<td>STEEEM-175</td>
<td>Lailatus siami, Dwi Indrawati, R. Ratnaningsih</td>
<td>Eudrilus Eugeniae and Lumbricus Rubellus Density Effect in Agriculture Waste Treatment</td>
<td>Universitas Trisakti</td>
<td>176</td>
</tr>
<tr>
<td>STEEEM-176</td>
<td>Bunga Faradhani, R. Ratnaningsih, Astri Rinanti</td>
<td>Delignification of Bioethanol Production from Saba Banana Peel (Musa paradisiaca formatypica) by Aspergillus fumigatus</td>
<td>Universitas Trisakti</td>
<td>177</td>
</tr>
<tr>
<td>STEEEM-177</td>
<td>Harumi Yuniarti, Astri Rinanti Nugroho, Bambang Cholis S</td>
<td>Optimization of Primary Annealing Temperature with Bigdye Reagent in Sequencing Reaction</td>
<td>Universitas Trisakti</td>
<td>178</td>
</tr>
<tr>
<td>STEEEM-178</td>
<td>Elflira Sutanto, Elsha Dwi Anggun Rachmadhany, Ita Tazkiaatul Izzati Mustopa, Elrian Syaputra, Monica Dwi Hartanti</td>
<td>Gene Expression in Cervical Cells of Women in Indonesia, a Preliminary Study</td>
<td>Universitas Trisakti</td>
<td>179</td>
</tr>
<tr>
<td>STEEEM-179</td>
<td>Hery Suharna and Yahya Hairun</td>
<td>THINKING REFLECTIVE ELEMENTARY STUDENT IN SOLVING SOLVING PROBLEMS BASED ON MATHEMATIC ABILITY</td>
<td>Universitas Trisakti</td>
<td>180</td>
</tr>
<tr>
<td>STEEEM-180</td>
<td>Ahmad Muhammad Diponegoro, Rahmat Ryadhush Shalihin, Diyan Faturahman</td>
<td>Economic Hardship, Education and Psychological Well Being among Muslims'</td>
<td>Universitas Ahmad Dahlan</td>
<td>181</td>
</tr>
<tr>
<td></td>
<td>Students</td>
<td>University</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>STEEEM-181</td>
<td>Suparman, I H T Untoro, A Prabowo, Andriyani, P W Prasetyo</td>
<td>Universitas Ahmad Dahlan, Universitas Teknologi Yogyakarta</td>
<td>182</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Keefektifan Program Kemitraan Masyarakat terhadap Literasi TIK Guru SMP Muhammadiyah Se Kabupaten Sleman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEEM-182</td>
<td>Andriyani, Susiana, Benny</td>
<td>Universitas Ahmad Dahlan, STKIP PGRI Banjarmasin</td>
<td>183</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Media Abacus in Solving Problem Related to Multiplication Operation for Mental Retardation Student</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
KEYNOTE SPEAKER 1

SELF-REGULATION LEARNING PROFILE OF ELEMENTARY SCHOOLS IN NUSA TENGGARA TIMUR

Prof. Dr. Dwi Sulisworo

ABSTRACT

Information that is easily accessed anytime and anywhere becomes one of the essential factors that influence educational practice at various levels. The ability of students since elementary school level in managing information during the learning process requires excellent self-regulation learning (SRL) skills. In the periphery that is relatively lacking in understanding the importance of this ability, it is necessary to see how the SRL profile of students is the basis for further policy development. This study aims to analyze the SRL profile of students in rural areas in Indonesia at the elementary school level. The research method used was survey research at three elementary schools in Kupang City, East Nusa Tenggara, Indonesia. This city is one of the cities in a disadvantaged area group. The number of samples was 106 upper class students from three elementary schools. The instrument used was a questionnaire with a scale of 1 to 5 (from not like me to like me). The analysis used is quantitative descriptive analysis, and MANOVA for comparing between schools. In the three schools studied, there was generally no difference in the students' SRL skills except for one school which in the Plan aspect was relatively lower than other schools. This finding shows that elementary students in NTT relatively need to improve their SRL skills. In the measured aspects which include Plan, Monitor, Control, and Reflect, all of the criteria are more than sufficient criteria but not yet up to good criteria. The implication of this result is the need for policies from school managers to mengajarkan SRL di sekolah. At the level of learning practices, it is necessary to apply many learning strategies that encourage the growth of SRL.
KEYNOTE SPEAKER 2
Microalgae Carbon Capture and Storage: Biomitigation Approach to Enhance CO2 Removal Efficiency
Astri Rinanti
Environmental Engineering Department, Universitas Trisakti, Jakarta, Indonesia

ABSTRACT
The global warming issue mainly caused by carbon dioxide (CO2), has triggered various efforts to reduce excess amount of CO2 emitted into the atmosphere. A viable option is to utilize biomass production potential of microalgal consortium in aquatic ecosystem that constantly requires CO2 to perform photosynthesis. This study aims to provide scientific contributions to the development of environmental studies, particularly of using microalgal consortium as Carbon Capture and Storage (CCS) agent by engineering their culture conditions. A number of studies analyzing biological reduction of atmospheric CO2 by using CO2 absorption capability of terrestrial plants have been facing many difficulties. Compared to various terrestrial plants, microalgae are generally considered photosynthetically more efficient. Exploitation of microalgal capability has numerous advantages, including their faster regeneration time, ability to grow in less space than terrestrial plants, and because the cultivation of microalgae can be done on a small scale or large scale operation, under controlled conditions and is independent to climatic changes. Taking into account long-term advantages, this study is a preliminary study which is expected to be able to provide information and feedback regarding integrated microalgal culture system that may lead to alternative solutions of eco-friendly and sustainable environmental management technology that are capable of mitigating environmental problems caused by CO2 (as greenhouse gas) emissions. Hence, the results of this study could be implemented by building urban microalgal ponds in effort to develop sustainable cities in terms of CO2 emission reduction in urban areas.
KEYNOTE SPEAKER 3
EDCATIONAL THAILAND 4.0
Assoc. Prof. Dr. Rungchatchadaporn Vehachart

ABSTRACT
The enhancement of students’ skills in Thai education 4.0 and 21st century is the major significance for impelling the quality graduate production of higher education in now a day. The Background of Education 4.0 are education 1.0 green evaluation, education 2.0 Industry and Technology, Education 3.0 Knowledge Society, and Education 4.0 Innovation Society. The findings of this research will be feed backed to the college as the significance for creating the strategies to enhance students’ skills for Thailand 4.0 and 21st century as well as to close the gab between graduate producer (MBC) and users (School, educational institution and society). The study will scope on the students of MBC and graduate users or employer of MBC. The limitation of this study will be limited by the content area of the concept of Thailand 4.0 and 21st century which based on the latest IQA manual, 2014 provided by OHEC, Thailand. This study has the main purpose to study the gap between students’ skills and needs of graduate users which emphasis on the 3 groups of essential skills for 21st century and Thailand 4.0 in order to provide the effective strategies to enhance students’ skills and abilities for closing the gap between producer and users. Conclusion and discussion in accordance with the enhancement percentage (% of gap) in order to close the gap of the needs of graduate users and graduate skills in Thailand 4.0 and 21st century of those 7 essential skills prospectively which are English skills, Digital literacy, Innovative thinking, Adaptability, Flexibility, and collaboration, Critical thinking and problem solving, Creative thinking and Media literacy.
INVITED SPEAKER 1

Assoc. Prof. Dr. Abdulrasyid Tolangara, S.Pd, M.Si

Universitas Khairun
This qualitative research aimed to describe student’s high order thinking skill (HOTS) about fraction. The research subject was three students consist of one male and one female from medium standard school and one female from high standard School with similar high mathematics ability. There are 3 indicators of HOTS in this study, analysis, create, and evaluate. The research began by determining subjects using mathematics tests, then followed by HOTS test. The last stage was interviewing the subject to reveal how the subject think in solving HOTS test and examine the match between the answers and the reasons given. The research found that The difference between subjects in indicators Analyze, Female and male from medium standard school have similar ability with mentioning what is known and asked in the problem. On the other side, female from high standard School also have that ability but she can also give illustration from the problem by drawing a rectangle. In indicators Create, The difference between female and male from medium standard school just lay on the ability of male to convert centimeters to meter, and female cannot. Both subjects are not able to divide decimal fraction. While female from high standard school succeed to divide decimal fraction by dividing the area of rectangle with the area of squares and finally got the final result of that problem. She is very well on solving the problem with giving the conclusion in her answer sheet. In indicators Evaluate, Female and male from medium standard school did not complete the final answer so the subject was unable to evaluate their own answer since that both cannot divide decimal fraction. On the other side, From interview with female from high standard school, the researchers asked how to evaluate the result and she said that she double check there might be an error or typo. The answer is corrected, seen and tested again, tested again its area, tested the results of multiplication and division again. Thus, it could be concluded that gender with similar mathematics ability can show bit different result with similar school in medium school and having big different with female from high school.
INVITED SPEAKER 3
Asbullah Muslim, S.Fil.I., M.Pd.I
STIT Palapa Nusantara, Indonesia
INVITED SPEAKER 4

A Case Study on Guidance and Counseling Students' Perception of Islamic Counseling Practices

Ahmad Muhammad Diponegoro, Fattah Hanurawan, Agungbudiprabowo

ABSTRACT

The purpose of the study was to reveal the guidance and counseling students' perception of the practices of Islamic counseling. This study applied qualitative approach. The design of the study was case study. The data were collected through in-depth interviews, open-ended qualitative questionnaire, and photovoice. The data were analyzed using thematic analysis. The data were validated through confirmation of the subject regarding the initial research result. The result of the study showed that the students viewed Islamic counseling as a process of giving assistance to counselee to solve their problems based on Quran and sunnah.

Index Terms: perception, student, guidance and counseling, Islamic counseling practice.
INVITED SPEAKER 5

Use of Web 2.0 Technology in Remote Indonesian Universities: Challenges and Opportunities

Sutaryo

ABSTRACT

This research aims at 1). Knowing lecturers’ experiences using Web 2.0 technology in learning and teaching English in tertiary institutions in North Maluku Province; 2). Identifying kinds of Web 2.0 technology applications used by university lecturers in learning and teaching English; 3). Exploring university lecturers’ and students’ impressions in integrating Web 2.0 technology applications in learning and teaching English, and 4). Identifying university lecturers’ obstacles in integrating Web 2.0 technology applications in learning and teaching of English. This study involved a total of 15 lecturers and 87 students as research participants from Study Programs majoring in English Language Education or English Literature in five tertiary institutions, both public and private, in North Maluku province, Indonesia. Data collected through interviews were thematically analyzed by following the stages recommended by Miles and Huberman (1978) and Seale (2004). The findings show that through the integration of web 2.0 technology in English language learning and teaching, students are more enthusiastic and motivated to learn English. Despite very few lecturers who use Web 2.0 technology applications, such applications as Google Classroom and Edmodo provide more advantages for both lecturers and students than their disadvantages. The advantage include allowing lecturers and students to upload learning materials and assignments with various file formats, students’ grade transparency, allowing private communication, simple menus, training students’ discipline in terms of time in assignment submission, and as reminders for lecturers in terms of learning materials. In other words, these applications provide efficiencies in terms of time, place, and cost. Primary obstacles such as inadequate internet networks provided by universities, financial problems faced by students and lecturers related to the need to buy data packages, including the lack of student knowledge in using Web 2.0 technology applications can be minimized by the need for university leaders to provide better internet network facilities that can reach all classrooms and the need for socialization and tutorials on how to use the application for both lecturers and students to maximize the benefits of Web 2.0 technology applications.

Implications for practice or policy

- University leaders need to continuously invite lecturers to use Web 2.0 technology applications both institutionally and individually so that the recommendations of the Ministry of Research and Technology, the need to use blended learning can be widely used by lecturers at universities in North Maluku.
- Lecturers need to continuously adapt to technological developments including technology that helps the learning and teaching process in English and other relevant fields.
- Students also need to continually develop themselves towards technological literacy and its use to support the success of their learning.

Keywords: Web 2.0 technology, lecturers’ and ‘students experiences, qualitative study, interviews
INVITED SPEAKER 6
DIRECT–UNFOCUSED-CORRECTIVE FEEDBACK: A MODEL FOR IMPROVING WRITING SKILL

Akmal¹, Mahrup², Bambang Widi Pratolo³
¹²³ Graduate Program of English Language Education
Universitas Ahmad Dahlan, Yogyakarta

ABSTRACT

The effectiveness of direct and indirect corrective feedback on the writing accuracy of the EFL/ESL students had been rebutted. The traditionalists believed that direct feedback performed much better than indirect one while others concluded the other way around. Other points of views confirmed that receiving feedback either direct or indirect was not effective or it cannot help the learners improve the accuracy of their narrative writings. This study is aimed at finding out the effectiveness of integrated direct and unfocused corrective feedback on the EFL students’ writing accuracy. A pre-post control group was applied. The data were taken from students’ narrative writing and evaluated by using Brown and Yule rubrics. The results show that integrated direct and unfocused corrective feedback outperformed the indirect and focus feedback group. Among the five components of a standard essay, syntax receives more improvement of the students’ writing. The conclusion can be drawn that direct and unfocused corrective feedback significantly improves students’ writing accuracy.

Keywords: Writing skill, ESL Learners, Direct-Unfocused Corrective Feedback
MANAJEMEN RISIKO BENCANA MERAPI DAN PRESTASI BELAJAR SISWA KELAS XII JURUSAN TEKNIK OTOMOTIF DI SMK MUHAMMADIYAH CANGKRINGAN SLEMAN YOGYAKARTA

Saryanto

ABSTRAK


Penelitian ini dapat di capai dengan metode kualitatif dengan pendekatan wawancara, study dokumen, dan trianggulasi. Subyek penelitian adalah komponen sekolah meliputi kepala sekolah, wakil kepala sekolah urusan kurikulum, wakil kepala sekolah urusan kesiswaan, wakil kepala sekolah urusan hubungan masyarakat, serta siswa kelas XII jurusan teknik otomotif sejumlah 15 siswa. Obyek penelitian yaitu manajemen sekolah di kawasan bencana, prestasi belajar yang di tinjau dari hasil ujian nasional dan ujian kompetensi kejuruan sebelum dan sesudah bencana Merapi terjadi, minat terhadap jurusan pasca terjadi bencana Merapi.

Hasil penelitian yaitu : (1). SMK Muhammadiyah Cangkringan membuat kebijakan, smk muhammadiyah cangkringan membuat strategi pengurangan risiko bencana, penyusunan prosedur tetap peringatan bahaya banjir lahar hujan, penyusunan rencana kontijensi, membuat skenario kejadian dan tahapan aksi, pembuatan prosedur standar pelaksanaan tnggap darurat, pengembangan kurikulum berbasis sekolah siaga bencana (SSB), pembentukan dan pengembangan sekolah siaga bencana. (2). Dampak SMK Muhammadiyah Cangkringan di kawasan risiko bencana meliputi : banjir lahar dingin, tercemarnya udara di lingkungan sekolah, tempat belajar di pengungsian, gangguan psikologis, perkembangan jumlah siswa. (3). Prestasi yang dilihat dari hasil ujian nasional yaitu : peningkatan nilai rata-rata bahasa Indonesia sebesar 7,7 atau 12,08% setelah terjadi bencana merapi, nilai rata-rata bahasa inggris mengalami penurunan sebesar 18.7 atau 27.4%, nilai rata-rata matematika mengalami peningkatan sebesar 3.13 atau 3.79%, nilai rata-rata ujian nasional teori produktif juga mengalami peningkatan yang sangat signifikan yaitu sebesar 32.8 atau 70.67%.

Keyword : Manajemen Risiko Bencana, Kawasan Risiko Bencana, Prestasi Siswa.
ICT PLATFORM DESIGN TO OVERCOME WASTE IN DKI JAKARTA

Rudi Setiawan, Yaddarabullah Yaddarabullah, Ari Setijadi Prihatmanto, Reza Darmakusuma

ABSTRACT

The existence of waste is one of the common problems that happen in big cities such as Jakarta. Most of the waste produced by people is not well-handled and cause environmental and health issues. Meanwhile, waste is also having economic value. Research in waste problems is done mostly in non-ICT platform approach with recommendations for handling waste at an expensive cost. This research proposes a design in handling waste with the help technology information platform where people can dispose the waste online and people who work as garbage collectors get money from that. This research produces an ICT Platform-based design that can be a massive solution in handling the waste problem for the DKI Jakarta government.
The Estimation of Economic Crisis Based on Economic Employment in Indonesia

A E Sujianto
Institut Agama Islam Negeri Tulungagung

ABSTRACT
The purpose of this research is to find out the following points: (1) analyzing the relationship of debt causality, exchange rate, unemployment, economic growth and inflation in Indonesia and (2) estimating economic crisis based on economic performance in Indonesia. The research approach is quantitative with secondary data comes from the Asian Development Bank documentation. The observation period was from 1981 to 2017 which means the observation has been conducted for 37 years. Stages of data analysis: stationarity test, lag test, granger causality test, integration test and VECM test. Based on the data using EViews can be presented: (1) the research hypothesis was not tested as a whole but found a one-way relationship from unemployment to exchange rate and from debt to unemployment and (2) the estimation of macroeconomic indicators of debt, exchange rate, unemployment, growth economy and inflation affect each other. It is recommended for stakeholders and investors to be more rational in determining the direction of their business's economic policies by taking into account selected macroeconomic indicators and for future researchers to add research locales.
The Measuring Of Quality Services On Posyandu Desa As The Effort To Enhance Mother And Children’s Health Degree

A Haris, A J S Nugroho, Sumargana, E E D Setiawati, S R Widayanti
Universitas Widya Dharma

ABSTRACT

The state health burden comes from the high population growth, infectious diseases, non-communicable diseases, and the higher mental health disorder. In a long period of time, this will undermine the nation’s productivity level and the economy in a country. The effort to promote the population services, health, and disease prevention need to be taken seriously. Most morbidity, mortality, population explosion, and disability as the disease effect can be prevented through promotive and preventive efforts. However, the efforts to enhance public health quality in primary service level are currently not optimal. The loose health promotion and disease prevention result the high number of morbidity and mortality. In the quarter IV 2017 there were 3,597 mothers’ died during childbirth and 22,327 infants’ death. The prevalence of the stunting toddlers or short stature was 27.6 percent, 3.4 percent of children under five were malnourished, and 14.4 percent of children under five were less malnourished [1]. This study is based on the consideration that it is necessary to conduct evaluation research on the quality services of Posyandu Desa through the Servqual model test, the importance of continuous research, and the consistency of the previous researcher. In particular, this study aims to determine the gap value and the efforts to close the biggest gap through Servqual test. The population in this study are housewives who have children under five as the receiver of Posyandu Desa services. This study uses purposive sampling of 60 respondents in the village area of Klaten Regency. The attributes in the quality service questionnaire include tangibles, reliability, responsiveness, assurance, and empathy [2]. Quantitative tests to be conducted include the item validity test and Servqual Analysis confirmation test. From the result, it is obtained that there is still negative value with the largest negative value on the tangible dimension. The improvement efforts must be continued with emphasis on improving the value which have the largest negative dimension to enhance the quality service of Posyandu KB in the community.
Low Density Turbidite (LDT) Deposit Identification In Rambatan And Ciseureh River Brebes Central Java, Related To Oil And Gas Exploration

Firman Herdiansyah, M Burhannudinnur, D Syavitr
Universitas Trisakti Jakarta

ABSTRACT

Brebes Central Java is an area that has not been proven to have hydrocarbon accumulation and not fully understood to exploration activities, although there are also numbers oil seepage on their surface. This phenomenon are tried to be examined from the sedimentology aspect. Surface data observation is located along the Rambatan River and Ciseureh River therewith tributaries. Its 4 stratigraphic sections with strike Northwest-Southeast trends and to Southwest dip direction that have been thickness are 30-360 meters. In distinguishing different sub environment of submarine fans are detailed measured sections. The formation is divided into 4 lithofacies assemblages. Lithofacies association 1 consist of interbedded of sandstone and siltstone gradationally upwards into sandy siltstones and well developed wavy and climbing ripple, lithofacies association 2 are characterized by fine sandstone-siltstone slump deposits, lithofacies association 3 deposits are typically found interbedded siltstones and very fine grained sandstone with Bouma sequence distinctive feature (Tb-Td), Lithofacies association 4 is identified in Rambatan River characterized by interbedded shale and very fine grained sandstone with volcanic material partially emerge breccia observed as erosional basal. Whole stratigraphic data show that the area has porosity value oscillate 2-28% and permeability 0.01 mD – 201 mD.
The Development Of Small And Medium-Sized Enterprises Through Triple Helix As A Model Of A Knowledge-Based Economy: The Indonesian Case

Somariah Fitriani, Sintha Wahjusaputri, Ahmad Diponegoro
University of Muhammadiyah Prof. DR. HAMKA

ABSTRACT

The main idea of the triple helix (TH) is to harness the power of synergy amongst academics, business and government, which aims to help the community develop their economic well-being through knowledge transfer and applicable product innovation, particularly for small and medium-sized enterprises (SMEs). Hence, the objective of this study was to investigate the pattern of SME development in the creative industries using the Analytical Hierarchy Process (AHP) approach and by applying the TH model in the Bandung and Banten regions of Indonesia. This research has employed the analytical hierarchy process (AHP) to synthesize the comparison judgment of pair decision-makers at each level of decision hierarchy. Face-to-face interviews, focus group discussion, literary reviews and documentation were conducted for data collection, in which all the representatives of the TH actors had participated. The results showed that the hierarchy for the priority of SMEs’ sustainability is a four-level of hierarchies in the TH model. The four levels are: 1) goals; 2) stakeholders of the TH; 3) criteria of guidance/consulting services, mentoring, coaching/training, access to marketing facilities, technology assistance, information assistance, capital loans, technology loans, information loans, and establishment of state-sponsored creative home of enterprises; and 4) short, medium or long term alternatives. The use of the analytical hierarchy process is then proven beneficial in formulating the priority of SMEs to implement the TH model successfully in accordance with the needs of SMEs.
Effect of Professional Competence, Supervising Principal and Motivation on Teacher Performance Junior High School 2 Karanggayam Kebumen

Saryanto
Yogyakarta State University

ABSTRACT
Successful management of education at the secondary level is largely determined by the performance of teachers in teaching. Many things can affect the success of education, one of the progressive teacher performance. The purpose of this study was to analyze the influence of professional competence, supervision of the head of school and work motivation on teacher performance Junior High School 2 Karanggayam Kebumen. The population in this study is Professor of Civil Servants Junior High School 2 Karanggayam amounted to 32 respondents. Data was collected by means of interviews, questionnaires and literature. Data were analyzed using test validity, reliability, classic assumption test, test hypotheses and multiple linear analysis as data analysis to determine how much influence the professional competence, supervision of the principal and the motivation to work on teacher performance Junior High School 2 Karanggayam Kebumen. The results of this study indicate if the professional competence significantly influence the performance, supervision Headmaster no significant effect on performance and motivation have a significant effect on performance. Supervising Principal has no significant effect due to the lack of direct supervision or direct visits Headmaster Junior High School 2 Karanggayam which in fact was not affecting the performance of teachers. Supervising Principal has no significant effect due to the lack of direct supervision or direct visits Headmaster Junior High School 2 Karanggayam which in fact was not affecting the performance of teachers.
A numerical algorithm based on cubic B-spline is applied in the present paper for a category of singular boundary value problem of second order which have a number of important applications in sciences, engineering and medical problems. The spline method is applied after removing the singularity and converting the problem into a regular boundary value problem. This is done using expansion in series near the singular point. Further, an extended B-spline with an extension is also applied on the same problem. This is a B-spline with a free parameter \( \lambda \). The solutions by the method developed with extended B-spline with parameter are shown to be improved than those given by other numerical techniques available in literature like finite difference method and the cubic B-spline method. Numerical examples are also given which establish the above fact. The results of the examples show a very close agreement with exact solutions.
The Effects of Physics Learning with Starter Experiment Approach (SEA) to Improve Student Learning Outcomes

Dedi Juliusman Sakatsila, Faradiba
Universitas Kristen Indonesia

ABSTRACT

According to regulation No. 20/2000, education is a conscious and planned effort to create an atmosphere of learning and learning process so that students actively develop their potential, to have spiritual strength, self-control, personality, intelligence, noble character and the skills needed by themselves, society, nation and country. To realize this we need learning methods and models that are able to increase student enthusiasm and be able to improve student learning outcomes. Of the several learning approaches, the initial experiment approach (starter experiment approach), is one alternative in learning physics. This research was conducted in class XI Natural Sciences at SMA Negeri 98 Jakarta, East Jakarta, with a research schedule from January to September 2018. The results showed that the average posttest score of the experimental class students after receiving the SEA learning model treatment was 87.38, while the class control with conventional learning models 80.36.
ABSTRACT

