





The 3rd International Conference
on Vocational Education and Technology (iCONVET)
Universitas Pendidikan Ganesha - Bali | 7th November, 2020



The 3rd International Conference
on Vocational Education and Technology (iCONVET)
Universitas Pendidikan Ganesha - Bali | 7th November, 2020

THE CHAIR'S SPEECH

THE 3rd INTERNATIONAL CONFERENCE ON VOCATIONAL AND TECHNOLOGY

November 7th 2020

Om Swastiastu, Assalamualaikum Warahmatullahi Wabarakatuh, Namu Buddhaya, Shalom. May peace be with us all.

First of all, let us send our profound gratitude upon Ida Sang Hyang Widhi Wasa, the Almighty God, for His blessings of the opportunity to have this international conference. As the chair of the committee, I feel honored and delighted to welcome you all in the 3rd International Conference on Vocational and Technology (iCONVET) which has a theme: "Future of TVET Graduates: Developing Talent for Industry 4.0 and The New Normal".

This conference is an international forum organized by the Faculty of Engineering and Vocational, Universitas Pendidikan Ganesha to bring together academics, researchers, and professionals to present their ideas, experiences, and research in a scientific event. It brings together state of the art research in vocational education and technology. To support the Indonesian government's efforts in preventing the spread of the Covid-19 virus, this year iCONVET is being held in a new format with the concept of virtual conference. Virtual conferences are held without reducing the benefits of this international event and hope that all of us will always be given health.

Distinguished guests, Ladies and Gentlemen,

This 3rd International Conference on Vocational and Technology is attended by participants from more than 40 different university and institute, who represent four different countries, namely Indonesia, Taiwan, Iraq, and Netherlands. We received 105 submission of full papers and through a quite tough review process, the

conference finally accepted 86 papers for presentation. Therefore, on behalf of the committee and the Research Institute of Universitas Pendidikan Ganesha, let us extend our greatest appreciation to all of you who have supported us and contributed your manuscripts to our conference, as well as to the panel of reviewers who have helped us in the selection process.

Ladies and Gentlemen,

in our beloved international conference, we are proudly address that we have 3 honorable keynote speakers: Prof. Dr. Thomas Kohler from Dresden University of Technology, Germany, Prof. Dr. Drs. Patu Sudira, MP. from Universitas Negeri Yogyakarta, Indonesia, and Ferry Jie, Ph.D. from Edith Cowan University, Australia. On this blessed occasion, let us express our heart-felt thanks and appreciation for all of our keynote speakers and panelists.

Ladies and Gentlemen,

This conference would not be possible if there were no encouragement and support with its various forms from many parties. Therefore, let us acknowledge, first, the Ministry of Education and Culture also the Ministry of Research and Technology/National Research and Innovation Agency, for the supports that have been given to our University in Indonesia through its research funding so that our researchers could conduct their research. Second, the Rector of Universitas Pendidikan Ganesha for his endless commitment and encouragement to the organizing committee so that we can make this event a reality. The local government of Bali and Buleleng Regency for their commitment to maintain sustainable cooperation with Universitas Pendidikan Ganesha in conducting joint research pertinent to local societal issues. And last but not least, the Research and Community Service Institute of Universitas Pendidikan Ganesha and all the organizing committee members for the hard work and never ending cooperation to make this event come true.

<https://conference.undiksha.ac.id/iconvet/> | 2 |

<https://conference.undiksha.ac.id/iconvet/> | 3 |





The 3rd International Conference
on Vocational Education and Technology (IConVET)
Universitas Pendidikan Ganesha - Bali | 7th November, 2020

Finally, in the name of the organizing committee, we thank you for participating in our 3rd International Conference on Vocational and Technology. Have a nice and fruitful conference. God bless you.

Om Shanti, Shanti, Shanti, Om, Wassalamu 'alaikum Warahmatullahi Wabarakatuh, Namu Buddhaya.

Singaraja, November 7th 2020
Chair,

Video IconVET



Gede Aditra Pradnyana, S.Kom., M.Kom.

<https://conference.undiksha.ac.id/iconvet/> | 4 |



The 3rd International Conference
on Vocational Education and Technology (IConVET)
Universitas Pendidikan Ganesha - Bali | 7th November, 2020



WELCOME NOTE

**THE 3RD INTERNATIONAL CONFERENCE ON VOCATIONAL
EDUCATION AND TECHNOLOGY**

November 7th, 2020

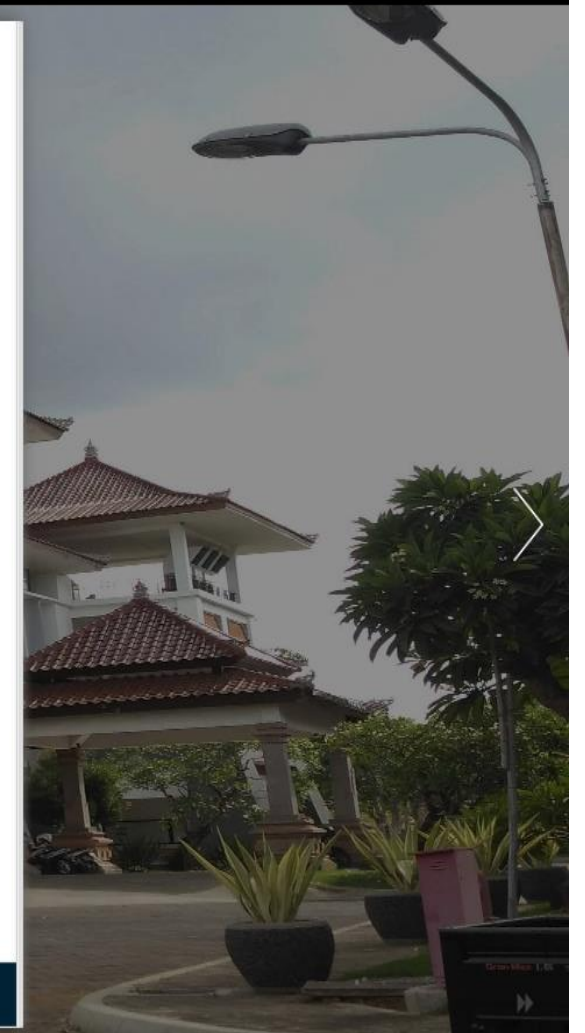
Om Swastiastu,
Assalamualaikum Warahmatullahi Wabarakatuh,
Namu Buddhaya,
Shalom,
Salam Kebajikan.
May peace be with all of us.