This study aims at analyzing the model development of entrepreneurship and creative economy in West Java Province, especially in Bandung, among others by mapping the Small and Medium Enterprises (SMEs) actors into nine elements that have been recorded in the Penta Helix stakeholder's format and defined the corresponding roles. The strategic model involves the Penta Helix elements of the creative economy, called ABCGM (Academics, Business, Communities, Government, Media) employing 3 C, namely: Connect-Collaborate-Commerce/Celebrate by all stakeholders. This research used an action research approach and qualitative methods according to the quantitative data from mapping that conducted in 2018-2019 which including potential subsectors in each region. The perpetrators used SWOT analysis, which evaluated Strengths, Weaknesses, Opportunities, and Threats and also Penta Helix approach in the development of creative economy towards SMEs Champion in Bandung. The results of the study explained that the Internal Factors Evaluation (IFE) and External Factors Evaluation (EFE) on entrepreneurship and creative economy mapped into Nine elements, namely: Creative Resources (85%), Industry Competence (75%), Financing (35%), Institution (45%), Marketing (55%), Supporting Resources (78%), Infrastructure and Technology (50%), Encouraging Creativity (65%), and Self-Potential (87%). The whole process of action research was then transformed into a formulation of the Penta Helix development model that potential to be replicated in various places in West Java Province, especially in Bandung.
ABSTRACT

The purpose of this research was to escalate players’ knowledge on color blindness by designing an educational video game which design was oriented to dichromatic color blind. The topic selection was based on the lack of players’ deeper knowledge on color blindness. The graphic and gameplay selection on this research was adjusted to the chosen color blind category. Research methods were conducted by analysis, development, and evaluation. Analysis was done by questionnaire. Development was done by game design document, UML, storyboard, and was implemented using Unity Game Engine. Evaluation on 35 players, which are 32 with normal eyes and 3 with color blindness, was done by two approaches, which are t-test and questionnaire. The result of t-test was \( t(34) = -7.704, p < 0.05 \) and Enjoyment score on CEGE is 0.763 for normal eyes and 0.651 for colorblind. To conclude, there was an improvement on knowledge from the video game and the design was enjoyable.
ABSTRACT

Techno-economic Assessment for Small and Medium Enterprise of Coconut Production towards Bio-economic Zone Based on Coconut Processing Product

Imam Santosa, Endah Sulistiaiwati, Ika Dyah Kumalasari, Suhendra

ABSTRACT

Indonesia is an agricultural country that has excellent potential for coconut development. One of the coconut products, which has health benefits, i.e., virgin coconut oil (VCO), which uses as a supplement for cardiovascular health, an energy source to overcome viral disorders, diabetes, and anti-microbial properties. Various methods can produce, including the expeller, centrifuge, fermentation method without heat. The potential market of VCO is comprehensive because it has significant market share both domestic and abroad. By conducting financial analysis, the business shows that micro, small, and medium enterprises (MSMEs) based on economic actors, with two models of single products and multiple products. The analysis shows that it is better to implement the multiple products model because it increases the amount of income. In this model, the total production of 1000 kg, 3000 kg, 5000 kg, and 10000 kg, and the price of coconut Rp. 3000, obtained sales revenue, cost of goods sold, which increased and IRR 21.06% and BEP 26 months.
Peramalan Banyak Pengunjung Objek Wisata Pantai Baron Kabupaten Gunungkidul Menggunakan Model Arimax

G R Mahendra, E Zukhronah, Y Susanti
Universitas Sebelas Maret

ABSTRACT

Effect of Valproic Acid on Cell Growth Inhibition in The Human Tongue Cancer

Komariah Komariah, Salma, Indra Kusuma, Del Afriadi Bustami

University of Trisakti

ABSTRACT

Background: Cancer is one of the diseases that can cause death. Tongue cancer is the most commonly diagnosed cancer in the oral cavity, which accounts between 25% and 40% of oral squamous cell carcinoma. Oral cancer therapy includes surgery, radiotherapy, and chemotherapy. Valproic acid is an anticonvulsant drug that specifically works as a histone deacetylase inhibitor or signaling activator in suppressing tumor growth. This study aimed to determine the effect of valproic acid on growth inhibition in the human tongue cancer HSC-3 cell through viability, cytotoxicity, proliferation, and migration. Methods: This study used an in vitro experimental method using valproic acid in HSC-3 cell subjects, with the treatment group divided into four groups. The first group was negative controls consisting of culture medium without valproic acid, second, third, and fourth groups were administered valproic acid with concentrations of 145ppm, 180ppm, and 355ppm. Results: The results showed significant differences (p <0.05) between HSC-3 cells given valproic acid with concentrations of 145ppm, 180ppm, and 355ppm compared to controls in HSC-3 cells viability, cytotoxicity, and proliferation tests. It showed decreased cell viability, increased cytotoxicity, and decreased proliferation. The results of the migration test indicated the effect of valproic acid on the acceleration of HSC-3 cell migration. Conclusions: Valproic acid can reduce viability and proliferation, increase cytotoxicity, and can inhibit the acceleration of HSC-3 cell migration.
Work Family Balance and Gratitude as Employee Subjective Wellbeing Predictor

Nina Zulida Situmorang, Muhammad Nur Syuhada

University of Ahmad Dahlan

ABSTRACT

Happiness is one of the keys to employee success. If the level of subjective wellbeing is high, then the employee will show a high ability at work. The combination of roles in work and family in women becomes a combination that is conducive to the emergence of health and wellbeing. The sense of gratitude tends to bring out subjective wellbeing too. It makes the work-family balance and gratefulness factors give a relationship with subjective wellbeing. The purpose of this study is to examine the relationship between work-family balance and gratitude with employee subjective wellbeing. The research method used done through quantitative methods. The study subjects numbered 100 employees married status, have more than 1 (one) child, a minimum of two years of work, and research locations in Yogyakarta. Data collection methods use a scale that is subjective wellbeing scale, work-family balance scale, and thanksgiving scale. Data analysis uses multiple linear regression analysis using the SPSS for Windows program. The results showed that there was a very significant relationship between work-family balance and gratitude towards subjective wellbeing is can e seen from the results of the R coefficient of 0.584 with a significance level (p) of 0.000 (p <0.01). The relationship between work-family balance and subjective wellbeing is accepted, it can from the correlation coefficient (rx1y) of 0.102 with a significance level of 0.000 (p <0.01) and the relationship between gratification with subjective wellbeing is also accepted, the correlation coefficient (rx1y) rx2y) was 0.584 with a significance level of 0.000 (p <0.01). Work-family balance and thanksgiving together make a useful contribution of 34.1% to subjective wellbeing. While the rest contributed by factors or other variables outside of work-family balance and gratitude. Based on the results of the analysis of research data, there is a very significant relationship between work-family balance and gratitude with subjective wellbeing for employees. It shows that the hypothesis in this study was accepted.
Kemampuan Operasi Hitung Siswa Tunagrhitia Terhadap Siswa Kelas 2 SD
L F Nuari dan Suparman
Universitas Ahmad Dahlan

ABSTRAK
Kemampuan berhitung yang meliputi penjumlahan, perkalian, dan pembagian sangat penting bagi siswa, khususnya tunagrhitia. Tujuan penelitian ini adalah ingin melihat kemampuan siswa tunagrhitia dalam melakukan operasi hitung, khususnya perkalian jika dibandingkan dengan siswa normal. Subjek penelitian yang diambil yaitu 1 siswa tunagrhitia kelas 7 SMP berusia 16 tahun dan 23 siswa normal kelas 2 SD yang rata-rata berusia 8 tahun. Metode penelitian yang digunakan adalah kualitatif deskriptif, dengan pengambilan data menggunakan wawancara dan tes. Soal tes yang digunakan pada kedua subjek sama, agar terlihat jelas kemampuan siswa dengan masalah yang sama. Hasil penelitian ini menunjukkan bahwa siswa tunagrhitia yang berusia 16 tahun memiliki kesulitan yang hampir sama dengan siswa SD berusia 8 tahun. Keduanya memiliki kemiripan yang hampir sama, seperti pengerjaan soal berkaitan dengan penulisan operasi perkalian berdasarkan penjumlahan suatu objek gambar secara berulang. Siswa terbalik dalam menuliskan faktor pengali dengan bilangan yang dikalikan atau menuliskan bentuk perkalian yang tidak ada kaitannya dengan penjumlahan sebelumnya. Maka disimpulkan bahwa kemampuan siswa tunagrhitia tidak jauh berbeda dengan siswa normal berusia 8 tahun.
ABSTRACT

The purpose of this study was to determine differences in learning outcomes and science process skills of students in the experimental class-1 and the experimental class-2. The experimental class-1 is the class applied by PjBL with a brain-based STEAM approach, while the experimental class-2 is a class that is used by PjBL with the STEAM approach without brain-based. This research is a quasi-experimental study, with a nonequivalent pretest-posttest control group design. The brain-based learning activities applied in this study are listening to music, drinking water, doing a brain gym, working on crossword puzzles, and group determination based on the dominance of students' brains. The results showed that the average value of the N-Gain score of learning outcomes in experimental class-1 students was 80.72 while the experimental class-2 was 73.12. In the science process skills, the experimental class-1 students had an average N-Gain score of 72.50 while the experimental class-2 was 60.88. The conclusion is that experimental class-1 students have higher learning outcomes and science process skills than experimental class-2 students.
Analisis kebutuhan media interaktif matematika berbasis android untuk menstimulus berpikir kritis siswa

Aslamiah, Suparman
Magister Pendidikan Matematika Universitas Ahmad Dahlan Indonesia

ABSTRAK

The students’ mathematical reflective thinking skill in mathematical problem solving

N Triharyati, Mardiyana, and Triyanto

Universitas Sebelas Maret

ABSTRACT

This study aims to describe the reflective thinking skill of vocational high school students in solving the derivative problem in terms of gender. This research is a qualitative approach involving one male student and one female student in vocational high school. The data were collected through the assignment of mathematic problem solving and interview, then the data were triangulated and analyzed by three stages, namely data condensation, data display, and conclusion. The results showed that the subjects of males and females were reacting, elaborating and contemplating at each stage of solving the derivative problem, did not consider their experience, also, the male subject didn’t use experience of the steps she planned to solve mathematic problem. But at the stage of devising the plan, the female subject was contemplating, relying more on their beliefs.
Students’ perception toward Interactive Game to Facilitate Student’s Achievement

E Puspitasari, AM I Mahfiana and B W Pratolo
Ahmad Dahlan University

ABSTRACT

This research was conducted to find out the students’ perception toward game interactive to facilitate student’s achievement. The approach used in this research is a qualitative approach in a descriptive research. The design of this study is qualitative research. The participant in this research is eight undergraduate students’ at Ahmad Dahlan University. It was used purposive sampling technique. The data collections were open ended interview as the instrument. Qualitative approaches use more open-ended approaches that ask general-level questions, and the participants can shape the possibilities responses. Open-ended interview with these key aim: to know how student’s perception toward interactive game “Kahoot’ and how is the students’ perception toward their achievement in learning process. The result of this research showed that All participants agreed that using Kahoot! triggers positive attention and increases focus in class. That students easily focus and unconsciously concentrate fully on the material while using Kahoot, students find it easier to collaborate and interact with friends and also the teacher for problem solving development, on the other hand the intellectual intelligence of students on the content of Kahoot can be made to encourage students to explore every material taught and finally students are not bored and very enjoy learning through interactive games, this indirectly makes students more intense in receiving material. Therefore, it can be concluded that the interactive game Kahoot! has a good impact to student’s achievement.
Deskripsi E-Modul Berbasis Guided Discovery untuk Menstimulus Kemampuan Berpikir Kritis Siswa Slow Learner

Andreast Wahyu Sugiyarta¹,², Suparman¹
¹Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia
²SMA Muhammadiyah 3 Yogyakarta

ABSTRACT

Kemampuan berpikir kritis merupakan kemampuan seseorang untuk dapat memahami, menerapkan, melakukan analisis, mengevaluasi sebuah informasi untuk memecahkan suatu persoalan. Kemampuan berpikir kritis sangatlah penting dimiliki oleh seseorang tak terkecuali seorang yang mempunyai kemampuan kognitif rendah (slow learner). Penelitian ini merupakan penelitian kualitatif yang bertujuan untuk menganalisis kebutuhan untuk mengembangkan suatu bahan ajar yang cocok bagi seseorang yang mempunyai kognitif rendah. Subjek penelitian ini adalah siswa yang mempunyai kemampuan kognitif rendah (slow learner) di SMA Muhammadiyah 3 Yogyakarta. Data dari penelitian ini merupakan data deskriptif yang dikumpulkan dari wawancara, observasi, dan dokumentasi. Data yang terkumpul dianalisis dengan teknik analisis data kualitatif model Miles and Huberman terdiri dari mengumpulkan, mereduksi, menyiapkan, dan menyimpulkan. Hasil penelitian menunjukkan bahwa siswa yang mempunyai skor psikotes 75-90 ada 16 siswa (7,14%) berdasarkan kemampuan intelegensia, 26 siswa (11,61%) berdasarkan kemampuan berhitung praktis, dan 34 siswa (15,18%) berdasarkan kemampuan berhitung teoritis. Namun, dari ketiga kemampuan tersebut, 10 siswa (4,46%) masuk dalam kategori slow learner, sehingga membutuhkan sebuah bahan ajar untuk menunjang menstimulus kemampuan berpikir kritis. Penelitian ini dapat dikembangkan pada pengembangan bahan ajar e-modul berbasis guided discovery untuk menstimulus kemampuan berpikir kritis siswa slow learner.
Problematika Pembelajaran Pecahan Pada Siswa Sekolah Menengah Pertama
Nur Lailatul Fitri dan Suparman
Universitas Ahmad Dahlan

ABSTRACT
ABSTRACT

The purpose of this study is to develop a postsecondary option-based android application that is used by junior secondary students to determining plans for further study. Planning further studies from junior to senior high school and beyond, certainly requires a consideration. All preparations both internally (academic ability, understanding of learning) and externally (school, facilities, environment) and all of that include in postsecondary options. Postsecondary options is an awareness the opportunity to obtain a career and develops experts using various abilities such as grouping careers, ability to assess themselves, and many more. Optimizing postsecondary options can be applied in technology. The research method used is research and development, which develops Android applications based on postsecondary options in helping student's postsecondary option. In this application, it contains information about the requirements, curriculum, job opportunities in a number of options for further study of students after junior high school and beyond.
Analisis kebutuhan E-LKPD penunjang model pembelajaran CTL untuk menstimulus kemampuan berpikir kritis siswa
Ganis Yoga Purnama¹,², Suparman¹
¹Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia
²SMK Muhammadiyah 1 Yogyakarta, Indonesia

ABSTRACT
Analysis kebutuhan E-modul untuk Berpikir Kreatif Siswa Tunarungu

Wahyu Andriyani, Suparman
Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia

ABSTRACT

THE IMPACTS OF CONSUMPTIVE BEHAVIORS TOWARD AMERICAN SOCIETY IN MODERN ERA AS REFLECTED IN THE FILM THE JONESES

Ambarwati Budi R\textsuperscript{1}, Nadella Lesmana\textsuperscript{2} and D Murwantono\textsuperscript{3}

\textsuperscript{1,2,3}Ahmad Dahlan University, Yogyakarta, Indonesia

ABSTRACT

In this research, the writer makes research of consumptive behavior and its impacts. The title of this paper is The Impacts of Consumptive Behavior toward American Society in Modern Era as Reflected in the film “The Joneses”. This film represents the impacts of consumptive behavior in American society in many aspects of life. The objective of this paper is to discuss the impacts of consumptive behavior toward American society as reflected in the film “The Joneses”. In analyzing this research, the writer uses an interdisciplinary study. The writer uses the cultural approach and socio-psychological approach. The cultural approach is used to know how consumptive a lifestyle in America society became. The socio-psychological approach is used to analyze how consumptive behavior impacts America society in their life. The writer uses a qualitative method by gathering the data qualitatively and presenting descriptively. The main data of this research is the film “The Joneses” and the supporting data are taken from books, articles, and the internet. The result of the study shows that the phenomenon of consumptive in America has raised and changed from time to time. The writer also focuses on the impacts of consumptive behavior toward American society.
ANALISIS KEBUTUHAN E-LKPD UNTUK MENSTIMULUS KEMAMPUAN PEMECahan MASALAH

Awalul Ifsiarohmah Adiyani¹, Suparman²
¹,² Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia

ABSTRACT

Analisis Kebutuhan E-LKPD Untuk Menstimulus Kemampuan Berpikir Kritis
Esa Khairiyatul Barokah¹, Suparman²
¹²Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia

ABSTRACT
Berpikir kritis adalah mode berpikir mengenai hal, subtansi atau masalah apa saja, dimana saja sang pemikir meningkatkan kualitas pemikirannya dengan menangani secara terampil struktur yang melekat dalam pemikiran dan menerapkan standar intelektual padanya. Terdapat lima indikator berpikir kritis yaitu mampu merumuskan pokok-pokok permasalahan, mampu mengungkap fakta yang dibutuhkan dalam menyelsaikan suatu masalah, mampu memilih argumen logis, relevan dan akurat, mampu mendeteksi bias berdasarkan sudut pandang yang berbeda, mampu menentukan akibat dari suatu pernyataan yang diambil sebagai suatu keputusan. Metode yang digunakan dalam penelitian ini adalah metode penelitian deskriptif kualitatif. Penelitian ini bertujuan untuk menganalisis media pembelajaran yang sesuai dengan model pembelajaran Problem Based Learning yang dapat menstimulus kemampuan berpikir kritis matematika siswa dari segi kurikulum, karakteristik sumber belajar dan karakteristik siswa.
Analisis Kebutuhan Multimedia Pembelajaran Untuk Menstimulus Kemampuan Komunikasi Matematis

Fatimatus Solihah¹, Suparman²
¹,²Magister Pendidikan Matematika Universitas Ahmad Dahlan, Indonesia

ABSTRACT

Kemampuan komunikasi matematis adalah kemampuan peserta didik dalam mengekspresikan ide seputar matematika serta merancang model matematika baik secara lisan, visual dan tertulis. Kemampuan komunikasi matematis siswa dapat diamati melalui indikator berikut: (1) kemampuan menyatakan gambar atau diagram menjadi ide-ide matematika, (2) kemampuan mengungkapkan kejadian sehari-hari dalam simbol matematika, (3) kemampuan dalam menjelaskan situasi, ide atau hubungan matematikadengan aljabar atau grafik. Penelitian ini menggunakan metode penelitian ini adalah metode penelitian kualitatif deskriptip dimana subjek penelitian ini adalah guru dan siswa kelas VII MTs Muhammadiyah Karangkajen. Penelitian ini bertujuan menganalisis bahan ajar yang sesuai dengan Standar Pembelajaran, karakteristik sumber belajar, karakteristik siswa. Hasil Penelitian ini menemukan kemampuan komunikasi matematis siswa masih rendah dan siswa memiliki karakteristik lebih suka pembelajaran dengan menggunakan multimedia sebagai sumber belajar tetapi sumber belajar atau bahan ajar yang digunakan guru belum dapat meningkatkan atau menstimulus kemampuan komunikasi matematis siswa, jadi dibutuhkan multimedia pembelajaran yang dapat menstimulus kemampuan komunikasi matematis siswa.
Deskripsi Bahan Ajar Berbasis PjBL untuk Menstimulus Kemampuan Komunikasi Matematis

Rusmin R. M. Saleh¹, Suparman²

¹,² Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia

ABSTRACT

Penelitian ini bertujuan untuk mengetahui kemampuan komunikasi matematis mahasiswa Program Studi Pendidikan STKIP Kie Taha Ternate dengan menggunakan model pembelajaran berbasis Project-base Learning. Jenis penelitian adalah deskriptif kualitatif. Subjek peneliitannya adalah seluruh mahasiswa semester 3 pada Program Studi Pendidikan STKIP Kie Raha Ternate. Sumber data dalam penelitian ini adalah untuk menganalisis kurikulum, instrumen untuk menilai bahan ajar yang digunakan dosen dalam kegiatan pembelajaran dan karakteristik mahasiswa. Hasil analisis kurikulum, STKIP masih belum menggunakan kurikulum berbasis KKNI seperti Peguruan Tinggi lainnya, hasil analisis bahan ajar yang digunakan semua indikator yang dinilai tidak terpenuhi sedangkan hasil analisis karakteristik mahasiswa, sebagian besar mahasiswa kaku dalam menyampaikan gagasan/ide karena keterbatasan bahan ajar/referensi.
Analisis Kebutuhan Multimedia Interaktif dengan Pendekatan Problem Based Learning Untuk Mengembangkan Kemampuan Komunikasi Matematis Siswa

Aludin Gute¹, Suparman²

¹²Magister Pendidikan Matematika Universitas Ahmad Dahlan

ABSTRACT

Reduksi Dimensi untuk Meningkatkan Performa Metode Fuzzy Klastering pada Big Data

Joko Eliyanto¹, Suparman²
¹²Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia

ABSTRACT

Think Pair Share to Improve Students Motivation to Learn in Mathematics  
Eka Luthfiana Lathifah, Djamilah Bondan Widjajanti, Jailani

ABSTRACT
The 21st century today requires not only students who have competences in mathematical fields, but also life skills. One of the life skills that must be mastered by students is motivation to learn. Motivation learning is an important personal skill so students are enjoy learning mathematics. Therefore, we need a learning method that is able to improve the students' motivation to learn, namely the cooperative learning method Think Pair Share (TPS) type. This research aims to improve motivation learn with cooperative learning methods Think Pair Share type. The research design used was classroom action research. The research subjects were 28 VII grade students of MTs Hs Wadaslintang, Junior High School. This research was conducted in two cycles. The first cycle was obtained results of the self-regulated of students learning in the medium category with an average of 102.86 and learning outcomes obtained 43.8% of students who completed. The second cycle obtained the results of the self-regulated of students learning already in the high category with an average of 115.21 and learning outcomes obtained 80% of students who complete. Thus it can be concluded that the Think Pair Share type of cooperative learning method can improve student motivation to learn and learning outcomes.
Deskripsi E-LKPD Untuk Membangkitkan Berpikir Kritis Peserta Didik Melalui Pembelajaran Discovery Learning

Fachrul Rozi¹,³, Suparman²

¹,³Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia
³SMK Muhammadiyah 1 Sentolo, Kulon Progo, Yogyakarta, Indonesia

ABSTRACT

Berpikir kritis di abad 21 ini merupakan keterampilan yang harus dimiliki setiap individu. Pendidikan merupakan salah satu tempat untuk menumbuhkan dan bahkan mengembangkan keterampilan berpikir kritis. Sumber belajar yang belum mengaitkan ke kemampuan berpikir kritis akan sedikit berpengaruh pada keberhasilan pencapaian pembelajaran. Tujuan penelitian yang akan dicapai yaitu untuk memaparkan kebutuhan sumber belajar matematika yang berbasis model Guided Discovery Learning sehingga dapat menumbuhkan kemampuan berpikir kritis peserta didik. Jenis penelitian yang digunakan yaitu deskriptif kualitatif. Subjek penelitiannya adalah peserta didik SMK Teknik Kelas XI. Teknik pengumpulan data yang digunakan yaitu teknik wawancara dan lembar observasi. Teknik observasi akan dilakukan kepada guru matematika dan peserta didik di SMK Teknik guna untuk memperoleh informasi terkait model pembelajaran, karakteristik peserta didik dan kemampuan berpikir kritis. Penelitian ini memiliki beberapa hasil. Pertama, masih tergolong lemahnya kemampuan berpikir kritis peserta didik. Kedua, model pembelajaran yang sering digunakan oleh guru matematika masih menggunakan model konvensional. Ketiga, bahan ajar yang digunakan oleh guru matematika masih menggunakan buku paket dan kurang dapat membangkitkan kemampuan berpikir kritis peserta didik. Keempat, model pembelajaran Guided Discovery Learning dapat membantu peserta didik untuk membangkitkan serta mengembangkan kemampuan berpikir kritis dibantu E-LKPD terkait materi. Simpulannya adalah bahan ajar matematika berbasis Guided Discovery Learning yang dapat membangkitkan kemampuan berpikir kritis peserta didik perlu untuk dilakukan pengembangan.
Kemampuan komunikasi matematis adalah kemampuan siswa dalam mengemukakan ide dalam matematika baik lisan maupun tulisan dalam bentuk bahasa, simbol dan notasi-notasi matematika yang lebih mudah bagi siswa dalam memahami masalah matematika. Salah satu model pembelajaran yang bisa digunakan guru untuk membangkitkan kemampuan komunikasi matematis adalah model Problem Based Learning (PBL). Penelitian ini bertujuan untuk mengetahui kemampuan komunikasi matematis siswa SMK kelas XI di Kulon Progo dengan menggunakan model pembelajaran Problem Based Learning (PBL). Jenis penelitian adalah deskriptif kualitatif. Subjek dalam penelitian ini adalah 1 guru dan 9 siswa SMK kelas XI di Kulon Progo. Instrumen pengambilan data menggunakan pedoman observasi, studi literatur dan wawancara. Pedoman obsevasi digunakan untuk mengamati atau mengetahui model pembelajaran dapat meningkatkan kemampuan matematis mahasiswa. Pedoman wawancara digunakan untuk mewawancarai guru atau siswa mengenai penggunaan bahan ajar yang digunakan dalam proses pembelajaran. Data dianalisis dengan menggunakan Miles Huberman yang terdiri dari reduksi data, penyajian data dan penarikan kesimpulan. Kelas XI terdiri dari 9 orang mahasiswa dan semua masih kesulitan mempelajari mata pelajaran matematika. Rendahnya kemampuan komunikasi matematis mahasiswa dikarenakan bahan ajar dan pedoman pembelajaran yang di gunakan kurang efesien, karena kalimat atau bahasa yang digunakan sulit dipahami bagi siswa. Dalam proses pembelajaran kepada siswa masih diterapkan teacher center, sehingga siswa terlihat sibuk dengan hal-hal yang tidak ada hubungannya dengan materi. Prestasi belajar yang kurang dari yang diharapkan, dilihat dari nilai ulangan matematika siswa belum mencapai Kriteria Ketuntasan Minimal (KKM) individu sebesar 70 dan KKM klasikal sebesar 70%. Kurikulum yang berlaku di Negara Indonesia sangat kompleks, sehingga secara langsung akan berakibat dampaknya pada guru dan siswa. Dengan demikin peneliti menawarkan untuk mengembangkan bahan ajar berbasis Problem Based Learning (PBL) untuk membangkitkan kemampuan komunikasi matematis siswa.
Analisis Kebutuhan E-LKPD Untuk Menstimulus Kemampuan Komunikasi Matematis Siswa

Arie Nursela Putri, Suparman
Universitas Ahmad Dahlan, Yogyakarta

ABSTRACT
Analisis Kebutuhan Multimedia Untuk Menstimulus Kemampuan Komunikasi Matematis Siswa

Fauzia Harun¹, Suparman²
¹,²Magister Pendidikan Matematika Universitas Ahmad Dahlan, Yogyakarta

ABSTRACT

Hesti Wulandari1, Suparman2

1,2Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia

ABSTRACT

Spline Nonparametric Regression Approach For Modeling Factors Affecting Vocational National Exam Results in Surabaya

Harun Al Azies and Alfisyahrina Hapsery

Statistics Department, PGRI Adi Buana University, Indonesia

ABSTRACT

Government policy in the field of evaluation is the holding of the National Examination (UN). Therefore, various improvements in the quality or quality of education through national examinations need to be done so that the quality of human resources really materializes as expected. Identification of factors that influence the indicators is done by modeling, namely by nonparametric regression analysis because the pattern of relationships between the variables carried out does not follow a certain pattern. The choice of nonparametric regression used is Spline, with its advantages model. Based on the analysis and discussion of the best Spline nonparametric regression model is a linear Spline model with one vertex. The resulting GCV value is 0.044. The teacher-student ratio factor at the level of vocational education influences the achievement of national student exam results in the city of Surabaya in the 2018/2019 academic year. This study still uses a linear regression program with a combination of one, two, and three knots with an R square of 65.92%. Need help developing the program into a quadratic and cubic order using a combination of knots.
Learning Community and Think Pair Share Learning Models Towards Calculus Learning Outcomes Observed by Student Motivation
Sumargiyani, Bidayatun Nafi’ah

ABSTRACT
This study aims to determine the effect of the Learning Community and Think Pair Share learning models on differential calculus learning outcomes observed by student motivation of majoring in mathematics education department in the even semester Academic Year 2018/2019. This type of experimental research uses quasi-experiment. This research population are class B and class C contains of 58 students from mathematics education department of FKIP UAD Academic Year 2018/2019 where the class B belongs to Learning Community learning models and class C belongs to TPS learning models. Questionnaire and test are the data collection instruments. Analysis prerequisite test: normality test and homogeneity test. Data analysis used ANAVA two-way technique with unequal cell frequencies and continued LSD test. The results obtained (1) There are differences in student learning outcomes in terms of learning motivation of mathematics education department student of FKIP UAD Academic Year 2018/2019; (2) There is no difference in student learning outcomes observed by the learning models applied toward the students from mathematics education department of FKIP UAD Academic Year 2018/2019, and (3) There is no significant effect of interaction between learning motivation and learning models on student learning outcomes of mathematics education department Academic Year 2018/2019. Based on the double comparison test, it is concluded that the mean difference in differential calculus learning outcomes for students of high and moderate motivation, high and low motivation, and moderate and low motivation has a significant mean difference.
Analisis Kebutuhan Multimedia Interaktif Untuk Menstimulus Mathematics Critical Thinking Skill (MCTS)

Bidayatun Nafi’ah, Suparman
Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia

ABSTRACT

MCTS merupakan salah satu bagian keterampilan yang penting untuk dilatih selama pembelajaran STEM dan pembelajaran abad ke-21, namun hingga saat ini adalah MCTS siswa masih rendah. Penelitian ini bertujuan menganalisis kebutuhan media pembelajaran yang sesuai dengan model PjBL yang dapat menstimulus MCTS. Penelitian ini dianalisis menggunakan pendekatan deskriptif kualitatif. Analisis dilakukan dari segi kurikulum, karakteristik siswa, sumber belajar, dan materi. Instrumen yang digunakan adalah pedoman wawancara, soal tes, pedoman angket, dan lembar evaluasi media pembelajaran. Teknik analisis data menggunakan analisis kualitatif dan mengevaluasi media pembelajaran yang telah ada dengan mengidentifikasi indikator-indikator MCTS yang dapat ditanamkan dalam sumber belajar. Hasil analisis tes dan angket diperoleh bahwa pembelajaran matematika ke arah keterampilan abad ke-21 dan pembelajaran STEM sangat penting melalui multimedia pembelajaran interaktif merupakan harapan dari guru matematika, sedangkan berdasarkan evaluasi media pembelajaran yang sudah ada diperoleh bahwa beberapa media pembelajaran belum mengarah pada MCTS dan model pembelajaran yang dapat mengintegrasikan STEM.
Analisis kebutuhan E-LKPD untuk menstimulus kemampuan berpikir kritis dengan model pembelajaran discovery learning
Marfilinda Atma Sari Subekti, Suparman
Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia

ABSTRACT
ABSTRACT

Analisis Kebutuhan E-LKPD Dengan Pendekatan Saintifik Untuk Menstimulus Kemampuan Berpikir Kritis

Endra Prasetya, Suparman
Magister Pendidikan Matematika Universitas Ahmad Dahlan Indonesia

ABSTRACT

ABSTRACT

Berpikir kritis adalah salah satu keterampilan pada abad ke-21. Membangun kemampuan berpikir kritis saat ini merupakan tantangan bagi setiap peserta didik. Penelitian ini bertujuan untuk menghasilkan analisis bahan ajar berupa E-LKPD yang menggunakan pendekatan Contextual Teaching And Learning (CTL) untuk menstimulus kemampuan berpikir kritis peserta didik. Subjek penelitian ini adalah salah satu MTs Negeri 1 Yogyakarta dan objek penelitian ini adalah berpikir kritis, pendekatan Contextual Teaching And Learning (CTL), serta sumber belajar berupa LKPD. Teknik yang digunakan dalam pengumpulan data pada penelitian ini adalah observasi dan wawancara. Penelitian ini memberikan beberapa hasil, yaitu kemampuan berpikir kritis peserta didik yang masih rendah. Contextual Teaching And Learning (CTL) merupakan salah satu pendekatan pembelajaran yang dapat diterapkan untuk meningkatkan kemampuan berpikir kritis peserta didik. E-LKPD diberikan untuk menstimulus kemampuan berpikir kritis belum ada. Penelitian ini dapat dikembangkan pada pengembangan E-LKPD berbasis Contextual Teaching And Learning (CTL) untuk menstimulus kemampuan berpikir kritis peserta didik.
Komparasi Algoritma Klasifikasi pada Data Mining
Dita Fadma Ristianti, Suparman
Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia

ABSTRACT
Big data adalah salah satu teknik pembelajaran mesin yang paling populer dan menjadi alat penting dalam bisnis. Pengolahan big data secara efektif sangat penting bagi perusahaan. Analisis Big data dapat menghemat waktu, sehingga menimbulkan istilah data penambangan (Data Mining). Data Mining adalah teknik analisis data berbasis pada aplikasi statistik; yang bertujuan untuk mengekstrak informasi itu sebelumnya tidak dapat ditentukan, dari jumlah Big data. Banyak kasus di dunia nyata, teknik yang terdapat dalam data mining yang dapat digunakan untuk mendeteksi masalah yang dihadapi oleh beberapa perusahaan misalnya, clustering, klasifikasi, asosiasi, outlier dan masih banyak lagi. Klasifikasi adalah bentuk dasar dari analisis data. Didalam klasifikasi ada banyak algoritma-algoritma yang dikembangkan misalnya decision tree. Decision tree dapat mengubah fakta yang sangat besar menjadi pohon keputusan yang mempresentasikan aturan, didalam decision tree masih banyak lagi metode-metode yang dikembangkan. Pada jurnal ini akan dibahas komparasi dari pengembangan decision tree yaitu fuzzy decision tree dan Rough set decision tree.
A Comparison of Outlier Detection Techniques in Data Mining

Endang Wahyuni, Suparman
Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia

ABSTRACT

Big data (data yang besar) merupakan data yang memiliki volume yang besar, jenis data yang bervariasi, serta kecepatan data yang sangat cepat. Data mining merupakan merupakan teknik analisis data statistik yang bertujuan untuk mencari informasi yang sebelumnya tidak dapat ditentukan atau menemukan informasi dari pola yang tersembunyi. Outlier walaupun muncul dengan nilai yang ekstrem seringkali mengandung informasi yang sangat penting sehingga perlu untuk dikaji dahulu apakah data tersebut tetap digunakan atau dikeluarkan. Deteksi Outlier merupakan topik yang sedang hangat untuk diiteliti. Dengan teknologi yang baru muncul dan berbagai macam aplikasi meningkatkan minat pendeteksian outlier meningkat dengan pesat. Banyak metode outlier yang berhasil diterapkan dalam berbagai bidang, mulai dari pendidikan, ekonomi, bisnis, kesehatan, antariksa, geologi, hingga penipuan kartu kredit. Metode ini bukan merupakan metode yang mudah mengingat deteksi outlier mengidentifikasi perilaku yang langka, unik serta ia dapat mengungkapkan yang jarang akan tetapi penting serta menemukan pola-pola yang menarik atau tidak terduga dari data yang rumit. Pada makalah ini membahas dan memberikan tinjauan singkat mengenai metode deteksi outlier dengan membuat perbandingan eksperimen deteksi outlier dengan metode yang populer yaitu metode KMeans dan K-Nearest Neighbors.
English in Homeschool and Formal school: A case study at 2 to 5 years old children in Indonesia
Yulnada Sari, Muhammad Rijalul Umam Muslim, Bambang Widi Pratolo

ABSTRACT

This study aimed to investigate the differences between English in home-school and formal school. This research was qualitative and the data was presented descriptively. The participants in this study were two English teacher and purposive sampling was used as a technique to choose the participants. The research data was collected through in-depth interviews and observation. The data was analysed descriptively by using coding analysis. Finally, the result of this study found that there was a significant differences between home-schooling students and formal schooling students in English especially in four skills of English, namely, reading skill, writing skill, listening skill, and speaking skill. The students from formal school are better and more active in English than students from home-schooling because they already familiar with English in the school.
ABSTRACT

Kemampuan komunikasi matematis merupakan kemampuan siswa untuk mengekspresikan ide-ide dalam matematika, baik secara lisan, tertulis atau dalam bentuk bahasa, simbol, tabel, grafik, serta notasi-notasi matematika secara cermat. Melalui komunikasi juga, siswa dapat mengembalikan dan mengkonsolidasikan pemikiran atau ide-ide matematis dengan menggunakan bahasa yang sederhana karena pada dasarnya matematika merupakan bahasa persyaratan dengan menggunakan notasi dan konsep yang telah dibentuk. Penelitian ini bertujuan untuk menganalisis kebutuhan media interaktif yang sesuai dengan model pembelajaran kontekstual yang dapat menstimulus kemampuan komunikasi matematis siswa. Jenis penelitian yang digunakan adalah penelitian kualitatif deskriptif. Tahapan penelitian meliputi tahap pra lapangan, tahap kegiatan lapangan dan tahap analisa data. Subjek uji coba atau responden yang terlibat dalam penelitian ini adalah salah satu siswa SMPS Tanawawo kelas V11 di NTT. Instrumen pengumpulan data penelitian ini adalah menggunakan instrumen wawancara dan observasi. Berdasarkan hasil observasi dan hasil wawancara yang diperoleh, peneliti menyimpulkan bahwa kemampuan komunikasi matematis siswa SMPS Tanawawo masih tergolong rendah. Rendahnya komunikasi matematis siswa SMPS Tanawawo di NTT dikarenakan metode pembelajaran yang digunakan guru masih bersifat konvensional, sekolah tidak menyediakan media interaktif sebagai penunjang pembelajaran dan kurangnya kreatifitas guru dalam menghadirkan media interaktif. Oleh karena itu, peneliti menegur solusi penerapan Multimedia Interactive Berbasis Contextual Learning untuk Menstimulus Komunikasi Matematik siswa SMPS Tanawawo.
Minimum Wage Correlation Judging From The Prediction of The Consumer Price Index Using The Support Vector Regression Method

Mimin Fatchiyatur Rohmah¹, I Ketut Gede Darma Putra²,
Rukmi Sari Hartati³, Luki Ardiantoro⁴

¹²Informatics Engineering, Universitas Islam Majapahit, Indonesia
³Electronics Engineering, Universitas Udayana, Indonesia

ABSTRACT

Every increase in the City / District Minimum Wage certainly affects the economy in Indonesia. One effect is the Consumer Price Index (CPI) because prices of staple goods / services have also increased. With increased production, high consumption will also increase, so producers will indirectly increase the price of the goods. The correlation between Minimum Wage with Consumer Price Indeks Prediction in eight regions in East Java including Surabaya, Malang, Jember, Probolinggo, Banyuwangi, Kediri, Sumenep and Madiun. This study proposes a new prediction approach that is built on a predicting model based on the Consumer Price Index from Statistics Indonesia East Java Province using the RBF kernel with the Support Vector Regression (CPI) method in five Cities and three Districts and the output is the predics of CPI values for Foodstuffs. The Mean Absolute Percentage Error (MAPE) value excellent prediction criteria because it is less than 3 percent, but the Correlation between CPI and Minimum Wage for 2019 in eight regions to have a good performance, because it has an R-Square Correlation of 0.8539.
The Students’ Error Analysis of Writing in Recount Text for The Millineal Students
Ida Rahmah Andansari, Okta Widia Sari, Didik Murwantono
Universitas Ahmad Dahlan Yogyakarta

ABSTRACT

Nowadays, the millineal students are the largest and most diverse generation. So, the millineal students need to increase their knowledge and new skill in learning process especially in writing skill with good grammar for holiday experience in recount text form. Writing is the act or process to express idea which support of information throught written language. Meanwhile, recount text is a text to retell the story that happened in the past. The aim of this research is to find out kinds of errors made by the tenth grade students of SMAN 1 Petanahan in the academic year of 2016/2017 in writing recount text. This research under descriptive qualitative method and use test as an instrument. The test is a written test about an experience. The researchers collected the data from 30 students as a subject of this research. Which is the researcher assumes one class from eight classes in eighth grade of SMAN 1 Petanahan. While, in analyzing the data, the researchers classifies the students’ errors. There are four kinds error found: omission, addition, substitution, and permutation. The result of this research shows that the total students’ error are 248 consist of omission 102 (41.10%), errors of addition 37 (14.90%), errors of substitution 77 (31.00%), and errors of permutation 32 (13.00%). The dominant errors made by the students is omission, while the lowest one is permutation.
Analisis Kebutuhan Subject Specific Pedagogy (SSP) berbasis Problem Based Learning (PBL) untuk menstimulus Kemampuan Pemecahan Masalah Siswa kelas X SMK

Janti Ikwati, Suparman
Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia

ABSTRACT
Kemampuan pemecahan masalah adalah salah satu fokus dari Keterampilan abad 21 yang tercantum dalam kurikulum 2013. Perangkat Pembelajaran yang baik seharusnya mampu memfasilitasi guru untuk melaksanakan tugas sebagai pengajar di dalam kelas serta dapat menstimulus keterampilan siswa seperti yang disebutkan dalam kurikulum 2013, perangkat pembelajaran tersebut diharapkan bersesuaian satu sama lain, maka diwujudkan dalam bentuk SSP. Tujuan penelitian ini adalah untuk mendeskripsikan kebutuhan SSP Matematika berbasis Problem Based Learning (PBL) yang dapat menstimulus kemampuan memecahkan masalah siswa. Jenis penelitian ini adalah deskriptif kualitatif. Subjek penelitian adalah Siswa kelas X SMK. Teknik pengumpulan data dengan wawancara, observasi kelas, dan tes dengan soal uraian yang mampu merepresentasikan kemampuan memecahkan masalah. Wawancara dilakukan kepada siswa mengenai kemampuan mengemukakan. Observasi dilakukan untuk mendapatkan informasi mengenai model pembelajaran. Penelitian ini memiliki beberapa hasil, yaitu (1) kemampuan pemecahan masalah siswa termasuk kategori rendah, (2) model pembelajaran dan perangkat pembelajaran yang digunakan kurang menstimulus kemampuan memecahkan masalah siswa, (3) model pembelajaran Problem Based Learning dapat menstimulus kemampuan memecahkan masalah siswa. Sehingga dari penelitian ini, diambil suatu kesimpulan bahwa perlu dikembangkan suatu perangkat pembelajaran yang saling bersesuaian antara Silabus, Rencana Pelaksanaan Pembelajaran (RPP), Bahan Ajar, Lembar Kerja Peserta Didik (LKPD), dan Pedoman Penilaian (digabung dalam suatu SSP) berbasis Problem Based Learning (PBL) untuk menstimulus kemampuan pemecahan masalah siswa.
Analisis Kebutuhan Math Comic untuk menstimulus Kemampuan Berpikir Kritis
Danty Rahmasantika, Suparman
Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia

ABSTRACT

Berpikir kritis merupakan suatu proses berpikir secara efektif guna mewujudkan suatu keputusan dengan mengumpulkan, menafsirkan, menganalisis, dan mengevaluasi informasi dengan data dan/ atau asumsi, serta mengimplementasikan keputusan sesuai dengan apa yang diyakininya. Terdapat tujuh indikator berpikir kritis, yaitu 1) mengidentifikasi fakta-fakta yang diberikan jelas dan logis, 2) merumuskan masalah utama secara akurat, 3) menerapkan metode yang sudah dipelajari secara akurat, 4) mengungkapkan data/ definisi/ teorema dalam menyelesaikan masalah secara tepat, 5) memutuskan dan melaksanakan dengan benar, 6) mengevaluasi argumen yang relevan dalam menyelesaikan masalah dengan hati-hati, 7) membedakan antara kesimpulan yang valid/ tidak valid. Metode yang digunakan dalam penelitian ini adalah metode penelitian kualitatif deskriptif. Penelitian ini bertujuan untuk menganalisis kebutuhan media pembelajaran yang sesuai dengan pendekatan pembelajaran Computational Thinking yang dapat menstimulus kemampuan berpikir kritis siswa. Analisis dilakukan dari segi kurikulum, karakteristik siswa, dan karakteristik sumber belajar.
University Students’ Perception of Implementation of English Online Learning System

Djuria Suprato, Christiana Sidupa

ABSTRACT

This study was undertaken to find out whether the implementation of English online learning system would give positive impacts for the students in Binus University. The study was done by spreading survey questionnaire with Google Form and through two forms of social media, such as Line and WhatsApp, had yielded responses from 38 students. The respondents supported this idea of implementing online learning for English subject and had their personal reasons. Overall perceptions of the online learning were positive. The majority of students in the online learning indicated that they would prefer if the approach was offered. Therefore, this research found that online learning for English subject was applicable.
Deskripsi E-LKPD Untuk Menstimulus Kemampuan Berpikir Kritis Siswa Slow Learner

Poniyati\textsuperscript{1,3}, Suparman\textsuperscript{2}

\textsuperscript{1,2}Magister Pendidikan Matematika, Universitas Ahmad Dahan, Indonesia
\textsuperscript{3}SMP Muhammadiyah 1 Pundong, Yogyakarta, Indonesia

ABSTRACT

Berpikir kritis merupakan kemampuan yang dimiliki seseorang untuk membuat suatu penilaian dengan cara menganalisis dan mengevaluasi informasi dengan standar dan kriteria yang tertentu. Bahan ajar yang memuat keterampilan berpikir kritis merupakan sumber belajar yang efektif untuk mencapai tujuan pembelajaran. Penelitian ini bertujuan untuk menganalisis kebutuhan bahan ajar yang sesuai dengan model pembelajaran yang dapat menstimulus kemampuan berpikir kritis siswa slow learner. Metode dalam penelitian ini menggunakan metode kualitatif. Subyek penelitian dalam ini adalah 2 guru dan 8 siswa slow learner kelas VII SMP Muhammadiyah 1 Pundong. Obyek penelitian adalah berpikir kritis, model pembelajaran berbasis Project Based Learning (PJBL), LKPD, dan siswa slow learner. Instrumen pengumpulan data yang digunakan dalam penelitian ini adalah observasi (catatan lapangan), wawancara dan dokumentasi. Analisis data dalam penelitian ini dilakukan sejak sebelum memasuki lapangan, selama di lapangan, dan setelah selesai di lapangan. Analisis data sebelum di lapangan dilakukan terhadap data hasil studi pendahuluan yang akan digunakan untuk menentukan fokus penelitian yang dinamakan data collection. Kemudian selama di lapangan, data dianalisis dengan menggunakan model Miles dan Huberman yang terdiri dari data reduction (data reduksi), data display (penyajian data), dan data conclusion drawing/verification (penarikan kesimpulan). Guru memerlukan e-LKPD yang dapat menstimulus kemampuan berpikir kritis siswa slow learner. Penelitian ini dapat dikembangkan e-LKPD untuk menstimulus kemampuan berpikir kritis siswa slow learner.
Upaya Meningkatkan Komunikasi Matematika Melalui e-LKpd Untuk Materi Bangun Datar Dengan Pendekatan Model Pembelajaran Kooperatif Tipe STAD

Simona Lydia, Suparman
Universitas Ahmad Dahlan

ABSTRACT

Upaya Meningkatkan Komunikasi Matematika Melalui e-LKpd Untuk Materi Bangun Datar Dengan Pendekatan Model Pembelajaran Kooperatif Tipe STAD.
Simona Lydia, Suparman
Universitas Ahmad Dahlan, Jogjakarta

ABSTRACT
Modeling And Strategy Of Marketing Antecedent To Enhance Consumer Loyalty On Batik Cloth

Feby Febrian, Granit Agustina,

ABSTRACT

Research Objectives to evaluate the relationship of consumer loyalty with product quality, price, distribution and promotion, Customer loyalty is a determining factor in the sustainability of batik cloth product marketing. Design / methodology / approach – using descriptive and verification methods. The design uses consumer report data from the objective test results of 100 consumers from 4,500 populations. Measured responses include product quality, price, distribution and promotion. Modeling and analysis of measured data is carried out by path analysis to estimate customer loyalty. Finding - marketing models and strategies are important factors in influencing the loyalty of consumers of Batik cloth. Research limitations / implications - understanding patterns that lead to antecedent marketing strategy models. Practical implications - a marketing strategy model with loyalty. This model is a way to understand and explain antecedent marketing strategies towards increasing consumer loyalty in batik cloth.

Originality / value development of the antecedent marketing strategy model to increase consumer loyalty. Conclusion showed that all four variables had a significant influence in the amount of 0.366 for product quality, 0.147 for price, 0.104 for distribution and 0.456 for promotion.

Heri Sukendar Wong, Dhea Putri Herdani

ABSTRACT

This study aims to examine the effect of independent commissioners, auditor reputation and risk management committees on enterprise risk management (ERM) disclosure. The method used is literature study and observation study of the research object, research object. In this frame, the research object used is manufacturing sector companies listed on the Indonesia Stock Exchange with observation years 2014 up to 2016. Research data were analyzed using SPSS software with multiple linear regression analysis method. The result of the research indicates that the auditor reputation has a positive effect on ERM disclosure, while the independent commissioner negatively affects the ERM disclosure and the risk management committee do not affect ERM disclosure. However, simultaneous testing results in the fact that independent commissioners, auditor reputation and risk management committees together have an impact on ERM disclosure. From this research, it can be concluded that in the company of manufacturing sector, auditor reputation gives a positive effect for better ERM disclosure.
ABSTRACT

This research is aims to examine the influence of financial performance to the firm value with Good Corporate Governance as the moderating variable. The sample of empirical studies are non-financing companies listed on Indonesia Stock Exchange which have Corporate Governance Perception Index (CGPI) score period 2008-2017. Independent variable used in this research is Profitability and Leverage. The dependent variable is the firm value, and the moderating variable is Good Corporate Governance (GCG). The total sample size in this study is 102 non-financing companies with the determination of the sample using purposive sampling. The type of data using is secondary data. Data analysis tool used multiple regression analysis which preceded by descriptive analysis followed by classical assumption test, hypothesis test using F test and t test. The results of this study is Profitability and Leverage has a positive effect on Firm Value. GCG is able to strengthen the effect of Profitability on Firm Value but GCG is not able to strengthen the effect of Leverage on Firm Value.
Pengaruh Profitabilitas, Pembagian Dividen, Kebijakan CSR, dan Kepemilikan Asing terhadap Nilai Perusahaan dengan Stabilitas Keuangan sebagai variabel moderasi (study empiris perusahaan property, real-estate, dan construction yang terdaftar di BEI tahun 2016-2018)

Yeremias Polii
Universitas Trisakti Jakarta

ABSTRACT

The purpose of this paper is to be able to determine the effect of: 1) Profitability to Company Value, 2) Distribution of Dividends to Company Value, 3) Corporate Social Responsibility for Company Value, 4) Foreign ownership of Company Value, 5) Does moderating Profitability, Financial Stability, Dividend Distribution, CSR and Foreign Ownership influence each company's value. This research was conducted on Property, Real-Estate, and Construction companies listed on the Indonesia Stock Exchange in the period 2016-2018.
ABSTRACT

A downdraft open top gasifier for refuse-derived (RDF)-pellets fuel was designed as a potential substitution fuel in a modified diesel engine. The gasifier reactor design consideration is intended for 100 kWe diesel engine specifications. The primary purpose of this paper is to address the gasifier dimensions based on parameters of a diesel engine specification data and an experimental, as well as the simulation results. A small stratified open top gasifier was used to evaluate the performance of RDF-pellets as gasifier feedstocks. A process model of RDF-pellets gasification was developed to predict a syngas's qualified to be combusted on the diesel-engine. The characteristics and gasification performance of RDF-pellets using small stratified updraft gasifier are also included. Based on the points of view of this study revealed that the gasifier diameter and height of downdraft open top gasifier were found in the range of 0.7-1.4 meter and 1.8-3.5 meter, respectively and the gasifier efficiency of 50% was also obtained. The design of the gasifier reactor with this dimension is expected to be feasible to be coupled with a 100 kWe diesel engine for electricity production that is applied in the local municipal waste management.
Unfolding the message behind the statistical data of Indonesia city gas distribution sector by developing linear model

A Prima 1,4, A Rinanti 2, O Ridaliani 1, W Dahani 3, M Maulani 1, A Hamid 1 and B Satyawira 1

Universitas Trisakti

ABSTRACT

One of the milestones any company or industry should consistently achieve is the long-term steady growth. That nonetheless is precisely the position of natural gas distribution sector – without exception. Year-over-year statistical data should portray the broader picture of city gas sector in Indonesia that can possibly be explained by considering a number of key elements such as the workforces involved in the industry, wages that have to be spent on the labours and finally yet importantly volume of natural gas distributed for the city consumers. Throughout this particular study, a set of variables taken into account and then subsequently perform the analysis by using multivariate regression analysis as the selected method. In general, this paper is directed toward defining the notion of the growth of natural gas distribution sector in Indonesia. In that respect, by incorporating a number of variables as the input of regression analysis tools, the expected result is a model that can be applied to predict the long-term growth.
ABSTRACT
This research aims to find empirically evidence of the effect of firm age, industry type, environmental performance, profitability, and board of commissionaires on carbon emission disclosure with competition as moderating variable. The sample of this research is companies listed on the Indonesia Stock Exchange for the period of 2016-2018. Based on purposive sampling, the total sample used in this research model is 73 samples. The research method used is Moderated Regression Analysis (MRA). The research results show profitability, board of commissionaires, and competition positively affect the carbon emission disclosure. While firm age, industry type, environmental performance do not affect the Carbon Emission Disclosure. Competition strengthens the effects of board of commissionaires on carbon emission disclosure. However, competition does not moderate the effect of firm age, industry type, environmental performance, and profitability on carbon emission disclosure.
ABSTRACT

The objective of study was to analyze the impact of some agricultural investments in corn production. The increasing trend of corn production during the years of study has been resulted from considerable increase in government improving policy programs, such as support price, and input subsidy programs. The more effectiveness between price support policy and input subsidy policy depend on the higher magnitude between the significant coefficients of these two variables. The first policy implication from the findings of this study is that the price support policy is more effective and efficient to increase the acreage. The effect of government support prices for corn is very important in analyzing the acreage response. Since the role of government support prices in this new environment has received very much attention in policy implications. A method of measuring price expectation for analyzing acreage response was used when the influence of price support and market phenomena varies with market conditions. It assumed that the effect of changes in government policies because similar programs for acreage control and price support are likely form of future policies. A method of evaluating support and acreage restriction is developed and tested to see the impact of changing government programs. The results showed that when the support price is much below the expected market price, the truncation effect is negligible and the price support program has only a limited impact on acreage decisions. Alternatively, as the support price levels, the truncation effects become larger, and the resulting impact on acreage decision is more pronounced.
Conceptual Design of a 100kW RDF-fueled Gasifier
Yusuf Suryo Utomo, Imam Djunaedi, Suhartono, Nurhadi, Arifin Santosa, Yudi Hidayat

ABSTRACT

The research was carried out with the design construction of a 100 kWe pilot plant gasifier with municipal solid waste (MSW) in the form of rejected derived fuel (RDF) pellets. This collaboration was the result of the patent selection of LIPI researchers who had conducted by PT Indonesia Power in 2018. Refers to the characteristics of the pellet RDF and the 100 kWe capacity pilot plant that has been implemented in Indramayu, West Java downdraft gasifier technology was chosen. Referring to the downdraft gasifier engine, gas producer is able to reduce fuel consumption up to 85% while 15% of fuel is used as an ignition on a dual fuel Diesel engine system. This system is very simple, because the gas producer is sucked directly by the Diesel engine governor through a 3-way valve that is installed in the air inlet. Implementation of a 100-kW capacity downdraft gasifier with RDF pellet as fuel is expected to know the character of the gasification process and the performance of Diesel engines in generating electricity, and can be used as a basis for developing commercial scale in a continuous and independent process. The gasification system design will be designed in the form of a modular diesel gasifier standard package, so that it will facilitate the fabrication, construction and transportation processes. This system will also apply Compact Technology where the gasifier design is made compact in 20 feet container-based format so that it is easy to move from one to another location.
Learning Gurindam Dua Belas Based On Role Playing With Audio Visual To Strengthen Social Sensitivity Value Of Students

Zaitun, Kama Abdul Hakam, Sudardja Adiwikarta, Yadi Ruyadi
Indonesia Univeristy of Education

ABSTRACT

Abstract. Gurindam Dua Belas is a local wisdom of the Riau Community which is full of character values, let alone taught to students through a targeted learning model. This study aimed to describe the strengthening of student's character through learning Gurindam Dua Belas based on Role Playing with Audio Visual. The research method carried out with Research and Development by Borg and Gall by looking at one of the character values, namely social sensitivity. Researchers conducted pre-test and post-test to find out whether Gurindnam Dua Belas learning based on Role Playing with Audio Visual can improve care value in students. The sample in this study were students of the Maritime University of Raja Ali Haji Tanjungpinang from several faculties with a total sample of 174 people. The result is an increase in social sensitivity value in students after implementing the model.
ABSTRACT

The objective of this research is to know the effect of problem based learning model and knowledge about sustainable development concept on student’s responsibility environment behavior. An experimental method with 2x2 factorial design was employed in this quantitative study which was conducted at SMA Negeri 5 Ternate. Samples of the study were 32 students of grade XI of Social Sciences selected by means of random sampling. Data analysis shows that: 1. In general, the students that was touched problem based learning model with outdoor approach, have higher average score on responsibility environment behavior than those with indoor approach, 2. There is significant interaction effects between problem based model and knowledge of sustainable development concept toward student’s responsibility environment behavior. 3. Students having high knowledge level in sustainable development concept and using outdoor approach have higher average score on responsibility environment behavior than those with indoor approach, 4. Students who have low knowledge level in sustainable development concept and using indoor approach have higher average score on responsibility environment behavior than those with outdoor approach.
Economic Performance Analysis And Region Potency Identification Of Tana Tidung Regency Post-Proliferation
Ahmad Rizani, Asih Kusuma Wijayanti, Ariani
University of Borneo Tarakan

ABSTRACT

Abstract: This study aimed to investigate economic growth, regional economic pattern and structure of Tana Tidung Regency. Other than that, this study also identified and determined superior sectors in Tana Tidung Regency to give an illustration on which superior economic activities to be developed to improve the economic potential in Tana Tidung Regency. Data employed in this study was secondary data in eight years' time series form 2010 until 2017 about GRDP (Gross Regional Domestic Product) for North Kalimantan Province, GRDP (Gross Regional Domestic Product) for Tana Tidung Regency, total population in North Kalimantan Province, total population in Tana Tidung Regency, the number of people living in poverty in North Kalimantan Province, and the number of people living in poverty in Tana Tidung Regency. Data was obtained from Central Statistics Institution North Kalimantan Province, National Planning and Development Institution, Central Statistics Institution of Tana Tidung Regency, and Regional Planning and Development Institution of Tana Tidung Regency. Analysis tools used in this study included economic performance analysis, Shift-Share, Location Quotient (LQ), and Growth Ratio Model (MRP). The results of the study showed that: (1) economic performance index of Tana Tidung Regency was good because during 2011-2017 the regency got average economic performance index 0.883; (2) shift-share analysis showed that Tana Tidung Regency economic showed an improvement during 2010-2017 by 558,844.32 million rupiahs. Those economic performance improvements in Tana Tidung Regency could be seen from the positive value of 15 (fifteen) economic activity sectors; (3) according to Location Quotient (LQ) analysis, there were four superior sectors in Tana Tidung Regency, they were agriculture, forestry and fisheries sector, mining and excavation sector, construction sector and government administration, defense and social security sector; (4) Growth Ratio Model analysis showed that sectors which had dominants growth and big contribution were electricity and gas procurement sector, construction sector, transportation and warehousing sector, accommodation and food provision sector, real estate sector, government administration, defense and social security sector, education services sector, and health services and social activities sector; (5) weighing result according to Shift-Share, Location Quotient (LQ), and Growth Ratio Model analysis were three sectors based on the highest rank of the most potential weighing result, they were construction sector, government administration, defense and social security sector, and agriculture, forestry and fisheries sector.
The Effect of Edmodo-Assisted Project-Based Learning Applications on the Inquiry Skills and the Writing Skills of Prospective Teachers in Indonesia
Radeni Sukma Indra Dewi, Januarius Mujiyanto, Dwi Rukmini, Mursid Saleh

ABSTRACT
In this paper, the impact of Edmodo-assisted project-based learning applications on the inquiry skills and the Writing Skills of prospective teachers has been examined. In addition, an attempt is made to determine the opinions of prospective teachers concerning Edmodo platform. The study was designed with pre-test / post-test model with control group and included 72 prospective teachers, 35 of whom were in an experimental group and 37 of whom were in a control group. At the end of the studies which took 12 weeks, it was found out that project-based learning applications assisted by Edmodo platform created a positive impact on the inquiry skills and the Writing Skills of prospective teachers. In addition, it was found out that prospective teachers were satisfied with performing activities in Edmodo platform.
Retrofitting Thermal and Lighting Condition of a Production Warehouse

Muhammad Hasbi Rizqur Rahman, Senot Sangadji, S.A. Kristiawan

ABSTRACT

The proper building is constructed from several aspects, begin from the structure until the simple things on it. Two of factors that can be designed as parameter in deciding the building is proper or not are seen from the lighting condition and thermal condition. Those factors can be designed as a suitable parameter for a home living, a building and an office. The object of this study is a place called Decorator Indonesia Production Warehouse in Yogyakarta. This building consists of one floor-building that divided into two areas; an office and a warehouse area. The purpose in the study is concern in the minimum space of the building which need to be retrofitted. The researcher used some support software such as EGDE and Ecotect to work on the study. The methods that used in this study are re-designing building plans, first measurement of the building, Ecotect simulation, EDGE simulation, making scenario and calculating retrofitting cost. The result of this study is collected from the increasing score of lux, the decreasing thermal load until 5,000 kWh with score 11,289,395 kWh, the decreasing of temperature and the construction’s cost Rp. 35,097,400.
Energy Saving Performance Using EDGE For Implementation Of Greenbuilding

Refinda Rahmadhani, Senot Sangadji, S.A. Kristiawan

ABSTRACT

Green Building is one of the concepts that emerged in supporting low carbon development through policies and programs to improve energy efficiency, water and building materials and increase the use of low carbon technology. The Green Building concept is one of the energy saving efforts that can be applied to a building. In an effort to increase energy savings in buildings, EDGE (Excellence Insign For Greater Efficiencies) is one of the technologies that can be used in saving energy. EDGE is a complementary element to the Greenship certification issued by GBCI which is oriented towards efficient resource saving for housing and commercial buildings. EDGE software was used to perform the detailed energy simulations. The purpose of this ongoing research is to determine energy use, discuss the energy saving measures and simulation them in a building. Simulation and selection of energy saving scenarios are presented in this study. Evaluation on how efficient the selection of scenarios for energy saving is also described. Eventually, this study will also exhibit the benefits, limitations and conclusions of the EDGE simulation results in energy savings.
ABSTRACT

This study aims to find out the perception of English Department students at Universitas Ahmad Dahlan toward the use of Duolingo application for learning English and to explore the advantages and disadvantages of Duolingo for learning English according to them. The researcher applied the qualitative method involving six voluntary students and using interview techniques in data collection. By using the theory of perception and the typical characteristics of MALL, the writers found that the respondents have a positive perception of Duolingo usability, context, control, connectivity, mobility, blending, content, technical support, and cost. There are some advantages of Duolingo, such as attractive, fewer ads, and having gamifying content. While the disadvantages are that Duolingo cannot be used without internet connections, no further explanation in grammar, and cannot be used as the primary source of language learning.
Pedagogical Competencies of PPKn Vocational School Teachers Certified in Management of Semester Learning (Case Study of State Vocational School Teachers in Ternate City)

Irwan Djumat, Hasmawati, Nani I. Rajaloa

ABSTRACT

This research uses a descriptive qualitative approach with a case study research method. Data collection techniques used were, interviews, participatory observation (participant observation), and study documentation. The results showed that First, the pedagogical competence of certified PPKn Vocational School teachers in Ternate City was only in the medium level pedagogical competence. After being certified there is no improvement in terms of learning management. Things like making syllabus, learning program plans, mastering teaching materials, class mastery, learning methods and models do not change only are conventional. While advanced-level pedagogical competencies have not yet been found. This level of competence is seen from the mastery of the field of measurable teaching, commitment to the development of methods, models and tools of continuous learning, feasibility research for the continuous development of teaching materials, and participation in various activities, training, seminars, workshops, and good training limited scale at school, district and provincial, and national level. Second, the obstacles faced by certified PPKn Vocational School teachers in the management of semester learning are very varied, including in terms of teachers, after certification performance increases but there is no change; in terms of schools such as the State Vocational High School 2 which is dominated by male students who are difficult to manage, the PPKn teacher must work extra to carry out learning in the classroom; in terms of students, almost all state vocational schools in Ternate, the characteristics of each student are different, some are difficult to regulate, undisciplined (coming to school on time or disciplined in completing assignments at home); the time side with the weight of the subject matter, does not match the allocation of time with the subject matter for reinforcement in everyday life. Sometimes the material is still running when the learning is finished; the side of the institution that houses teachers, the culture of supervision and supervision that has not been programmed in an integrated manner between the Ministry of Education and the provincial level; and the Teacher Training Education Institution that produces teachers, has not yet developed a culture of cooperation for gradual teacher development. Third, the solutions to overcome the obstacles faced are: first, collaboration between PPKn teachers between schools through the optimization of MGMP; second, cooperation between teachers and students as a learning community that learns together; third, collaboration between schools, the ministry of education, teaching, LPMP, LPTK, and AP3KnI to create education and training curricula, workshops and workshops for teacher competency development; and fourth, collaboration between schools, teachers, students, parents, and the school environment as a unified system that cannot be separated from education.
PENGARUH LEADER-MEMBER EXCHANGE DAN KOMUNIKASI PADA INTENTION TO QUIT PADA SPG/ SPB DI KOTA SURAKARTA

Muhammad Hafiz S.E.
Universitas Sebelas Maret

ABSTRACT

Tujuan dari penelitian ini adalah mengetahui dan menganalisis hubungan leader member exchange dan komunikasi terhadap intention to quit. Penelitian ini adalah penelitian kuantitatif deskriptif dengan responden yang dijadikan sampel terdiri dari 250 responden. Pengumpulan data dilakukan dengan penyebaran kuesioner untuk mendapatkan data mengenai tanggapan terhadap leader member exchange dan komunikasi terhadap intention to quit. Hasil penelitian menunjukkan bahwa pengaruh secara positif dan signifikan hubungan leader member exchange dan komunikasi terhadap intention to quit, baik secara parsial maupun simultan.
ABSTRACT

This study aimed to determine the performance of the village apparatus and the extent to which the cultural value of Siri’ na Pacce was able to reduce the misuse of village fund allocations in Pattaneteang Village, Bantaeng District, South Sulawesi Province. This research design used case study with descriptive qualitative method and interpretive approach. The data collection technique was through interviews and observations. The results showed that the performance of the Pattaneteang Village apparatus was excellent, as evidenced by the realization of the village fund allocations used for village interests. This success was also inseparable from the value of the cultural philosophy of Siri’ na Pacce which reinforced the beliefs and sense of kinship with fellow communities.
ANALYSIS OF ECONOMIC DISPARITY IN KALIMANTAN ISLAND

Said Usman Assegaf, Ferica Christinawati Putri, Ahmad Rizani
Universitas Borneo Tarakan

ABSTRACT

This study aimed to measure the level of disparity of regional income in the Provinces in Kalimantan Island. The data used in this study were secondary data consisting of GRDP, GRDP per capita and total population with a research time span for nine (9) years from 2010 to 2018 obtained from the Central Statistics Agency for West Kalimantan Province, Central Kalimantan Province, South Kalimantan Province, East Kalimantan Province and North Kalimantan Province. The analytical tools used include the Klassen's typology, Williamson index and Theil Entropy index. The following results were obtained: 1) Klassen's typology showed that out of 5 provinces in Kalimantan Island 1 of them were included in the fast-growing category, 3 provinces felt into the fast-developing category and 1 province felt into the advanced category; 2) the Williamson index showed that the regional disparity in Kalimantan Island was relatively high with an average value of 0.7545 with an decreasing trend; 3) Theil Entropy index showed the same trend as the Williamson index with an average index value of 0.1368.
Management Infrastructure as a learning resource production units in SMK Muhammadiyah 1 Bantul and SMK Muhammadiyah 1 Imogiri

HS Nirwanti, Z Arifin

ABSTRACT

The National Education Goals have targeted to improve the personal qualities of students as the next generation in the future. Vocational High School (VHS) is one part of the national education system of which prepares the workforce with the specialized skills required by employers. Production Unit is one of the media in vocational learning that serves as a place of production (especially the product of goods and services). The research was conducted aimed at Determine infrastructure management concepts of VHS production units, plans, implementation and VHS control units of production as a source of student learning. This study is a qualitative case study type. Collecting the data using questionnaires, interviews and documentation methods. Analysis of the Data through the stages of data collection, data reduction, the data presentation and conclusion.
Preliminary Study of Optimum Freezing-Thawing Pretreatment for Phycocyanin Extraction from Wet Spirulina platensis
Endah Sulistiawati, Rochmadi, Muslih Khan Hidayat, and Arief Budiman

ABSTRACT
Phycocyanin is one of the bioactive components in *Spirulina platensis*, which is useful as an antioxidant, anticancer, anti-inflammatory, and natural coloring agent. In this experiment, *Spirulina platensis* was harvested from microalgae culture ponds (Nogotirto Algae Park Yogyakarta, Indonesia), dried in an oven, to the optimum water content, then froze to break down the cell wall. The treatment was intended to release the bioactive compound C-phycocyanin. After freezing, Spirulina was thawed and added with distilled water, stirred, and filtered using a vacuum pump. To the filtrate, optical density was measured using a spectrophotometer. The results showed that the right amount of water in the cell, in a range of 4-5 g/g (dry basis) could break down the cell wall by evidence in blue phycocyanin extract.
ABSTRACT

The Higher Education Training Programs towards Excellent Study Programs of the President University 2019 manages 5 universities that have not implemented the internal quality assurance system properly. This program aims to build, institutionalize and function of a quality assurance system in a sustainable manner. This Training Program applies the CLEAR model (Contract - Listen - Explore - Action - Review). In accordance with the principle of quality assurance, namely continuous improvement, the chosen evaluation is the Cycle of Continuous Improvement (CCI) evaluation model. The achievement of each key performance indicator (KPI) and activity performance indicator (API), approaching 100%. The CCI model has proven to be an important tool in helping organizations/ institutions improve the quality of training for individuals and whole programs and help them assess the efficiency, effectiveness and impact of the program.
Analisis Kebutuhan E-Book untuk Menstimulus Berpikir Kreatif

Sagita Dyah Putranti¹, Suparman²

Magister Pendidikan Matematika, Universitas Ahmad Dahlan, Indonesia

ABSTRACT

Simulation of Radionuclide Dispersion Model Following Routine Releases to Water Body Around Nuclear Area

Ambar Winansi, Setyo Sarwanto Moersidik, Mochamad Adhiraga Pratama

ABSTRACT

Under normal operating conditions nuclear facilities have potential release of radioactive substances into water bodies called routine releases. Radionuclide transfer in the environment is very complex so that simplification is made with a mathematical model approach using the Surface Water Modeling Systems 10.1 software that resolves hydrodynamic differential equations with the finite element method. Pollutants dispersion is strongly influenced by advection and diffusion process, which for the river the process of advection becomes more dominant. The goal of this research is to model the distribution of $^{137}$Cs radionuclides in Cisalak River located around Serpong Nuclear Area. $^{137}$Cs is the most dominant radionuclide contained in radioactive effluent discharges. In this research the simulation is divided into two stages, they are the simulation of the hydrodynamic model using the Resources Management Associates-2 (RMA-2) module to model the flow and continued using RMA-4 to model the distribution of pollutants. The concentration of $^{137}$Cs at the discharges source are the highest, lowest, and average value in the last three years. The results of the research it is obtained an overview of the $^{137}$Cs distribution model along Cisalak river flow whose concentration value is a function of distance and time, besides that the pollutant concentration is very influential to the characteristics of the river and also the flow discharge, both river and effluent flow discharge.
Risk Management in Data Centers Using ISO 31000:2018
Case Study: XYZ Agency
Asep Syihabuddin¹, Yohan Suryanto², Muhammad Salman³

ABSTRACT

Data Center as the operational center of the entire application system and central data communication network system is required to fulfill all operational Information & Communication Technology (ICT) activities. The increase in the number of applications and ICT services at XYZ agency is causing problems at the existing Data Center. One of the problems is the emergence of disruptions/incidents of ICT applications and services. Recurring incidents cause problems that often require a long turnaround time and comprehensive root cause analysis (RCA) so that these incidents do not recur. With the existing problems in the Data Center, the XYZ agency will undertake a Data Center development project in which there are prerequisites for overcoming existing problems. In this Data Center development project activity, the risk management stage is needed as a process to identify the risks to be faced, risk control, and strategies for the existing risk mitigation process. ISO 31000: 2018 is used in the preparation of risk management in this Data Center.
ABSTRACT

This study aimed to determine the problem-focused coping ability of students as one of the skills that need to be improved to reduce technostress as an effect of industrial revolution 4.0. This study used a quantitative descriptive method to obtain an overview problem-focused coping ability of students. The sample in this study were 107 students of Guidance and Counseling study program at Ahmad Dahlan University. The instrument in this study is a scale consisting of 4 answer choices that arranged based on the aspects of problem-focused coping ability. The validity test in this research instrument was carried out using factor analysis and obtained the results of 8 wrong items. The number of valid objects is 16 items and has a reliability value of 0.810. Data analysis techniques in this study were conducted using descriptive statistics by finding the mean score and standard deviation. The results showed that students have a problem-focused coping ability in the high category, with a mean score of 44.89. The items that have the highest score are the ability to solve problems without involving emotions and the ability to weigh the risks of the problem-solving plan that has been prepared. Meanwhile, the lowest score is to ask others for advice and share problems with others. Overall, students already have an excellent problem-focused coping ability as one of the skills needed to reduce technostress in higher education.
Design of Mathematical Module Based on CTL Approach to Increase Learning Motivation and 4C Skill at Student in Indonesia

Athifah Rahmi, Suparman

ABSTRACT

This study aims to analyze the application of ADDIE learning design models (Analyze, Design, Develop, Implement and Evaluate) in making mathematics learning modules with CTL (Contextual Teaching and Learning) learning models to improve learning motivation and 4C (critical thinking skills, communication, collaboration and creativity) students in Indonesia. 4C skills (critical thinking and problem solving, communication, collaboration, creativity and innovation) are important skills students have in 21st century learning and the industrial revolution 4.0. Meanwhile, student motivation is low impact on learning outcomes are low. So to improve motivation to learn and 4C skills the need for providing teaching materials in accordance with the characteristics of students. The subjects of the study were students of class VIII at a junior high school in Yogyakarta. Research objects include 4C skills, learning motivation, CTL approach, mathematics learning modules, ADDIE learning design models and Numbers Pattern material. This study used qualitative research methods. The instruments used include observation and study of literature. Data analysis using Miles-Huberman consisting of data reduction, data presentation and drawing conclusions. This study provides results in the form of making a mathematics learning module by applying the ADDIE learning design model, CTL approach to the Numbers Pattern material to increase students’ motivation and 4C learning skills.
Cultural Literation on Early Childhood

Radjiman Ismail
The Islamic State Institute Ternate

ABSTRACT

This research was aimed to analyze the ability of cultural literacy with the ability of knowledge, attitudes, and skills in early childhood. This research using ethnography method, techniques of data retrieval using observation sheets and students worksheets. Sample in this research is a first class B of early child education in Ternate City. Theme which also has a link between competence with materials and theme indicators for learning in early childhood education should be developed in accordance with the context of areas in which children live signs and cultural symbols can be used as a resource and teaching material for young children to develop abilities. Understanding the attitudes and skills of signs and cultural symbols can be artistic results such as those from a poem to a two-dimensional dance, dance movement of children’s engineering agriculture and religious systems based on research obtained children’s date quickly understanding the material using signs and symbols found in local cultures suggested the PAUD school could use cultural literacy as a medium and learning material to enhance children's abilities on the aspect of knowledge's attitude and skill.
Profile of Antioxidant Active Compounds from Ethyl Acetate Extract Gandaria Stems (*Bouea macrophylla* Griff)

Tarso Rudiana, Dani Harisman, Sofi Nurmay Stiany, Yusransyah, Nani Suryani, Noviany, Sutopo Hadi

**ABSTRACT**

Free radical is one of the causes of various degenerative diseases. One way to reduce free radicals is the presence of antioxidant compounds, so that the administration of antioxidants can prevent the occurrence of degenerative diseases. Plants are secondary metabolites sources which can provide antioxidant activity. Extract of *Bouea macrophylla* Griff stem has antioxidant activity. The aim of this study was to determine the compound characteristics in the antioxidant active fraction of *B. macrophylla* stem extracts. The study was conducted in several stages of activities, namely separation by thin layer chromatography (TLC) and column chromatography, qualitative antioxidant activity tests by autographic and quantitative methods by the 1,1-diphenyl-2-picrylhidrazil method and characterization of the most active fractions using Liquid Chromatography-Mass Spectrometry. The results showed that the most active fraction of *B. macrophylla* stem ethyl acetate extract had moderate antioxidant activity with IC$_{50}$ value = 232.96 ppm. Identification results of the characteristics of the most active fraction from *B. macrophylla* stem ethyl acetate extract with LC-MS/MS showed the presence of lauryl compounds diethanolamide, subcusin and loganin.
The English Google Translation of Indonesian Lecturer’s Academic Writing: A Preliminary Study

Menik Winiharti, Syihabuddin, Dadang Sudana

Abstract

House pointed out that translation has a very important role in spreading knowledge and developing national languages.[1, p. 10-11] As technology develops very quickly and the internet becomes an important part of humans’ lives, the work of translation seems to be much easier with the assistance of web-based Machine Translation such as Google Translate. This machine is the most visibly available web-based translation tool which is free of charge and capable of translating many languages.[2] This study explores the strategy used and the accuracy of GT in translating Indonesian Lecturer’s Academic Writing into English. Therefore, the goal of the study is to find the extent to which GT accurately and naturally transfers the Indonesian Lecturer’s Academic Writing from Indonesian into English. The data is collected from Indonesian academic texts written by undergraduate lecturers from three different majors: Management, Japanese Literature, and Mathematics. Therefore, the data consists of three articles written in Indonesian. Afterwards, the discussion section in each article is translated into English using Google Translate web. Then the data is analyzed mainly using Larson’s evaluation of translation [3, p.529-530]. It is divided into two kinds of analysis: syntactic (form) and semantic (meaning). With regard to syntactic analysis, the data are investigated based on the structure of the SL and the TL. It is also to observe whether such forms are natural to generate meaning in the TL. With regard to semantic analysis, the data are evaluated based on the original message, whether or not the message conveyed is accurate. The findings of this study shows that GT applies literal translations since the forms built in the TL are mostly the same with those in the SL. The messages conveyed seem to be fairly accurate even though inaccuracy is still found. With regard to pedagogical implications, the result of this study may provide valuable inputs on applying web-based Machine Translation in lecturers’ language training.
 Teachers Professional Development to Promote Algebraic Thinking Skills

Deshinta P.A.D. Argaswari

ABSTRACT

The aim of this research is explaining the teachers' professional development program that promote the algebraic thinking skills. The research starts by conducting the teachers' development program for junior high school teacher that is appropriate with the teachers' development program theory. The program consists of one-day workshop “Workshop teaching and learning algebraic thinking skills for junior high school teachers at Bogor”, teachers practice in the classroom, and report and reflection through the online platform. The data gather by analyzing the teacher’s reflection towards the platform, their report, and evaluation of the teaching practice. The analysis shows that the teachers development does promote the algebraic thinking skills by 1) re-learn or building the concept of the algebra such us the meaning of algebra especially the generalization, the difference with arithmetic, and others 2) know new methods and media to teach algebra, 3) link and community to learn the teaching learning algebra together. The teaching practice of the implementation success in provoke active learning, students’ thinking skills such as generalization, students score, mindset, and develop teachers’ skills in explaining the algebra to students.
Grammatical Errors in Speaking Made by Graduated Students of Ahmad Dahlan University
Siti Wulan Asih, Asrianto, Didik Murwantono

ABSTRACT

In Indonesia error in speaking are often done by Junior High School students to Graduated students. Especially Graduated students, even though they have learned grammar since they were in bachelor’s degree but they still made grammatical errors when they spoke in English. Based on that problem, the writer wants to find out what types of error, how many grammatical errors made by graduated students and why they made grammatical error even though they have studied English since bachelor’s degree. The researcher used qualitative research approach that focus on analyzing the grammatical errors in speaking. The method used observation, interview, and document analysis. The writer took 6 graduated students as the samples. The sample took by purposive sampling technique. The researcher took graduated students majoring English Education Department which has linear major as their bachelor’s degree. This research found that mostly students made grammatical error in misformation, they still made incorrect tense in the sentences. The researcher also interviewed the participant “why do they always having grammatical errors in speaking?”. They said “the most important thing in speaking is vocabulary, we just focus on vocabulary. Trying find the suitable vocabularies if we want to say something.” Thus, they always disregarded the accuracy of grammatical because it was hard combine both of them.
ABSTRACT

One of linguistic branch is semantic. The purpose of semantic is to know the meanings of words and phrases and lead the readers to believe many possible meanings in word or in sentence. There are lexical meaning and contextual meaning in semantic. The lexical meaning is the meaning in dictionary. Contextual meaning is the meaning depends on the context. We can find the valuable message and knowledge by listening to the music. We can find inspiration also by listening to the music. Those are why the researcher is interest to do the research about song. The purpose of this study is to investigate and describe the meaning of words in the song. The researcher uses descriptive qualitative method. The result of this research paper related to lexical meaning and contextual meaning.
SALINGTEMAS-Based Multimedia Development (science, environment, technology and society) for Natural Science Learning in Class IV of Elementary School

Fitrian Prila Wardani, Dita Puspitawedana, Pebri Isnawati

ABSTRACT

This research is a Research Development (R&D) using design research. The purpose of this study is to develop and know the feasibility of SALINGTEMAS-based multimedia (Science, Environment, Technology, and Society) for learning science in grade IV of Elementary School. The stage carried out in this research is in the initial stages resulting in a description of the need for multimedia development. At the development stage begins by designing solutions to problems found in the initial stages. The evaluation phase is carried out an evaluation (validation test and product trial) to determine the feasibility and improve the product that has been developed. The subjects of the trial are teachers and fourth grade students in the Gumelar subdistrict, Banyumas district. Testing the feasibility of multimedia based on SALINGTEMAS (Science, Environment, Technology, and Society) is carried out with an assessment by experts both in terms of material and media that have been developed. The results show that the development of multimedia based on SALINGTEMAS (Science, Environment, Technology, and Society) for natural science learning in class IV Elementary School reach an average percentage of 89.5% for media expert judgment, 85% for material expert assessment and 92.5% for users, so it can be stated worthy.
Analysis of Technology and Policy Application for Recycling Lithium-ion Batteries To Support National Defense
Shafaa Bhrenasj Fatimah, Anggy Periska PR, Timbul Siahaan, Khaerudin
Indonesia Defense University, IPSC, Sentul, Bogor, Jawa Barat, Indonesia

ABSTRACT
Indonesia is a country with the richest biodiversity in the world, but Indonesia faces challenges in the field of environmental development. Along with the issuance of Presidential Decree number 55 in 2019 on the acceleration of the electric vehicle environmental challenges and threats to be faced Indonesia is waste Toxic and Hazardous Materials of the lithium-ion battery. This waste can threaten the defense and security of the State in the future. The purpose of this study was to analyze the battery recycling technology right so that it can be applied. The method used in this research is a comparative qualitative methods - descriptive method to analyze and compare the most effective recycling. From two previous studies and interviews with speakers at the Center for Material and Technical Products (B4T) showed that a good recycling technology to be applied is hydrometalurgi for separating compounds of metals and minerals contained in waste batteries. Recycling is beneficial to prevent the waste of natural resources, prevent the importation of raw materials, and prevent an environmental contamination. This technology can be applied and developed by the battery industry, the defense industry, as well as agencies and institutions.
Learning strategies used by good achievers in speaking English

By Umi Rokhyati
Universitas Ahmad Dahlan

ABSTRACT

Learning strategies play an important role in gaining good learning result. Those who learn with strategies will get better result than those who learn without strategies. Speaking is a productive skill that becomes an indicator of a language performance. It can be said that students’ English is good when their speaking is good. Therefore, it is important to know what strategies students whose speaking is excellent use. The information will be useful since learning strategies can be trained to other students. This study investigates twenty English students whose speaking score is excellent. They are member of a debate community in an English department. The database consists of questionnaires and interview result. The data are described in a quantitative and qualitative ways. The findings show the learning strategies used by the students and how they use the strategies.
The Meaning of Believing in Close Friends of Students

Irasyda Nurul Fajri¹, Nina Zulida Situmorang², Indah Dwi Cahyati³, Sari Lailatulqodrat⁴
University of Ahmad Dahlan

ABSTRACT

Background: The relationship that exists between individuals is one of them is a friendship and can develop into a close friend. The relationship is based on trust in each other so that it can establish a closeness. The majority of students like to be very close to happy friends. Students who depend on early adulthood, with different personalities and with different marital status, believe in trust in close friends will be different. Objective: This study aims to discuss and describe how students pay attention to trust in close friends. Method: The research method used was qualitative, by discussing constructive realism, the research subjects were 60 students aged 20-28 years. Data was collected using an open questionnaire and the results of the FGD. Then the research data is analyzed by combining the results of data text categorization. Results: The results of the study using an open questionnaire produced seven categorizations. About things that make you believe in close friends, namely: support, care, listeners who are good, cool, open and patient. For the research data from the results, the FGD produced additional categories, namely the comfort category. Conclusion: students in this study interpret trust in close friends by believing, friends support, believe, become good listeners, then cool, open, patient, and comfortable.
OPTIMAL CONTROL FOR DYSENTERY EPIDEMIC MODEL WITH TREATMENT

Pardi Affandi., S.Si., M.Sc
Universitas Lambung Mangkurat

ABSTRACT

This paper aims to made a model and analyze the a dysentery diarrhea epidemic using a SIR-T (Susceptible-Infected-Recovered and Treatment) From the model obtained, be analyzed the stability criteria around the disease-free equilibrium point. Next, perform Optimal Control used treatments. Furthermore, by involving The Pontryagin's maximum principle to complete the Mathematical Model of dysentery diarrhea epidemic obtained.
Stimulating the Ability to Understand Environmental Problems by Using Images in Children in Kindergarten
Salsabila Hasiana Tanjung, Suparno
Yogyakarta State University

ABSTRACT

The ability to understand is one of the basic abilities in terms of cognitive that children must have. Thus, children will be better prepared to carry out higher thought processes and be ready to enter into all the more complex situations. The purpose of this study was to see how the ability to understand children in seeing a problem with the help of images as a medium of learning. This study uses an experimental test where the child is given a treatment that will bring about behavior that can be seen and evaluated based on the objectives of this study. Children show that in the use of images that contain material problems that exist around the child, the child will be easier to understand a situation compared to the classroom which is only given a descriptive description by the teacher to the child. Based on this, early childhood in the process of thinking requires something that children can see as in the stage of development of thinking that is at the preoperational stage.
Role of Coastal Women In Fisheries Processing Business In Kendal District

Riesti Triyanti¹, Nensyana Shafitri², Tikkyrino Kurniawan³, dan Nurlaili⁴
¹, 2, 3, 4 Balai Besar Riset Sosial Ekonomi Kelautan dan Perikanan

ABSTRACT

Nelayan merupakan salah satu mata pencaharian masyarakat pesisir dengan pendapatan yang tidak menentu. Kondisi cuaca dan gelombang tinggi menyebabkan tidak dapat melaut dalam kurun waktu tertentu. Di pesisir Kendal, saat nelayan tidak melaut, perempuan pesisir berperan ganda dalam membantu ekonomi rumah tangga dengan melakukan pekerjaan di luar rumah, sebagai pengolah ikan. Penelitian ini bertujuan untuk 1) menganalisis karakteristik sosial ekonomi perempuan pesisir, 2) menganalisis aktivitas gender dalam kegiatan pengolahan hasil perikanan, 3) menganalisis profil gender dalam akses dan kontrol pada kegiatan pengolahan dan pemasaran hasil perikanan, dan 4) menganalisis manfaat dan dampak aktivitas perempuan pesisir dalam usaha pengolahan dan pemasaran hasil perikanan. Penelitian ini bersifat deskriptif dengan pendekatan kualitatif, metode pengumpulan data dilakukan dengan teknik wawancara terstruktur, wawancara mendalam, studi pustaka, dan observasi. Data dianalisis secara deskriptif dan analisis gender metode Harvard. Hasil penelitian menunjukkan bahwa: 1) pembagian kerja gender setara antara pekerjaan perempuan dan laki-laki, 2) perempuan pesisir selain melakukan pekerjaan domestik rumah tangga, juga melakukan kegiatan pemasaran dan pengolahan ikan, 3) peran perempuan pesisir dalam pengolahan ikan, mulai dari proses penyediaan bahan baku, penyediaan peralatan dan bahan pengolahan, pencucian, proses pengolahan, sampai dengan pemasaran hasil pengolahan ikan, 4) akses dan kontrol laki-laki dominan terhadap kelompok nelayan, akses dan kontrol perempuan dominan pada kegiatan domestik, pengolahan, dan pemasaran ikan, serta manfaat yang dihasilkan dari kegiatan pengolahan dan pemasaran ikan sudah dinikmati bersama antara anggota keluarga, baik laki-laki maupun perempuan dan memberikan kontribusi yang cukup besar dalam mengatasi biaya untuk memenuhi kebutuhan rumah tangga nelayan, permasalahan terkait akses pasar harus diatasi bersama antara laki-laki maupun perempuan pesisir. Pentingnya peran perempuan dalam usaha perikanan menjadi dasar penentuan kebijakan pembangunan kelautan dan perikanan dengan melibatkan perempuan dalam setiap prosesnya.
Impact Analysis of LNG Boil-Off Gas Treatment Towards Techno-Economic: Case Study of LNG Receiving Terminal and Future LNG Regasification Unit in Eastern Indonesia

Rizka Septiana and Sutrasno Kartohardjono
University of Indonesia

ABSTRACT

A receiving terminal in eastern Indonesia have operated a Floating Storage and Regasification Unit (FSRU) to process LNG to produce pipeline gas for a power plant. In order to expand the market, the existing LNG stream flowing from FSU to FRU will be divided to the future unit on shore including LNG regasification unit and CNG filling station. The generated LNG boil-off gas (BOG) as the side product cannot be avoided. Different treatment for BOG will also give different impact for product flow rate, revenue, investment cost and operating cost. This paper presents technical study and economic analysis to consider the treatment options for LNG BOG generated from the future unit. There will be five options, such as Option-1a; all generated BOG from future unit is delivered to the existing BOG pipe in FSRU and mixed up with existing BOG to be processed to be pipeline gas for a power plant, Option-1b; half of generated BOG is delivered to the existing BOG pipe and half of the rest is used as fuel for CNG compressor in the future unit, Option-2a; all generated BOG is delivered to LNG vaporizer output stream as additional product to be CNG, Option-2b; half of generated BOG is delivered to LNG vaporizer output stream and half of the rest is used as fuel for CNG compressor in future unit, Option-3; all generated BOG is used as fuel for CNG compressor in future unit. The calculated BOG generation is 3.7 MMSCFD with different economic value depend on the case option. Both of Option-1a and Option-3 give the highest internal rate of return which is 31% with 2.5 and 2.56 years of payback period respectively. The highest net present value is derived from Option-1a which is USD 33,174,457.
EFL Students’ perspective toward video log (v-log) as a teaching model in millennial 4.0 era

Hadijah, Rondiyah and D Murwantono
Ahmad Dahlan University, Yogyakarta, Indonesia

ABSTRACT

The existence of industry revolution has shaped. The teachers of 4.0 create teaching model of English teaching combined with high technology. This study was conducted for Ahmad Dahlan’s EFL students who had experience by using V-log as a teaching model. This study was under a descriptive qualitative method support by ethnography method. The sample of study were 32 students of pre-Advance speaking subject, it was used total sampling technique. The data collections were used close-ended and open ended questionnaire and un-depth interviewed to the lecturer. Balbay (2017) questionnaire was taken and adopted as the data collection instrument. The results showed that, the first is V-log increase students’ motivation and self-confidence to practice English, the second is V-log increase students’ participation and pronunciation skill, the third is V-log as a source of learning media in the classroom. It is supported by the result of un-depth interview that V-log are able to improve the student’s interest in speaking and helps the students to develop their knowledge about technology and how to useful it into learning process.
Lead Acid Battery Material Inventory Control with An Artificial Neural Network and Periodic Review Method Approach

Iwan Setiaji, Farizal

ABSTRACT

The purpose of this paper is to minimize the total cost of material supply of lead acid batteries with the periodic review model and forecasted demand. This research is using an Artificial Neural Network Forecasting to overcome the uncertain demand and improve the accuracy of the material requirements planning. Periodic Review Model to determine the maximum inventory and time between orders. Data to calculate inventory costs in the form of primary data obtained from the company include material costs, order costs, holding costs, shortage costs and recycle expired material costs, while data for forecasting is obtained from sales data, prices, delivery work days (primary data of the company) and exchange rate (secondary data from Bank Indonesia). The results of this study indicate that Artificial Neural Network can improve forecasting accuracy so that material requirement planning errors can also be minimized. The Periodic Review Model used can also save total inventory costs 21.19% compared to previous company policy models by considering the potential of expired material costs. There are many papers about inventory control research in the supply chain, but almost all research assumes durable products. This study uses an artificial neural network method to minimize forecasting errors of erratic demand and then periodic review models used to minimize total inventory costs by considering the age of material due to quality considerations.
Flexibility in Mathematics: Case of Open-Ended Graphing Task in College Algebra

Faradillah Haryani

ABSTRACT

This study aims to analyze the flexibility in Mathematics seen from the students work in working with graphing task in the College Algebra course. Flexibility is one of important aspects in problem solving which builds capability to connect the existing knowledge with the previous knowledge by extracting the information needed to be used in solving the problem. This connection will build the robust conceptual understanding. Researcher starts to routinize the flexibility in the teaching process by emphasizing the use of discussion, exploration, and analysis to train students see the specific information among concepts. Researcher also used flexible type questions to routinize the reversibility thought of students. After the teaching process, to assess the flexibility performance of students, researcher gives 4 open-ended graphing questions with different number of competences covered. Interview is also conducted for further investigation. The results showed that students are successfully developed their flexibility in Mathematics regardless their level of Mathematical ability. Their conceptual understanding is also improved, justified by the ability to give the reason of every answer they have made. However, the flexibility performance of students gets weaker when working with more linked competences in a question.
Snakebite as a Neglected Tropical Diseases in Indonesia: A Review

Dewi Yuniasih

ABSTRACT

Despite its promising economic growths, there are group of neglected tropical diseases (NTDs) still existing in Indonesia. Since these neglected tropical diseases cause severe disability, therefore they may thwart future national growth and recent gains. The aim of this paper presents an epidemiology perspective to describe the health system situation in Indonesia and highlights the problems beneath NTDs. The epidemiology approach is provided as basis for policy decision making in reducing the threat of NTDs and improving country’s health indicators levels. Earlier, the global NTDs according to the causative agents referring to WHO classifications will be discussed and the cases of NTDs in Indonesia will be detailed. It is worthy to mention that snake bite is one of the major causes of mortality and morbidity in many areas, particularly in the rural tropics such as Indonesia. However, a study case of snake bites in Indonesia do not appear that can be evidenced by the difficulty of obtaining data or information about the number of cases in all regions in Indonesia. Therefore, it is difficult to deal with a comprehensive prevention programs and health policy intervention towards minimizing the threat of this disease.
The Students’ Error Analysis of Writing in Recount Text for The Milineal Students

Ida Rahmah Andansari, Okta Widia Sari Didik Murwantono
Universitas Ahmad Dahlan Yogyakarta

ABSTRACT

Nowadays, the millineal students are the largest and most diverse generation. So, the millineal students need to increase their knowledge and new skill in learning process especially in writing skill with good grammar for holiday experience in recount text form. Writing is the act or process to express idea which support of information through written language. Meanwhile, recount text is a text to retell the story that happened in the past. The aim of this research is to find out kinds of errors made by the tenth grade students of SMAN 1 Petanahan in the academic year of 2016/2017 in writing recount text. This research under descriptive qualitative method and use test as an instrument. The test is a written test about an experience. The researchers collected the data from 30 students as a subject of this research. Which is the researcher assumes one class from eight classes in eighth grade of SMAN 1 Petanahan. While, in analyzing the data, the researchers classified the students’ errors. There are four kinds error found: omission, addition, substitution, and permutation. The result of this research shows that the total students’ error are 248 consist of omission 102 (41.10%), errors of addition 37 (14.90%), errors of substitution 77 (31.00%), and errors of permutation 32 (13.00%). The dominant errors made by the students is omission, while the lowest one is permutation.
The Effect of Participative Budgeting towards Budgetary Slack in SOEs (Banking) in Indonesia through Employee Motivation

Carolina Y, Kenisah M L and Rentor A B
Maranatha Christian University

ABSTRACT

This study aims to analyze budgetary practices in Asia, namely in Indonesia, especially in analyzing the effect of participative budgeting towards budgetary slack through employee motivation. A good participative budgeting can create a sense of belonging so employees are more motivated and they will improve the performance and reducing dysfunctional action, in this case is the budgetary slack. Data collection technique used was a closed questionnaire filled out by 88 responsibility center managers at SOE Banking in Indonesia. The data analysis technique used was SEM-PLS with the help of warpPLS version 4.0. The results showed that participative budgeting has a positive effect towards employee motivation and employee motivation has a negative effect on budgetary slack.
ABSTRACT

Road damage is caused by old road age and traffic load. One of the methods to improve road conditions is by overlaying. However, the new layer above the pavement structure is quite thick and lifts the pavement surface, so it will have an impact on the safety and engineering of the user. The use of a thin layer of asphalt hot mixture is an alternative to anticipate the problem of thickness. Crumb rubber is a waste material that has flexible properties; this material is used as a substitute for aggregate in a thin layer of hot asphalt mixture. This research was conducted to find optimal bitumen level and optimal crumb rubber level on asphalt mixtures that have been given aging behavior on road pavement with Marshall procedures. Finally, it was concluded that the addition of crumb rubber in a thin layer of asphalt mixed with aging treated reflects is still being classified as good interlocking between aggregates so that it can provide better Marshall stability; the higher the flow rate, the higher the Marshall yield in which it reduces the vacancy ratio. The results showed that the addition of crumb rubber content as a substitute for aggregate led to the use of less than optimal asphalt content.
A Descriptive Study on the Ability of English Writing in Recount Text at Darul Hijrah

Pajrian Noor Alifa Sandra Rahmawati Umi Rokhyati
Universitas Ahmad Dahlan Yogyakarta

ABSTRACT

Writing in English is one of the important skills that students actively change their passive knowledge and information into their own language. Based on the 2013 curriculum, students must have excellent English skills for writing skill, because students are able to express functional texts and simple short essays in the form of recount text for interaction in daily life. The purpose of this study was to find the ability of English writing recount texts of class VIII students of Darul Hijrah Islamic Boarding School for males. Descriptive quantitative method that researchers used to describe students' ability to write recount texts, and the sample of this study was 28 students. The researcher found that the highest score in writing recount text was 84, which was considered a good category, and the lowest score in writing recount text was 47.5, which was considered a fair category. In addition, in the good category was 5 students (17.8%), 15 students (75%) participated in the fair category and 2 students (7.2%) from the less categories. Meanwhile, there are no students (0%) in the category of very good and poor. In the final, more than half (75%) eight grade students of Darul Hijrah Islamic Boarding School achieved a fair category.
ABSTRACT

Learning strategies in the development of learning models in the 21st century have undergone many changes. These changes occur along with the development of technology and information that is getting faster. Learning cycle 7e (LC 7e) is one of the models that is often used in learning activities. However, most uses of this model are more focused on concepts and scientific reasoning. This is considered not in line with the expectations of the 21st century, students are expected to not only have the ability to master the concepts but also have the skills to use technology and information media, have the skills to live, and the skills to develop knowledge that has been learned and innovated or creative thinking skills. Thus, it is necessary to design learning strategies that facilitate the use of concepts in solving the daily problems they learn. Like STEM learning according to Bybee (2013) STEM approach is not just a slogan but has a purpose in education. The aim of the STEM approach is to develop content and practice in learning and students can apply STEM education when facing real life situations. Therefore, innovative learning strategies that can answer the challenges of this century, namely by applying STEM-based learning in the learning cycle 7e is expected to use this learning model to influence in increasing students' mastery of concepts and creative thinking skills.
Technical Audit Of District Road Drainage System In Magetan District

Yogi Sasongko Setiyobudi 1, Mamok Suprapto 2, and Syafii 2
Universitas Sebelas Maret, Surakarta, Indonesia

ABSTRACT

Road is an infrastructure that is very important in supporting economic and social activities. District Road is a road managed by the District Government. District roads have different diversity many district roads are originally environmental roads and then upgraded to district roads. However, the increase in status is not accompanied by an increase in road structure, resulting in many district roads prone to damage. The damage is compounded by inadequate district road drainage systems. As a result many district roads serve as the flow of surface water flow during the rainy season. Even though water is one element that damages pavement, especially asphalt. The aim of the research is technical audit of district road drainage system in Magetan district. This research begins by calculating the flow generation caused by rainwater. Surface water flow discharge into drainage channels is calculated on the basis of rain, land use, topographic conditions, existing drainage channels, and with due regard to the natural drainage, drainage system along the road route. The results show that many district roads do not have a good drainage system based on hydrological and hydraulic studies. This is also evidenced by the number of roads that are often damaged.
How is the Relation: Mathematical Abstraction and Mathematical Connection

N Miftahuljannah¹ and Marsigit²
Yogyakarta State University

ABSTRACT

As we have known so far, mathematics is a famous subject with its abstractness. If we ask students about their opinions about mathematics and we only give them the opportunity to express them in one word, surely most would argue that mathematics is "abstract". This is because of the lack of understanding of students to connect a mathematical problem with everyday life or vice versa. Therefore, researchers conducted a review of abstraction capabilities and mathematical connection abilities. Based on the results of the review, it was found that abstraction ability was related to mathematical connection skills. In other words, to measure mathematical abstraction capabilities can be supported by instruments of mathematical connection ability.
ABSTRACT

In the era of industry revolution 4.0, many human activities depend on the gadget and the internet connection. We can observe the daily activities of human life right now. When they wake up in the morning, they usually start by using their hand phone or gadget. This condition motivates educators to build a digital module in order to use the positive point of view of the Industry Revolution 4.0 era. In this chance, the researchers develop two topics which are very important for human life in Industry Revolution 4.0, that are, human literacy and technology literacy. Both of the topics were derived into two course. The course of development of students (Perkembangan Peserta Didik) will be representing the human literacy topics and the course of introduction to Biotechnology (pengantar bioteknologi) will be representing the technology literacy topic. The research is a research and development. Furthermore, the products of this research are flipbooks which are uploaded on the Learning Management System managed by Universitas Ahmad Dahlan.
Comparative Study of Continuous Biodiesel Production from PFAD Via Hydrolysis-Esterification and Esterification-Transesterification Processes

Muhammad Syauqi 1), Hartim Isnia Suratiwi 1), Dyah Retno Sawitri 1,2), and Arief Budiman 1,3)*
Universitas Gadjah Mada

ABSTRACT

Energy is one of the most important human needs and becomes an inseparable element of the human life. Along with the increasing growth of the world's population, forcing energy needs to increase. Fossil fuels, which are the pioneer of energy supply, are running low while also provide a lot of CO₂ emissions that are harmful to the environment. Biodiesel is bioenergy whose raw materials come from plants, which can replace the role of fossil fuels as an energy source and much more environmentally friendly. Because of its great benefits, this research will introduce a simulation process of biodiesel production from Palm Fatty Acid Distillate (PFAD) using ASPEN Plus. The simulation of biodiesel production uses two processes: hydrolysis-esterification and esterification-transesterification. The hydrolysis process is carried out in RCSTR and two other processes are run on reactive distillation (RD) which is represented by RADFRAC in ASPEN Plus. Optimization is performed by varying the reflux ratio and feed stage in the reactive distillation. The simulation results show that the value of biodiesel yields for the esterification process increase from 83.86% to 99.9% with the yield for the hydrolysis and esterification process reaching 91.98%. Meanwhile, the transesterification process increase from 83.44% to 92.468%, with yields for the esterification and transesterification reaching 98.27%.
Perbandingan Regresi Linier Berganda dan Regresi Buckley-James Pada Analisis Survival Data Tersensor Kanan

Erzylia Herlin Brilliant¹, M Hasan Sidiq K²

ABSTRACT

ABSTRACT

Probiotics commonly are produced from Lactic Acid Bacteria (LAB). *Lactobacillus acidophilus* and *Streptococcus thermophilus* are known to grow well in soy milk media. Probiotics conferred many benefits, one of them is as an immunomodulator. Many studies have shown that probiotics can stimulate the immune system, either non-specific or specific immune responses, such as stimulating increased activity of macrophage phagocytosis and antibody titer. This study aimed to examine the effects of immunomodulatory *L. acidophilus* and *S. thermophilus* as bacteria fermenter in soygurt. Twenty four of mice were divided in four groups: control negative, mice that treated the soygurt *L. acidophilus*, mice that treated the soygurt *S. thermophilus*, and mice that treated the combination soygurt. Mice were given the soygurt in 10 days and induced *E. coli* on days 9. The mice immune response was measured by observing the activity of phagocytosis and antibody titer. The study did not show activity of phagocytosis. The result of study showed that of monocyte numbers increased in peritoneum liquid. It indicated the enhancement of immune response in mice. There was significant difference between control group and treated group (p≤0.05) but no significant difference (p≥0.05) among the treated groups. There are significant differences in antibody titres by treating soygurt *L. acidophilus* (p = 0.030) and soygurt combination (p = 0.031) compared to the control group. The mice group treated *S. thermophilus* yield an increase in antibody titer but not significant (p≥0.05) compared with the control group.
Analisis Kebutuhan LKS Berbasis Problem Based Learning untuk Menstimulasi Kemampuan Berpikir Kreatif Siswa

Gendis Ayuwandari¹, Andriyani², Endah Kusumawati³
¹Magister Pendidikan Matematika Universitas Ahmad Dahlan

ABSTRACT

Analisis Kebutuhan Modul Aljabar Berbasis Problem Based Learning Untuk Menstimulasi Kemampuan Pemecahan Masalah

Annisa Sulistyaniingsih¹, Andriyani²
¹Magister Pendidikan Matematika Universitas Ahmad Dahlan

ABSTRACT

Shortest Path Determination on Trans Semarang using Floyd Warshall Implementation

Nisa’ul Hafidhoh, Rizky Pranedyi Wibisono

ABSTRACT

Trans Semarang become one of mass transportation vehicle that become popular in Semarang. Many destinations can be accommodated by the Trans Semarang. Trans Semarang has eight corridors with 352 shelters spread among Semarang City and Regency. This sometimes makes passengers confused and even wrongly dropped transit in the transfer shelter. While passengers want to find out more complete information so they can determine the shortest path so that the travel time is faster. Shortest path determination can be obtained using graph. In this paper, the implementation of Floyd Warshall algorithm is used to determine the shortest path between origin shelter to destination by using mobile application. Begin with data and requirement analysis to make the algorithm and interface design of mobile application. The result of implementation is evaluated using sample simulation and blackbox testing. The result shows that the implementation of Floyd Warshall Algorithm in mobile application can help to determine the shortest path in Trans Semarang’s route.
Investigating Pre-Service Mathematics Teachers’ Number Sense Ability

Nourma Pramestie Wulandari, Vivi Rachmatul Hidayati, Dwi Novitasari, Tabita Wahyu Triutami, Ulfa Lu’uilmaknun, Mohammad Archi Maulyda

ABSTRACT

This research aims to identify the components of number sense that are poorly mastered by pre-service mathematics teachers. A good number sense ability is really needed by pre-service mathematics teachers as a provision to transfer knowledge to students. This research uses a quantitative method. Subjects in this research are 14 third year pre-service mathematics teacher who are taking courses in linear programming. The instrument used was in the form of 30 item number sense questions that were developed based on number sense component, that is understanding and skills about numbers, understanding and skills using number, understanding and skills using operations on numbers and using number and operation skills in calculations. The results showed that pre-service mathematics teacher has a pretty good number sense ability, which is 76.67%. However, the ability of understanding and skills about numbers is still low.
Analisis Kemampuan Berpikir Kreatif Siswa Tunanetra pada Materi Segitiga dan Segiempat

Suhendri\textsuperscript{1}, Andriyani\textsuperscript{1}

\textsuperscript{1}Magister Pendidikan Matematika, Universitas Ahmad Dahlan

ABSTRACT

ABSTRACT

Vocabulary is an important part to the mastery of English. Without vocabulary, people cannot master English well because vocabulary becomes the first component before the other components of language that mainly supports the skills. The aims of the research are: to find out the second grade students’ vocabulary mastery taught by using Board Game, to find out the second grade students’ vocabulary taught without using the Board Game and to find out whether there is a significant difference in second grade students’ vocabulary taught by using the board game and those taught without using the Board Game. Involving random sampling technique, this research involved 60 students of second grade in SMP Negeri 1 Sedayu Bantul as the research sample. The empirical data were collected through tryout, pre and post-test. The data were analyzed by two ways, namely descriptive analysis and inferential analysis. The research result indicates that there is no significant difference in students’ vocabulary mastery between those taught using Board Game and those who aren’t. In conclusion, the use of the Board Game to teach vocabulary is effective compared to teaching it without using Board Game, however, the difference was not significant. In other words, the use of Board Game is effective in teaching vocabulary mastery but it was not significant.
Analisis Kebutuhan E-LKPD Untuk Menstimulasi Kemampuan Berpikir Kritis dalam Memecahkan Masalah

Riana Julian¹, Suparman²

¹²Magister Pendidikan Matematika Universitas Ahmad Dahlan, Indonesia

ABSTRACT

Kemampuan berpikir kritis dalam memecahkan masalah adalah kemampuan penting yang harus dimiliki peserta didik pada abad 21. Pada pembelajaran matematika kelas IX kemampuan berpikir kritis peserta didik dalam memecahkan masalah matematika belum terlaksana dengan baik. Upaya untuk mengatasi permasalahan tersebut salah stunya adalah dengan menggunakan metode pembelajaran inkuiri. Tujuan dari penelitian ini antara lain untuk: (1) menguji pengaruh pembelajaran inkuiri dengan kemampuan berpikir kritis dalam memecahkan masalah matematika, (2) menguji apakah dengan menggunakan E-LKPD dengan pendekatan inkuiri dapat menstimulasi kemampuan berpikir kritis peserta didik dalam memecahkan masalah. Penelitian ini merupakan penelitian kualitatif didukung observasi dan wawancara. Populasi dalam penelitian ini adalah siswa kelas IX SMP. Metode yang digunakan adalah wawancara dan observasi. Hasil penelitian ini adalah (1) kemampuan berpikir kritis peserta didik dalam memecahkan masalah masih tergolong rendah (2) Metode pembelajaran dan bahan ajar yang digunakan kurang dapat menstimulasi kemampuan berpikir kritis dalam memecahkan masalah matematika (3) kemampuan berpikir kritis peserta didik dalam memecahkan masalah menggunakan elektronik lembar kegiatan peserta didik dengan pendekatan model pembelajaran inkuiri (4) gawai dapat digunakan sebagai media pembelajaran dengan memasukkan E-LKPD (5) guru membutuhkan media pembelajaran E-LKPD sebagai salah satu solusi alternatif meningkatkan kemampuan berpikir kritis peserta didik dalam memecahkan masalah.
ABSTRACT

Standardisasi Ekstrak Metanol Akar Mangrove *Rhizophora mucronata* Poiret dari Perairan Pantai Timur Surabaya

Mahmiah*, Giftania Wardani Sudjarwo²
Universitas Hang Tuah

**ABSTRACT**

Mangrove *Rhizophora mucronata* Poiret merupakan salah satu mangrove dari family Rhizophoraceae yang banyak dijumpai di Perairan Pantai Timur Surabaya. Pemanfaatan mangrove jenis ini oleh masyarakat sekitar sebagai pewarna batik alami. Secara kemotaksonomi, mangrove dengan kandungan metabolit sekunder dapat dimanfaatkan sebagai agen antioksidan, biolarvasidal, antibakteri, dll. Tujuan penelitian ini adalah untuk menentukan parameter standardisasi spesifik dan non spesifik dari ekstrak metanol akar mangrove *Rhizophora mucronata* Poiret. Ekstrak diperoleh dengan metode maserasi dengan pelarut metanol yang telah didestilasi. Hasil rendemen ekstrak sebesar 20,07%. Paramater spesifik meliputi pengamatan organoleptis ekstrak berwarna coklat tua berbentuk pasta. Hasil skrining fitokimia menunjukkan adanya senyawa metabolit sekunder seperti flavonoid, tannin, alkaloid, polifenol, antrakuinon, saponin, terpenoid. Parameter standardisasi non spesifik ekstrak metanol akar *Rhizophora mucronata* Poiret meliputi kadar air 0,9834 %, kadar abu 4,4040 %, susut kering 0,2385 %. Kadar logam berat seperti As, Hg, Sn, dan Cd tidak ditemukan pada ekstrak, sedangkan Pb (1,48 ppm), Cu (1,28 ppm) dan Zn (5,28 ppm). Berdasarkan FI 2015, hasil parameter standardisasi non spesifik dari ekstrak metanol akar *Rhizophora mucronata* Poiret memenuhi standard herbal.
Need Analysis of English for Specific Purposes (ESP) at SMK 1 Ternate

Roswita M. Aboe, Anwar Ismail

ABSTRACT

This study aims to analyze elements of English learning approaches including the teaching materials and the need analysis application based on English for Specific Purposes Pattern of 21st century education. The problem raised from this study refers to some findings that the implementation of needs analysis that refers to 21st century learning in vocational schools has not been fulfilled. Departing from the problems above, Vocational High School (SMK I) of Ternate City was chosen with 49 students of Department of Business Travel Tourism (UPW) and Online Business and Marketing and nine (9) English language teachers and expertise in SMK I Ternate as the subject. This research employed qualitative method by administering questionnaires and interview as the instruments for data collection. While the learning approaches were found to be based on ICT and modern learning, the use of teaching materials were based on the K13 centralized curriculum adjustments in which the use of textbook of English similar to those being used in general schools. In addition, the analysis of student needs was based on the elaboration in K13, which carried out only assessment and evaluation while the essence of the ESP Model Need Analysis (NA) cycle in five stages was not carried out in detail based on the pattern.

Index Terms: ESP, Needs Analysis, Vocational Schools
The Analysis of Children's Mathematical Giftedness through Snakes and Ladders Game at PAUD Sandhy Putra Telkom Ternate

¹Bahran Taib, ²Yahya Hairun, ³Susana R Bahara
¹Lecturer of education Faculty at Khairun University

ABSTRACT

The title of this research is the analysis of Children's Mathematical giftedness through the snakes and ladders game at PAUD Sandhy Putra Telkom Ternate. The aim of this research is to analyze how much the mathematical giftedness of children at PAUD Sandhy Putra Telkom Ternate. The study was conducted through observation by using observation instruments. The observation instrument contains a checklist of activities carried out by children, which is categorized as early childhood giftedness at PAUD Sandhy Putra Telkom Ternate. Furthermore, the results of the observation were analyzed qualitatively with the theoretical study of child development. The results of his research concluded that the application of this game model at PAUD Sandhy Putra Telkom was adjusted to develop the giftedness of students. One gifted development is mathematical giftedness of early childhood through the game of snakes and ladders. Basically, every children has talent which is not the same. The development of mathematical giftedness in early childhood should be done through the use of concrete objects and the habit of using mathematics so that children can understand mathematics, such as counting, numbers, and mathematical operation. Children who have mathematical giftedness have the ability to think systematically, deductive and inductive, they are also more responsive to problems, and they works sequentially or systematically. The research suggestions are that teachers must be more creative in creating new games or modifying existing games to suit the needs of the giftedness of early childhood. It is intended that students do not feel bored with the monotonous game.

Keywords: Snakes and Ladder game, Mathematical giftedness
TUJUAN PENELITIAN

Green Chemistry Processing Of Surfactant Synthesized From Bagasse Using Microwave Radiation
RiniSetiati*, SeptoratnoSiregar², Taufan Marhaendrajana³, Deana Wahyuningrum⁴, Sugiatmo Kasmungini⁵

ABSTRACT

The aim of this research is to analyse the surfactant process from sugarcane bagasse using the concept of green chemistry, which consists of vegetable raw materials. It was a laboratory experiment, by synthesizing bagasse into sodium lignosulfonate (SLS) surfactant. This process was carried out using two green chemical processes, namely hydrolysis, and sulfonation. Furthermore, microwave radiation (Microwave-Assisted Organic Synthesis / MAOS) with specification of 300 watts for 60 minutes at 80oC was utilized. This process was carried out in 4 stage under the same reaction conditions for 1 hour. FT-IR spectrum measurement showed that the expected functional groups were formed in the reaction products of 1 to 4. In addition, the synthesis processes showed that there were three main function of the groups as indicator of lignin formation, namely OH phenolic, CH aliphatic and aromatic C=C functional groups. The functional groups were characterized by analyzing the structure of the ligninamination product using 1H-NMR measurement with the formation of alkene, sulfonate, and carboxylates groups. Organic Synthesis using the microwave method (MAOS) had succeeded in synthesizing contaminated and alkylated lignin derivatives from bagasse. It is also concluded that the lignosulfonate synthesized from sugarcane bagasse is carried out with an environmentally friendly green chemistry process. The impact of this research was sugarcane bagasse waste can be used as a product with added value to the oil sector in Indonesia.
Variogram Modeling of Lime Saturation Factor on Limestone Quarry
Irfan Marwanza, Wiwik Dahani, Subandrio, Masagus Ahmad Azizi, Riskaviana Kurniawati, Irsan Farhan

ABSTRACT
The cement company sets a parameter standard for the level of limestone content to optimize the quality control used in cement production. The parameter used is Lime Saturation Factor (LSF) which represents the ratio of CaO in accordance with Al2O3, Fe2O3, and SiO2. Mixing of raw materials will never be perfect and there are always areas within the clinker where the LSF locally is slightly below, or slightly above, the overall target of clinker making. For this reason, it is necessary to find a formula for determining the LSF value, which in this study uses the geostatistical method. The aim of this study is as an effort to consider, improve and evaluate to get an area with LSF value by the clinker making process. Primary data, which consists of a total of 35 boreholes, was collected through sampling, cutting, and drilling, with geostatistical methods used to produce unbiased data based on each region. After analyzing the goodness of fitting test using the Chi-Square, the distribution of LSF in quarry C was determined as an exponential with an outlier from the boxplot analysis. The conclusion of this study, the geostatistical method can be used to determine areas with LSF values, based on the results of the range variogram. The variogram model was obtained with a Nugget Effect of 100, Sill of 45000, and a 250 meters Range with a search direction of 135° and a 12.55% error.
Impact of Wide Variety Feature on Accuracy of Offline Signature Verification Using Distance of Mass Centroid

Agung Sediyono, Yani Nur Syamsu, Binti Sholihah

ABSTRACT

Research on offline signature has been conducted for several years. Skilled forgery verification is difficult to be verified because of the highest similarity between genuine and forgery signature. Based on previous research, it can be concluded that genuine offline signature is never similar but it still has consistent features. Otherwise, skilled forgery try to imitate genuine offline signature as similar as possible. It can be hypothesized that if skilled forgery signature is matched to genuine signature, it should match on consistent parts (narrow variety) and unmatched on inconsistent features (wide variety). In this research, the offline signature verification is conducted by two steps. In first step, the comparison is conducted based on consistent features as most researcher done. In second step, an acceptance result of first verification will be reverification using inconsistent features in order to improve the verification accuracy in case skilled forgery. Based on the experiment, it can be concluded that this proposed method can improve the verification accuracy for certain condition or depend on writer signature characteristic. Therefore, this approach can be applied only if only the conformance characteristic of writer offline signature can be identified before second step of verification can be done. At least, this result contribute to open mind that wide variety feature can be used in offline signature verification.

Indeks Term: mass centroid, narrow variety, offline signature verification, pattern recognition, skilled forgery, verification accuracy, wide variety
Creative Gamification in Kahoot! for Worker’s Health and Safety Learning Assessment

Wegig Murwonugroho, Lelitasari

ABSTRACT

The Kahoot! game application is used to determine differences in the level of understanding of mining workers, between before and after watching the safety video on the topic of “fatigue”. Data shows cognitive improvement between before and after the Occupational Health and Safety (OHS) video was shown. However, the results of increased knowledge of this video material are not accompanied by keeping safety commitments at work. Therefore this research is important to do with the aim of finding indicators of collecting material in the Kahoot! game which can increase workers’ awareness and commitment to safety at work. This research method uses a quasi-experimental method on 60 workers that is analysed using t-test and ANOVA test. The results showed that Kahoot! creative gamefication must fulfill the criteria of preparing questions and answer choices that are capable of: 1) stimulating players to apply their knowledge in the real world; 2) relating aspects of memory, perception, and action; 3) having dramatic, antagonistic, witty, and affective qualities. Implications of this study, the creative gamefication of Kahoot! as an instrument of learning assessment should put more emphasis on the content of OHS guidelines, and further translate them into practicing safety at work consistently.

Index Terms: Creative Gamefication, OHS Video, Kahoot!, Learning Assessment.
Non-Channelized Turbidite Deposit Identification in Rambatan and Ciseureh River Brebes Central Java, Related to Oil and Gas Exploration

Firman Herdiansyah, Dewi Syavitri, Muhammad Burhannudinnur, Mellya Widyanata
Departemen of Geological Engineering, Faculty of Earth and Energy
Universitas Trisakti Jakarta

ABSTRACT

Brebes Area, in Central Java (108° 47' 59.99" E - 108° 55' 46.89" E and 7° 2' 9.59" S - 7° 7' 54.72" S), have been known as an area with numerous oil and gas seepages. In contrary, the petroleum system study of this area is scanty and not fully understood. Turbidite deposit were found in this area. Four (4) stratigraphic sections were observed along the Rambatan and Ciseureuh River within 30 to 261 meters in thickness. Based from those sections, the Formations could be devided into 4 type lithofacies, that is: (1) Type 1: consists of Interbeded of thin-bed sandstone and siltstone, (2) Type 2: consists of fine grained sandstone and siltstone, (3) Type 3: consists of interbedded siltstone and very fine-grained sandstone, and (4) Type 4: consists of interbedded shale and very fine grained sandstone with volcanic material at the base. The Depositional Environment interpretation is also been made in the area using Mutti and Normark (1987) classification, which shows that Type 1 deposited in Middle Fan, Type 2 deposited in outer fan and Type 3 and 4 were deposited in the Inner Fan. The porosity calculation using the Helium Porosimetry Technique shows 2 to 28% porosity; and 0.01 mD to 201 mD permeability. The good porosity (18.9 to 24.7% and permeability 9.41 to 201 mD were found at Type 3. Based on those study, we could interpreted that the good porosity were found at the fine sandstone lithology.

Index Terms: Non-channelized turbidite, Brebes Area, Four lithofacies, Inner to Outer Fan, good porosity, measured section, petroleum system
ABSTRACT

The purpose of this study is to determine the effect of firm size, auditor reputation, and ownership concentration and leverage variables on the implementation of enterprise risk management. Research Methods are descriptive statistical analysis, classical assumption, and multiple regression analysis. The sample in this study is banking listed on the Indonesia Stock Exchange (BEI) with having a complete financial report during the period of research. The result of the study shows that there is significant influence by firm size and leverage variables to the implementation of company risk management. The implications for Managerial is to keep the application of risk Management Company, consider the size of the company, and leverage to be within reasonable limits. Besides, for investors is to pay attention to the historical development of these two variables.

Keywords: Auditor Reputation, Banking, Company Risk Management, Company Size, Corporate Governance, Ownership Concentration, Leverage.
Effect of Mixing Speed on Turbidity and Dyes Removal from Wastewater with Tiger Shrimp Shells as Biocoagulant

Rizka Dinda Puteri, Rositayanti Hadisoebroto, Riana Ayu Kusumadewi*

ABSTRACT

The majority of the people living in Krendang Village, Tambora Subdistrict, West Jakarta, are mostly in the form of a screen printing home industry. Due to the lack of public knowledge regarding the handling of the resulting waste work, the environment in the Krendang district which was polluted. Shrimp shells can be used as a coagulant because in the shells of shrimps contained chitin which can produce chitosan through the deproteination, demineralization, and deacetylation process. The purpose of this study is to determine the efficiency and effectiveness of chitosan shrimp shells in removing turbidity and dye from screen printing wastewater. At the beginning of the research, added a dose 150 mg/l of alum into 500 ml textile wastewater. For coagulation, rapid mixing speed variation of 100 rpm, and 150 rpm, 200 rpm with mixing time respectively for 1 minute, 2 minute, and 3 minute. After rapid mixing, slow mixing or flocculation was carried out at a speed of 25 rpm for 30 minutes and let stand for 30 minutes to form a precipitate. From the observation, chitosan shrimp shells had a degree of deacetylation of 38.07%. With coagulation and flocculation method, used dose 150 mg/L of 1% chitosan solution on optimum mixing speeds 200 rpm and mixing time in 3 minutes could remove turbidity and dyes up to 79.18% and 99.662% respectively. The velocity gradient, Reynolds number and Froud number were 200,71 sec⁻¹, 4.946,51 (turbulance), and 0,0679 < 1 so that the flow was sub-critical.

Index Terms: Coagulation, Mixing Speed, Shrimp shells, Deacetylation Degree, Removal Efficiency, Turbidity, Dyes
Sense of Place Dynamics in Historic City Centre of Tangerang
Sarwosri Moertiningsih, Dedes Nurgandarum, Otty Nurfanty

ABSTRACT

Concept the Sense of Place is rooted in subjective people experiences. The Sense of place in Historic city is preserved by authenticity of attribute of urban heritage significance. Subjective perception is the substance of sense of place and conscious feeling about environment and places. In the other side, industry 4.0 have a deep impact on a shift in perception that can cause loss of sense of place. By understanding of the daily activities and symbols associated, transformation sense of place can be defined. This paper aims to defines the dynamics factors that can changes the sense of place in historic city. Through the mapping physical features transformation and activities, we explain that affect meanings changing based on dimensions element of sense of place. Through reviewing the literature and saturated interview data, this paper reaches a comprehensive change factor of sense of place concept and then tries to compare it to find their transformation. Each dimension element can transform or loss through the time, but it can minimize by identified the dynamic factors that can affect the transformation sense of place. The findings of this field of study can be used as a base for consideration of the management of the historic urban area.

Index Terms: Heritage, Historic city centre, Historic urban landscape, Spirit of Place, Sense of sacrality, Sense of Place, Transformation.
Permeability characteristics of Unplanned Settlements in Jakarta
Otty Nurfanti, Dedes Nurgandarum, Sarwosri Moertiningsih

ABSTRACT
Permeability is one of environment quality indicators on urban area. The unplanned settlements usually related with rapid growth and the emergence of urbanity, it predominantly self-organized without intervention from the government and incrementally transformed based on the needs the community surrounding. The issue of industrial 4.0 in urban performance is related with accessibility, which is part of permeability level. Permeability is usually done at the time of regional planning, but in order to improve the quality of the environment in urban areas, especially in unplanned settlement areas, this permeability can be done in order to improve the quality of the environment. This aim of study is to mapping the permeability of unplanned settlements. With Way Finding methodology, this study is using the cognitive map to help the respondents to show us the accessibility that they passing everyday, and why they chosen that routes. This research defines the characteristics of permeability in unplanned settlements, including the factors that influence it according to its destination. To provide an overview of this research, the case study taken in one of the unplanned settlements areas in Jakarta that has established since the 17th century. The findings of this study can be used to improve the quality of urban space in other unplanned settlements, and can be considered for the development of tools that facilitate the search for accessibility in the industrial era 4.0.

Index Terms: Cognitive map, community behavior, destination, pedestrian movement path, permeability, unplanned settlements, visibility.
The Implementation of Net-Zero Energy Principles in Neo-Vernacular Architecture
Cantika Chairuniza, Nurhikmah Budi Hartanti, Mohammad Ali Topan

ABSTRACT
Net-Zero Energy Building (NZEB) is a concept for an ideal building performance to deal with climate change problems. Neo-Vernacular Architecture approach is an approach contains traditional theme but not limited in the use of new technologies or in building forms. The purpose of the research is to analyze the implementation of Net-Zero Energy Building principles by using technological innovations Neo-Vernacular buildings without damaging the traditional elements that exist in the building. The research was conducted by a comparative method of several buildings using Neo-Vernacular architectural concepts but also applying a number of things related to climate and environment, to be associated with the concept of Net-Zero Energy Building (NZEB).

Index Terms: Climate change, Environment, Neo-Vernacular, Net-Zero
Screen printing wastewater generated from the production process contains high concentrations of turbidity and dye color. Coagulation and flocculation process were expected to reduce the concentration of these pollutants. This study had use biocoagulant chitosan from small crab. The research process carried out gradually start from the extraction of small crab into chitosan by deproteination, demineralization, and deacetylation following by laboratory scale research using jar test methods. Mixing speed variation of biocoagulant were 125 rpm, 150 rpm, 200 rpm, with biocoagulant dose was 250 ppm in 500 mL of wastewater. The observed contact time were 1 minute, 3 minute and 5 minute with parameter turbidity and dye color to be tested. Comparing the parameter of turbidity and dye color of effluent from coagulation-flocculation process with textile industry wastewater effluent standard from Decree of Environmental Ministry of 5 Year 2014, resulting the optimum mixing speed was 200 rpm in 5 minute contact time, with removal efficiency of turbidity parameter was 91.84% and dye color was 99.86%. The velocity gradient value (G) of all mixing speed variation exceeded the criteria, while collision energy value (GTd) were below the criteria for contact time of 1 minute. The dimensionless number of Reynold and Froude met the criteria for all mixing speed variation. Since the goals of the research were to reach the effluent standard, it could be concluded that optimum mixing speed for coagulation process was 200 rpm in 5 minute contact time with the parameter design of GTd value, Reynold number and Froude number meet the design criteria, although the G value was still below the criteria.

Index Terms : biocoagulant, chitosan, coagulation-flocculation, contact time, mixing speed, small crab, velocity gradient
The Walkability of Street Corridors and Pedestrian Preferences in Jakarta Old City Heritage Area
Pizza Agradiana, Nurhikmah Budi Hartanti

ABSTRACT

A walkable street is one indicator of a livable city, with walkability level as a way to assess the environmental quality of walking activities. This study discusses the level of walkability in six main road corridors in the Kotatua Jakarta area using scoring assessment methods on four aspects of the observed Walkability Level namely the level of security & safety, comfort level, the availability factor of pedestrian support facilities, and the quality factor / physical condition of pedestrian facilities the feet. From the results of the assessment, it is linked to the pedestrian preferences in choosing the walking route from the transit mode of transportation (train station and busway stop). With the location of the study on several road corridors in the Kotatua Jakarta region, Jl. Pintu Besar Utara, Jl. Stasiun Kota, Jl. Lada, Jl. Jembatan Batu, Jl. Great South Door and Jl. Asemka. The results found that the level of walkability of a street does not always affect the user’s walking preferences. Although the level of Walkability is high, it is not necessarily a pedestrian preference in the walking route.

Index Terms: Pedestrian Preferences, Walking, Walkability Level, Jakarta Old City, Heritage area
ABSTRACT

Indonesia is a tectonic and volcanic area where valuable minerals can be formed. This paper performs research and study of ore minerals, objecting for feasibility of mining purposes. Ore minerals are explored in mountainous regions: Sumatra, Java, and East Nusa Tenggara. The ore mineral in Bukit Barisan, West Sumatra attracts exploration activities, including the Sungai Pagu area. The method of exploration activities are carried out both traditionally (community mining) and those using standard mining machinery and equipment. This area has ore metal content which needs to be further explored to ensure that the area, grade, and distribution are quite economically feasible. From the mining geology survey of the area, rocks samples have been analysed. Using Atomic Absorption Spectroscopy (AAS) analysis, it is obtained an average primary gold content below 0.01 ppm. However, the lithological conditions resulting from petrographic analysis have made it possible to find gold and other heavy metals. At least sediment deposits show high gold content. In the mean time, mining exploration and activities must still comply with laws and regulations, especially concerning environmental issues.

Index Terms: Atomic Absorption Spectroscopy, environment, exploration, geology survey, heavy metals, mining, ore minerals, Petrography.
The Perception of Stakeholders on Studentification in Malang City, Indonesia
Rahel Situmorang, Antariksa, Surjono, Agus Dwi Wicaksono

ABSTRACT
The growing number of students continuing their study to higher education creates a high demand for student housing and its supporting facilities in a college town. Residential areas near the campus become the main choice for students because it saves their cost and time, besides the wide selection of housing amenities and price becomes their consideration. Changes in the campus neighborhood area can lead to socio-cultural, economic, and physical impacts, which called as studentification. Therefore, this research aims to identify the perceptions of stakeholders about the impact of studentification in Malang City, as the most preferred college town in Indonesia. Descriptive qualitative research is based on a case study, and the information obtained from in-depth interviews with stakeholders who engaged directly in the research area (namely students, boarding house owners, residents, and business actors). The results show that most of the socio-cultural, economic, and physical impacts that are found in other studies also occur in the research site. In this case, one of the differences can be seen in the socio-cultural character of students who always try to adapt to the habits of the local community, and on the other hand, residents try to understand how to treat students. This research shows that the presence of students has a positive impact on the area. Local people feel happy because the area becomes lively and more dynamic, and also improved the population welfare in the research area.

Index Terms: neighborhood changes, private rent, socio-cultural change, student, studentification, urban, university
ANTHROPOMORPHISM BRAND UNIQUENESS: PRODUCTS MARKETED OFFLINE VERSUS ONLINE

Yolanda Masnita, Dini Reskasugih, Mangku Rasyawal

ABSTRACT
Consuming brand identification is essential for companies to cope with competition. The aspect of brand identification is based on consumer interaction with products. It is motivated by several factors including brand anthropomorphism, engagement, skepticism, and prestige, distinctiveness, and self-similarity. The purpose of this study therefore is to test and analyze factors influencing consumer brand identification. The conceptual model of testing involves products marketed offline and online. The results show there is a very significant difference between these two marketing aspects. Anthropomorphism affects consumer-brand identification, though only for products sold online.

Keywords: brand anthropomorphism, consumer-brand engagement, consumer’s skepticism, brand prestige, brand self-similarity, brand distinctiveness, consumer-brand identification, brand loyalty.
Balanced Housing Policy Optimization
Riski Trisuci, Hanny Wahidin Wiranegara, Yayat Supriatna*, Anindita Ramadhani*

ABSTRACT
The balanced housing policy objective is to reach a harmony in diversity. It regulates the diversity of housing units into 3:2:1 proportion. It shows a composition of 3 simple type houses, 2 medium types, and 1 luxury type based on its area or price. Due to the profit gain, the developers found it difficult to apply. This study aim is to identify the optimized housing proportion fulfilling the composition and still gaining the profit. A unit of analysis is a cluster where the community harmony can take place. Burgundy Residence and Olive Residence in Summarecon Bekasi took as samples. The research method is operational research. By comparing the number of each house types, its affordability, and their composition using the simplex method showed that there is inconsistency in this balanced policy based on an area and price. Both clusters showed imbalances proportion in term of area and affordability. The optimization has balanced proportion with an expanded stretch of land. The unit prices also need to be increased to keep gaining the profit. In terms of affordability, the real price of the simple type is much higher than the price set in the policy. The housing type proportion based on the area and prices are not synchronous. The balanced housing policy in terms of price cannot realize its objectives because the simple type is certainly not able to be in one stretch with two other types. It means that the goal of balanced housing policy to create harmony cannot be achieved.

Index Terms: balanced housing proportion, balanced housing policy, landed housing, house affordability, simplex method
ABSTRACT

In Walkability Survey in Asian Cities, Jakarta occupies the bottom four. Having been its low level of walkability, Jakarta in implementing the sustainable city concept arranges the walkable pedestrian ways. As the center of commercial activities, it needs the walkability measurement for commercial corridor. This research aim is to identify the level of walkability in commercial corridors. A unit of analysis is commercial corridor. Field observation and questionnaire survey were the methods to collect data. Field observation was to identify the existing condition of pedestrian facilities, pedestrian flows, and land use along the corridor. There were three variables of the condition of the corridor associated with the level of pedestrian's comfort, that were safety, amenity, and accessibility of its sidewalk. Each variable was measured by several indicators measured using a Likert scale. The number of respondents were 96. To test the data’s reliability and validity were used the reliability test and bivariate correlation test. Meanwhile, the k-independent samples was used to measure a significance of each variable in each corridor. The results showed that the level of walkability of the sidewalk in the Sudirman corridor was high, while in Dr. Satrio and Casablanca corridors were a moderate level. This difference is due to the accessibility indicators. In Sudirman corridor meet the integrated public transportation as well as the absence of interference from street vendors and motorized parking. Therefore, the accessibility of pedestrian way is the determining factor for the level of walkability in commercial corridors.

Index Terms: walkability, commercial sidewalk, safety, amenity, accessibility
ABSTRACT

Sea Current Electric Power Plant is an electric power plant that uses turbine to transform sea current kinetic energy into an electric energy. In this research, modeling design of the turbine for the power plant (PLTAL) has done with comparing the performance of the geometry that includes angle of attack and the TSR (tip speed ratio) values of the Savonius-Darrieus Turbine. After doing trial and error when collecting the data, the value of the TSR 1.427; 2.853; 4.28; 5; and 5.7 is proposed. Savonius-Darrieus Turbine that used is the turbine that uses NACA 0018 hydrofoil profile with proposed angle of attack 0°, 5° and 10°, using three blades, with the length of the span 357 mm, turbine diameter 428 mm, and the length of the hydrofoil chord 40 mm. This research is using Computational Fluid Dynamic method to find the coefficient power for each variation. From this research, the results that used for the power plant is the turbine with the geometry with an angle of attack of 5° when the TSR value is in 5; with the coefficient of power valued 0.469. Meanwhile, the variation with the smallest coefficient of power is the turbine with an angle of attack of 10° when the TSR equals 4.28, with the coefficient of power valued 0.206.

Index Terms: Angle of Attack, CFD, Coefficient of Power, Savonius-Darrieus Turbine, Tip Speed Ratio.
KNOWLEDGE MANAGEMENT SYSTEM FOR BROILER AND LAYING CULTIVATION
Ardha Rafano Naradhipa, Syaifudin, Syandra Sari, Wegig Murwonugroho

ABSTRACT

The application of knowledge management has become a fundamental need to improve the quality of existing human resources, especially chicken farmers. This study uses the Becerra-Fernandez development framework method for data collection and uses the System Development Life Cycle (SDLC) approach with the waterfall method for system development. The knowledge generated in this study leads to the expert system. Expert system designed using the case-based reasoning method with the calculation of the nearest neighbor algorithm. This knowledge management system was created as a means of knowledge sharing in chicken farming organizations. This knowledge management produces an expert system that is used to identify chicken diseases and diagnose diseases and their prevention solutions.

Index Term: Knowledge Management, Fernandez, SDLC, Knowledge Management System and Case Based Reasoning
Knowledge Management System Of Furniture Production And Distribution
Hanif Yahya Alyazidi, Syaifudin, Gatot Budi Santoso

ABSTRACT

Furniture is one of the biggest industrial sectors in Indonesia, but now the furniture industry is experiencing a decline due to the lack of furniture entrepreneurs because they do not understand how to market furniture. There are still many furniture entrepreneurs who do not know choosing good wood and many do not know how to start a business furniture. The purpose of this research is to get a knowledge management system design and expert system that can be used by novice furniture entrepreneurs. The method used is for KMS to use the Becerra-Fernandez development framework, Expert Systems using the Forward Chaining method, System development using SDLC, System design using DFD, ERD and applications are implemented using the Drupal Framework. The results of this study are in the form of a Knowledge Management System website for furniture production and distribution.

Keywords: Furniture, Knowledge Management System, Forward Chaining, Universitas Trisakti
Determinant of liquidity: the case of conventional banks in Indonesia
Soeharjoto, Debbie Aryanı Tribudhi, Dini Hariyanti, Erny Tajib

ABSTRACT

Banks have a large contribution in supporting Indonesian economic, so that, it must be maintain the sustainability, with strategies to obtain high profitability but still maintain the LDR liquidity. However, there are external and internal factors that affecting the LDR. Purpose of this study is to know about the determination of conventional bank liquidity in Indonesia. LDR is dependent variable and internal independent variable are proxy with ROA, CAR, BOPO, NPL, TPF, while the external variable are proxy with inflation, exchange rate, GDP. Using regression method, with secondary data, taken from conventional banking industry and macro economics with monthly time series at 2014-2018, from OJK, BPS, BI. Results shown that internal ROA factors has a positive and significant influence to LDR, NPL has a negative and significant influence to LDR, while the other variables have no influence. Banks need to improve their internal performance with strategies in order to increase their profitability optimally, but still with maintaining liquidity, and utilizing digital technology to make efficiency and innovation. Government needs to attempt GDP increasing and equalizing, also maintain exchange rate stability and inflation. But, in distributing funds, more favor to small medium enterprises, which more liquid and resistant to economic crisis, and can accelerate increasing equity of community income.

Index Terms: CAR, Exchange Rate, GDP, Inflation, LDR, NPL, OER, ROA, TPF
Performance Evaluation of Sindang Pasekan Water Treatment Plant
Irfan Arief, Tazkiaturrizki, Winarni

ABSTRACT

The Sindang Pasekan Water Treatment Plant (WTP) is one of the important facilities in supplying drinking water for Indramayu sub-district operated by PDAM Tirta Derma Ayu. The WTP capacity is 50 L/sec and based on production data in 2018 the capacity has been increase become 65 L/sec. The purpose of this study is to evaluate the performance of the WTP based on the existing condition. This research method includes evaluating the existing WTP condition by recounting the design and the evaluation of unit processes, unit operation and quality of water by capacity of production of 65 L/sec to be a recommendation. Data comparison towards the production water quality is according to the drinking water standard of PERMENKES No. 492 of 2010. The results of the WTP evaluation can be used as design criteria as seen from the quality of the turbidity allowance (NTU) with an average removal of 95%. The design parameters that not qualified such as detention time (Td) from intake unit and velocity gradient (G) from some parts of the flocculation unit. Overall, the increasing of the WTP capacity of 65 L/sec, the operating unit and water quality fulfill the design criteria and proper water quality standard.

Index Terms: Water treatment plant, Sindang Pasekan WTP, drinking water, evaluation
ABSTRACT

In 2013, WHO ranked Indonesia third in the world, with the highest number of smokers after China and India. Cigarette smoke content irritates the eyes. Exposure to cigarette smoke in the environment increases evaporation, which causes hyperosmolarity and instability of tears resulting in dry eyes. This study aims to assess the effects of smoking on tear stability and production. A cross-sectional design was used to collect data from 111 Trisakti University students (56 smokers and 55 non-smokers). Majority of the tear quantity test using Schirmer I on smokers were found abnormal with symptoms as many as 87.5% (p=0.019) and on non-smokers were also found abnormal with symptoms as many as 100% (p=0.006). The majority of tear quality test results with Tear Film Break Up Time (TFBUT) on smokers found abnormal with symptoms of dry eye as much as 100% (p=0.464) and normal TFBUT test asymptomatic on non smokers as many as 85% (p=0.007). The relationship between quantity and quality of tears with symptoms of dry eye were 0.019 and 0.464, respectively.

Index Terms: Quantity of tears, quality of tears, dry eye symptoms, Tear Film Break Up Time (TFBUT), Schirmer I, dry eye, smokers.
Water Demand of Gambung Water Supply System, Bandung Regency, West Java
Rachel Dista Zebua, Riana Ayu Kusumadewi*, Winarni

ABSTRACT

Water demand is keep increasing in Bandung Regency, particularly in Soreang District, Katapang District, Margahayu District, and Margaasih District that will be named Gambung Drinking Water Supply System (DWSS). The service coverage of Gambung DWSS is 6.85%, which is supplied by water supply enterprise (PDAM) Tirta Raharja. Soreang and Katapang Districts have been supplied while Margahayu and Margaasih Districts have not been supplied at all. The aim of this planning is prediction water demand of DWSS Gambung in 2040 with two phase of planning. The method includes projecting population in the study area to the year of 2030 and 2040, analysing population density in the resident areas, and analysing water usage and its fluctuation in the existing service area. Services coverage achieves 65% in the year of 2030 and 95% in the year of 2040, with estimation of water demand respectively is 216 L/second and 353 L/second.

Index Terms: water consumption, water demand, drinking water supply system, services coverage
The Procedure of Execution on Foreign Arbitral Awards in Indonesia and Issues

Sri Bakti Yunari

ABSTRACT

One of the most anticipated important issues in the field of law dealing with the implementation of the ASEAN Economic Community (AEC) and digital era for ASEAN countries lies on the existence of a dispute resolution institution (in the business conducted by the countries which are members of the AEC). Arbitration Institute as one of dispute resolution institutions, mostly preferred by countries serves as an institution with greater role. Moreover, if such institution is appointed by countries that are members of the AEC, in which the foreign arbitral award issued by arbitration institution is categorized as a foreign award. One of the obstacles that may arise in the foreign dispute resolution through arbitration has been about the implementation of foreign arbitral awards in each country, including Indonesia. Therefore, this paper aims to discuss the regulations, procedures and issues arising as a result of foreign arbitral award implementation in Indonesia. This study is intended to businessmen from countries which become the members of AEC to anticipate and prepare for problems concerning the implementation of foreign arbitral awards, especially in Indonesia.

Index Terms: Procedure, Execution, Arbitral Awards, Foreign, Indonesia.
ABSTRACT

Cementing is the most important part of well construction and requires effective compatibility with nitrogen (N2) additives. Some of the challenges associated with this process are high temperatures, brine corrosion, and CO2 gas. The cementing process in geothermal wells is similar to oil and gas with high displacement efficiency to ensure adequate processing during low velocity. This study, therefore, aims to determine the function of foam cement using nitrogen to improve zonal isolation. The low use of variable density and relatively high strength of the foamed cement help operators to achieve long-term hydraulic bonds and zonal isolation by preventing hydrostatic pressure damage. In Indonesia, geothermal wells are developed with the fracture and low temperature gradients using lightweight foamed cement. This ensures job success, proper engineering, and control. The results foam cementing are to establish good bonds and zonal isolation, the engineering process allows operators to adjust slurry density during cementing as needed. It is first mixed then pumped into a hole, and stabilized to create foam. This study concludes foam pumping has the ability to improve zonal isolation in oil and gas drilling wells.

Index Terms: cement, slurry, nitrogen, zonal isolation, foam, engineering.
The Future of Publication System on Land Registration in Indonesia
Listyowati Sumanto

ABSTRACT

The legal certainty of land rights is an essential requirement for landowners and it will be realized if there is no doubt and worries of land ownership. However, in fact a certificate of land rights could be a legal case. The aim of study is to provide an overview of ideas reform in publication system on land registration in order to achieve legal certainty in Indonesia. The research method uses normative legal research, descriptive, and data analyzed qualitatively. One of the root causes of land conflicts is caused by the publication system on land registration in Indonesia. There are two different publication systems: registration of deeds, which always uses a negative publication system, and registration of titles, which always uses a positive publication system. The result research is Indonesian Land Law is different from the law applicable in most other countries regarding publication system. Indonesian Laws follow registration of titles, and a negative tends to positive publication system. This is the root cause of many legal conflicts in Indonesia. I argue that in the future, Indonesia government has to change its land registration from negative but tends to positive publication system to positive publication system. Implication of research is along with this transformation, an assurance fund should be established to compensate owners of registered rights who suffer from losses due the omissions or errors in the land registration system.

The Six Tactics in Architectural Qualitative Research at Nua Bena, Flores
Edepea, M.; Susetyarto, M.B.

ABSTRACT

The implementation of qualitative methods to architectural research in Nua Bena, Flores is very typical in terms of research strategies and research tactics. Research strategies that include grounded theory, ethnography, and interpretivism, as taught by Groat and Wang, are inadequate to be used to obtain architectural data from local knowledge sources in the cultural cell network of the indigenous Bena community. Therefore, referring to the local context of adha Ngadha, a research strategy was developed, lobo papa tozo tara papa dhaga, and six research tactics, namely: 1) documentation tactics with photography, film and sketches; 2) physical survey tactics with anthropometric measurement methods; 3) in-depth interview tactics using open-ended questions; 4) interactive discussion tactics; 5) participatory and independent observation tactics; 6) architectural interpretation tactics. The six tactics were initiated inductively, formulated contextually with ethics, aesthetic, art, and communicated with simple language. This paper is a part of the findings of architectural qualitative research in Nua Bena regarding research methods, which were subsequently donated to complement architectural research knowledge in the future.

Index Terms: tactics, architecture, qualitative, research, Bena
Unfolding the Message Behind the Statistical Data of Indonesia City Gas Distribution Sector by Developing a Linear Model

Andry Prima, Astri Rinanti, Onnie Ridaliani, Wiwik Dahani, Mustamina Maulani, Abdul Hamid and Bayu Satyawira

ABSTRACT

One of the milestones any company or industry should consistently achieve is the long–term steady growth. That nonetheless is precisely the position of natural gas distribution sector – without exception. Year-over-year statistical data should portray the broader picture of city gas sector in Indonesia that can possibly be explained by considering a number of key elements such as the workforces involved in the industry, wages that have to be spent on the labours and finally yet importantly volume of natural gas distributed for the city consumers. Throughout this particular study, a set of variables taken into account and then subsequently perform the analysis by using multivariate regression analysis as the selected method. The purpose of this particular study is to explain a better understanding of Indonesia’s city gas distribution sector. The methodology used in this study is the multivariate linear regression. In general, this paper is directed toward defining the notion of the growth of natural gas distribution sector in Indonesia. At the end of this study, the linear model effectively explains the strong correlation between the revenue (dependent variable) of the city gas distribution sector with other independent variables predictors) and fits to represent the macro perspective of city gas sector in Indonesia. In that respect, by incorporating a number of variables as the input of regression analysis tools, the expected result is a model that can be applied to predict the long-term growth.

Index Terms: City gas, gas distribution, revenue, workforce, linear model, regression analysis, and explanatory variables
Correlation of Carotid Intima Media Thickness (CIMT) with memory function in Indonesian productive age population

Yudhisman Imran, Pukovisa Prawirohardjo, Martiem Mawi, Peter Pratama

ABSTRACT

Carotid artery is the main blood source for brain, and abnormality of its thickness is associated with cognitive impairment. While Indonesia is one of the countries with largest dementia population, there are very few studies of Indonesian cognitive-impaired population. We attempted to find Indonesian carotid artery thickness profile and its correlation with cognitive function. This cross-sectional study was performed in district of Duren Sawit, East Jakarta, from December 2015 until January 2016. Subjects were productive age population, at least 30 years old, to participate in our study, had no speech disorders, able to read and write, subjectively healthy, and able to carry out basic daily activities without aid. The exclusion criteria was incomplete participation in the study. A total of 85 respondents were interviewed by 27 specifically trained medical students using questionnaires. We performed Rey-Osterrieth Auditory Verbal Learning Test (RAVLT) and Rey-Osterrieth Complex Figure Test (ROCFT), to evaluate the subjects' memory function. Afterward, physical and cognitive examinations, along with measurement of Carotid Intima-Media Thickness (CIMT) were performed. The mean CIMT was 0.81 ± 0.22 cm for both left and right carotid arteries. There were significant correlation between CIMT and verbal memory function (Rey-Osterrieth Auditory Verbal Learning Test/RAVLT). We also found correlation between CIMT and copy score of Rey-Osterrieth Complex Figure Test/ROCFT. In conclusion, greater CIMT correlated with worse verbal recall memory and might affect organizing performance. Postmenopausal women are recommended to perform CIMT to prevent or retard reduction in cognitive function.

Index Terms: Cognitive functioning, Carotid intima media thickness, Memory function, Rey-Osterrieth Auditory Verbal Learning Test (RAVLT), Rey-Osterrieth complex figure test (ROCFT), Verbal memory function, Productive age population.
Association between Brain Gym and Cognitive Function in Postmenopausal Women

Yudhisman Imran, Donna Adriani, Patwa Armani, Irmaya Rachmiani, Pukovisa Prawirohardjo

ABSTRACT

Aging results in cognitive decline in memory and intelligence of the elderly, but this may be delayed or maintained by brain exercises. Studies on increasing cognitive functioning, e.g. by brain gym and physical exercise did not clearly demonstrate an association of brain gym and physical activity with cognitive functioning. Therefore the present study aimed to find any relationship between brain gym and cognitive functioning in postmenopausal women. This analytical study was conducted for three months on healthy postmenopausal women aged 60 years and older at the Mampang Public Health Center in South Jakarta. Excluded were patients with psychosis, neurological abnormalities, patients on antidepressant or antipsychotic medications, patients with malignancies or diabetes mellitus, or subjects not completing the study. The selected subjects underwent the MoCA-INa and walking tests. Subjects passing both tests were assigned to the brain gym intervention group and the others to the control group without brain gym. The intervention group performed brain gym three times weekly for 3 months, after which both groups underwent a repeat MoCA-INa test. Mean age of control (n=12) and intervention groups (n=14) was 64.58 ±3.42 years and 64.86 ± 4.94 years, respectively. Baseline mean MoCA-Ina scores in control and intervention groups were 20.50 ±1.56 and 19.07 ± 2.12, respectively (p=0.067). After brain gym for 3 months, mean MoCA-INa scores in control and intervention groups were 22.33 ± 2.05 and 20.42 ± 1.69, respectively (p= 0.016). Cognitive functioning of postmenopausal women increased after performing brain gym. Postmenopausal women are recommended to perform brain gym to prevent or retard reduction in cognitive functioning.

Index Terms: Brain gym, Cognitive functioning, MoCA-INa, Memory, Postmenopausal women, Physical activity, Walking test
ABSTRACT

This research aims to find empirically evidence of the effect of firm age, industry type, environmental performance, profitability, and board of commissionaires on carbon emission disclosure (CED) with competition as moderating variable. The sample of this research is companies listed on the Indonesia Stock Exchange for the period of 2016-2018. Based on purposive sampling, the total sample used in this research model is 73 samples. The research method used is Moderated Regression Analysis (MRA). The research results show profitability, board of commissionaires, and competition positively affect CED. While firm age, industry type, environmental performance do not affect CED. Competition strengthens the effects of board of commissionaires on CED. However, competition does not moderate the effect of firm age, industry type, environmental performance, and profitability on CED.

Index Terms: Carbon Emission Disclosure, firm age, profitability, environmental performance.
The Effect of Financial Performances on Firm Value with Good Corporate Governance as Moderating Variable

(Empirical study on Go Public companies that have a Corporate Governance Perception Index score period 2008-2017)

Wildan Aji Darussalam and Vinola Herawaty

ABSTRACT

This research aims to examine the influence of Financial Performance on Firm Value with Good Corporate Governance as the moderating variable that proxy by Corporate Governance Perception Index. The sample of empirical studies are non-financing companies listed on Indonesia Stock Exchange for ten years from 2008-2017. The Independent variable is Profitability and Leverage. The dependent variable is the Firm Value. The total sample size in this study is 102 non-financing companies with the determination of the sample using purposive sampling. Data analysis tool used multiple regression analysis which preceded by descriptive analysis followed by classical assumption test, hypothesis test using F test and t test. The results of this study is Profitability and Leverage has a positive effect on Firm Value. GCG is able to strengthen the effect of Profitability on Firm Value but GCG is not able to strengthen the effect of Leverage on Firm Value.

Index Terms: Return on Assets, Leverage, Good Corporate Governance, Firm Value
Detailed studies of shale characteristics as a reservoir in shale hydrocarbon using surface data to configure the lithofacies model and geomechanics are considered as not much done in Indonesia. Therefore, shale potential as a reservoir in shale hydrocarbon system is not yet known well, it is due to the lack of surface and sub-surface data, especially from the core. The study of lithofacies characteristics of shale from lower Baong Formation integrated with geomechanics characteristics (brittleness index), can be early method in identifying potential zone as a reservoir for oil and gas exploration in the future in Indonesia, especially in the mature basins so that it can lead to a new discovery in Indonesia. The Research stage is composed of data acquisition from filed observation, data processing and laboratory analyses, followed by analyzing and interpreting data based on a pattern of data. The analyses are performed in stratigraphic column profiles and lithofacies characteristics integrated with geomechanics data. The results of the study can be listed as follows: a) on the basis of laboratory analyses, it is concluded that lithological characters of lower Baong Formation can be divided into 11 lithofacies, they are Calc. Mud-Shale, Calc. Sandy Mudstone, Calc. Claystone and Sandy Claystone (NN5), Calc. Mudstone, Claystone, and Calc. Silty Claystone (NN6) dan Mud-Shale, Calc. Siltstone, Sandy Mudstone dan Calc. Clay-Shale (NN7); b) result from calculation of Brittleness Index (BI) show that lithofacies having the highest BI value are Sandy Claystone and Sandy Mudstone, whereas has low BI value is; Claystone; c) Sandy Claystone and Sandy Mudstone with the highest BI value is considered as the zone having the most potential as reservoir in the shale hydrocarbon system; d) This study shows that shale of Baong Formation in the lower part in detail has various lithological and geomechanics characteristics.

Keywords: reservoir, unconventional, shale hydrocarbon, lithofacies, geomechanics, Lower Baong Formation.
ABSTRACT

Naturally fractured reservoir (NFR) especially in granitic basement in Sumatra is not a new issue for research. In the NFR modeling, fracture density of rocks is the most significant factor that influence fracture porosity and fracture permeability. However, in general modeling of NFR, especially granitic basement, the quartz and k-feldspar mineral composition factor is always ruled out. Though the quartz and k-feldspar composition factors have a significant influence on the response to fracture density in a damage zone. The aim of the study is to determining micro fracture in the granitic rocks and proofing that quartz and k-feldspar minerals has significant influence for fracture density in the damage zone. Area of the study at Muaro Silokek, South Sumatra revealed a very heterogeneous granitic rocks outcrop and have high fracture density. At previous study conclude those area is representative as an analog NFR, especially granitic basement reservoir in Sumatra. The main fault which affect fracture orientation was right lateral strike slip faults with NW – SE orientation which is Takung Fault trend. These faults in the study area are represented as riedel shears with NNW – SSE, NE – SW, and ENE – WSW orientation. The study was conducted using 12 data of thin section of granitic oriented sample for micro fracture analysis. The result of the study based on petrographic analysis, there are three types of granitic rocks namely syeno granite, alkali feldspar granite, and monzo granite. With micro fracture characterization, granitic rocks have NE – SW, NNW – SSE, ENE – WSW fracture orientation. Type of micro fracture shows dominantly of transgranular micro fracture which means it has high fracture connectivity and paralel to high permeability. Fault zone classification shows that damage zone is at 6.5 m around faults. This fracture characterization on samples in the damage zone shows each type of granite has a different response to the micro fracture density, so it have significant implication for NFR.

Index Terms: Micro fracture, Granitic, NFR, Damage zone, Distance to fault, Transgranular.
Consuming brand identification is essential for companies to cope with competition. The aspect of brand identification is based on consumer interaction with products. It is motivated by several factors including brand anthropomorphism, engagement, skepticism, and prestige, distinctiveness, and self-similarity. The purpose of this study therefore is to test and analyze factors influencing consumer brand identification. The conceptual model of testing involves products marketed offline and online. The results show there is a very significant difference between these two marketing aspects. Anthropomorphism affects consumer-brand identification, though only for products sold online. So the company can respond to intense competition, by choosing the right business strategy to gain market share.

**Index Terms**: brand anthropomorphism, consumer – brand engagement, consumer’s skepticism, brand prestige, brand self-similarity, brand distinctiveness, consumer-brand identification, brand loyalty.
The Influence Of Work Environment And Organisational Commitment On Job Performance In Banking Industry
Abdul Haeba Ramli
Magister of Management, Trisakti University, Indonesia

Siti Mariam
STIAMI Institute, Indonesia

ABSTRACT

Job performance is essential to all companies in every business sector. Some of factors which is able to affect job performance are work environment and organisational commitment. Those factors can be maintained or increased by designing new building and work stations, maintaining solid relationships among employees and allowing employees to contribute further for the company. The purposes of this research are to explore the influence of work environment and organisational commitment on job performance in banking industry and discover which factors have the most effect on job performance in banking industry.

Index Terms— Work environment, Organizational commitment, Job performance, Banking industry, Employee, Company, Indonesia.
Board Characteristics on Manufacturing Firm Performance in Indonesia
Bahtiar Usman, Henny Setyo Lestari

ABSTRACT
This study aims to determine the impact of board characteristics to performance of manufacturing companies listed on the Indonesia Stock Exchange (IDX) period 2013-2017. The independent variables in this research are board of director independence, board meetings, and board size. While the dependent variable is firm's financial performance by using proxy namely return on asset. By using purposive sampling model there are 75 of 162 manufacturing companies who become samples in the study. Data analysis model used is panel regression analysis. The results of this study indicate that board size and foreign director has negative impact on firm's financial performance, then firm debt and firm age show the same impact on firm's financial performance. Therefore, reducing the number of boards, and debt will increase the company's profit.

Keywords: board of director independence, board meetings, board size.
ABSTRACT

Recently, vernacular architecture has become a source of inspiration to create innovative building designs by utilizing the latest technology. Proportion systems of the vernacular house are one of the basic principles that can be elaborated for module innovation in the industrialization era. The universal standardization and generational change are part of the reasons why vernacular architectural concepts are rarely considered again. Such conditions are indicators that weaken the understanding of vernacular philosophical concepts and spirit. Therefore, the enlightenment of the concept becomes important especially concerning its nature to revive the thinking of the current generation that physical appearance has a unique spirit and cultural content. This paper aims to formulate a conceptual model of proportion systems in vernacular architecture through precedent studies. It is formulated inductively-qualitatively by referring to the theoretical concept of Ihalauw. Information units obtained from previous Indonesian vernacular architecture research results which are selected randomly. In certain parts, these findings are compared with the abroad research results. To produce a conceptual model, the authors make interconnections between units of information that are considered to have a close relationship and then categorize them as abstract themes. The result of study affirms that the proportion system in vernacular architecture is related to the expression of human efforts in aligning themselves (microcosm) with God/ancestor (macrocosm). The manifestation of these expressions is used to mark sacred-profane values and social ethics in addition to being physically used to modify the local climate and to produce forms of beauty.

Index Terms: Vernacular Architecture, Conceptual Model, Proportions.
The Affect Aging Anxiety and Contact Quality on Favorable Attitude and Willingness and Its Impact on Work Engagement to Work with Older People in BCA Millenial Employees in Jakarta

Wiky Firmantoy, Erny Tajib, Muhammad Nisfiannoor

ABSTRACT

The purpose of this study is to combine aspects of existing research to develop a model of BCA's millennial employee involvement in working with older. Therefore, this research is considered very important for academics and management of Bank Central Asia in Jakarta. Factor analysis and structural equation modeling produce a model of the relationship between five latent constructs: aging anxiety (AA), contact quality (CQ), favorable attitudes (FA), willingness (WIL) and work engagement (WE) to work with older adults. AA not affects the FA of respondents. While CQ negative significantly influence the FA of respondents, and the FA and WIL to work with older adults positive significantly influences work engagement (WE). This research is limited by several things, first is the sample in this study is limited to BCA millennial employees in Jakarta. Second, due to the limitations of the researchers, this study was only conducted by researchers within four months, namely from March 2019 to July 2019. This study may not represent all millennial employees and those in other banks. A high level of work involvement is expected to produce good performance at work, especially service quality in the BCA banking industry. This study is the first to apply the AA to hospitality and to construct the influence of favorable attitudes on work engagement.

Index Terms: Older adults, Ageism, Age diversity, Favorable attitude, Work engagement.
Eudrilus Eugeniae and Lumbricus Rubellus Density Effect in Agriculture Waste Treatment

Lailatus siami, Dwi Indrawati*, R. Ratnaningsih,

ABSTRACT

Solid waste as the organic and inorganic waste materials from sources have become the real issue in big cities or villages including agricultural waste. This study aims to determine the effect of organic waste characteristics and worm density in the vermicomposting process. The method of this research are using two type of earthworm that is Eudrilus Eugeniae, Lumbricus rubellus to be varied in several composition of cassava peels, vegetable waste and cow manure. The variation consist of 1.5kg/m2, 2kg/m2, and 2.5kg/m2 for both type of earthworm. Parameters to be measured are chemical (pH, temperature and moisture) and physical (waste weight). All physical and chemical parameters are still in the range determined by experts, the pH parameters are in the range 7-8, the temperature parameter is in the range of 21-29 °C, and the humidity parameter is in the range of 36-71%. In this study, environmental conditions greatly affect the vermicomposting process, namely the pH value of 7.00-8.00 and the temperature of 26.5-28°C is still in ideal conditions for worm life, while the humidity of 60% - 80% does not meet the ideal conditions for worms because it is too moist caused by raw materials used are green vegetables that have high water content. Within 30 days, the highest waste reduction for 1.5 kg/m2 of Eudrilus Eugeniae in D1M3 variation (50% cow manure and 50% cassava peels) by 56% waste reduction. Meanwhile for 2.5 kg/m2 Lumbricus Rubellus in the D3M4 and D4M4 variation (50% cow manure and 50% vegetables; 30% cow manure 70% of vegetables) can reduce by 64%.

Index Terms: Eudrilus Eugeniae, Lumbricus rubellus, cassava peels, vegetable waste, cow manure, waste reduction
Delignification of Bioethanol Production From Saba Banana Peel (Musa paradisiaca formatypica)
by Aspergillus fumigatus

Bunga Faradhani, R. Ratnaningsih, *Astri Rinanti

ABSTRACT

Banana peel is a waste, and a lignocellulose biomass used as an alternative raw material to bioethanol by utilizing the enzymatic ability of Aspergillus fumigatus. This study therefore was conducted to test the potential of banana peel to be converted into bioethanol. The research started by cultivating A. fumigatus on Potato Dextrose Broth media with the banana peel mechanically converted into powder and used as a substrate. This was followed by the pretreatment process by adding A. fumigatus to the substrate container in ratios of 1: 1, 1: 5, and 1:10, respectively. Furthermore, the gravimetric method was used to determine the level of lignin due to pretreatment with contact times of 24, 72, and 120 hours. This was preceded with the hydrolysis stage using the DNS method to measure the amount of sugar produced, with the removal of the highest lignin content at the pretreatment stage of 7.3% and the highest sugar level at the hydrolysis stage of 1.353 g/L. This research shows that banana peel contains lignocellulose and has the ability to be used as raw material for bioethanol. Therefore, to increase the levels of bioethanol derived, it is necessary to carry out a fermentation process and further research.

Keywords: Bioethanol, Aspergillus fumigatus, Saba Banana Peel, Pretreatment, Delignification, Sugar Production, Hydrolysis.
Optimization of Primary Annealing Temperature with Bigdye Reagent in Sequencing Reaction
Harumi Yuniarti*, Astri Rinanti Nugroho, Bambang Cholis S

ABSTRACT
In this research, the annealing temperature was varied to determine the appropriate template sequence. The amplification process used the polymerase chain reaction (PCR) method in the Primary template, to separate the double DNA into a single chain. Furthermore, the cycling duration were compared with the pGEM_Standard. In this research, the process was heated for some time, and the temperature decreased to obtain an appropriate result. Bigdye-pGEM reagents were used to stick the separated molds to become single chains. Also, a primer pair with a large melting temperature difference tends to cause a reduction in the amplification process. The primary sequencing of M13 at 500C produced a well-readable amplicon on the observed electroferogram using ABI Prism 310 sequencer. The results shows that the sequencing test with the addition of bigdye reagent volume (without buffer) at 1x concentration and 25 times cycling duration formed high and clear peaks around 600bp. Shorter sequences occurred at lower concentrations, with the reagent used to determine the exact annealing temperature and how optimal the reagent brings up the sequence length that appears on the electroferogram.

Keywords: Bigdye Reagent, Primery Sequencing, PCR, Sequencing, Annealing Temperature, Electroferogram,
Gene Expression in Cervical Cells of Women in Indonesia, a Preliminary Study

Elfira Sutanto, Elsha Dwi Anggun Rachmadhany, Ita Tazkiatul Izzati Mustopa, Elrian Syaputra, Monica Dwi Hartanti

ABSTRACT

Cervical cancer is the major cause of death of women in Indonesia after breast cancer. It is believed that the integration of Human Papilloma Virus plays a critical role in the development of cervical cancer. Recent study discovered “hot spots” contained candidate genes that are linked to the integration of DNA HPV to host’s genome. This preliminary study aims to investigate the expression of these genes in HPV-uninfected cervical cells (p<0.0001). Most of genes were expressed in HPV-uninfected cervical cells and their expression levels were significantly different to each other qualitatively and quantitatively, suggesting that these genes might have an important role in maintaining a normal function of cervical cells. Perturbation in the expression level of these genes might be linked to the developing of pathological conditions, such as cervical cancer.

Index Terms—Cervical cancer, DNA, HMGA2, HPV, Integration, KLF5, KLF12, SEMA3D.
THINKING REFLECTIVE ELEMENTARY STUDENT IN SOLVING SOLVING PROBLEMS BASED ON MATHEMATIC ABILITY

Hery Suharna and Yahya Hairun

ABSTRACT

The research reveals a profile of reflective thinking of elementary school students in problem solving fractions based on his mathematical abilities. The instruments used in data collection is Test Problem Solving (PST), interview. Selection of research subjects in a way given test is based on the ability of mathematics, namely mathematical skills of high, medium and low and further categorized and taken at least 2 people to serve as subjects. The research objective is: describe the profile of reflective thinking that math skills of elementary school students High, medium, and low. Based on the results of the study found reflective thinking profile and high ability students were as follows: (a) the step to understand the problems students have information/knowledge or data that is used to respond, comes from inside (internal) and can explain what has been done; (B) the planned step problem solving students have information/knowledge or data that is used to respond, comes from inside (internal) and can explain what has been done; (C) on measures to implement the plan in terms of information/knowledge or data used by students to respond, comes from inside (internal), could explain what has been done, realized the error and fix it, and communicate ideas with a symbol or image, and (d) the checking step back, namely information/knowledge or data that is used by students to respond, comes from inside (internal) and can explain what has been done. Profile of reflective thinking ability students lowly mathematics, namely: (a) at the stage of understanding the problem, students can determine known and asked in the problem, but the students' difficulties to explain the identification of the facts that have been done, the students explained the understanding vocabulary, and feel of existing data the matter is enough; (B) at the stage of implementing the plan, the students explained, organize and represent data on the issue, describes how to select the operation in solving a problem though students are not sure, and students' difficulty in explaining what he had done; (C) at the stage of implementing the plan, the student has information on calculation skills although the answer is not correct. Students difficulty in explaining about the skills calculations have been done, trying to communicate their ideas in the form of symbols or images, even if students rather difficult to describe, and realized there was an error when using a calculation skills and improve it; (D) at the stage of check, students' difficulties in explaining whether obtained estimates it approached, it makes sense.

Keywords: reflective thinking, problem solving, fractions, and math skills.
Economic Hardship, Education and Psychological Well Being among Muslims’ Students
Ahmad Muhammad Diponegoro, Rahmat Ryadhush Shalihin, Diyan Faturahman

ABSTRACT
The aims of this research to know how the student with the economic hardship can achieve good achievement in education and psychological well being. The subject comes from the students of Ahmad Dahlan University who stayed in PERSADA dormitory. Three of the students where interviewed in semi structural interview. The results all of the participants were successfull students in the education, comfort with the environment, happy with friends, and have good relationship with family.

Index Terms: Islamic education, Scholarship, Academic achievement, Psychological well being
Keefektifan Program Kemitraan Masyarakat terhadap Literasi TIK Guru SMP Muhammadiyah Se Kabupaten Sleman

Suparman¹, I H T Untoro², A Prabowo¹, Andriyani¹, P W Prasetyo¹

¹Universitas Ahmad Dahlan, Jl. Pramuka 42 Yogyakarta, Indonesia
²Universitas Teknologi Yogyakarta, Indonesia

ABSTRACT

Media Abacus in Solving Problem Related to Multiplication Operation for Mental Retardation Student

Andriyani¹, Susiana¹, Benny²

¹²Universitas Ahmad Dahlan

ABSTRACT

Multiplication operation is part of arithmetic learning that requires the student to possess knowledge about the other basic operation such as addition. Generally, teachers teach the multiplication operation using the memorize method that often implied difficulties for students because the higher the level of operation of the multiplication counting, the more difficult its to memorize it. Besides this, the student can also experience boredom with monotonous and procedural learning tend. These problems are also experienced by mental retardation students who have barriers to mental intelligence and reasoning. This underlies the researcher to conduct experimental research related to multiplication operation through a fun method so that students can understand multiplication operation quickly and easily, such as the utilized of abacus media. The aim of this research was to find out how much influence learning with media abacus given to mental retardation students in solving problems related to multiplication operation. The research design used is Single Subject Research with problem-solving outcomes are measured variables to describe student problem-solving activities using media abacus. The subject of this research is the eighth-grade student for exceptional junior high school. Data collection techniques are carried out by observation, interview, and test to get student problem-solving activities during learning. Analysis of the research data was analyzed under conditions and between conditions. The result showed that the student experienced an increase in outcomes problem-solving of multiplication operation and the student gave a good response to the use of abacus media in learning basic arithmetic operation.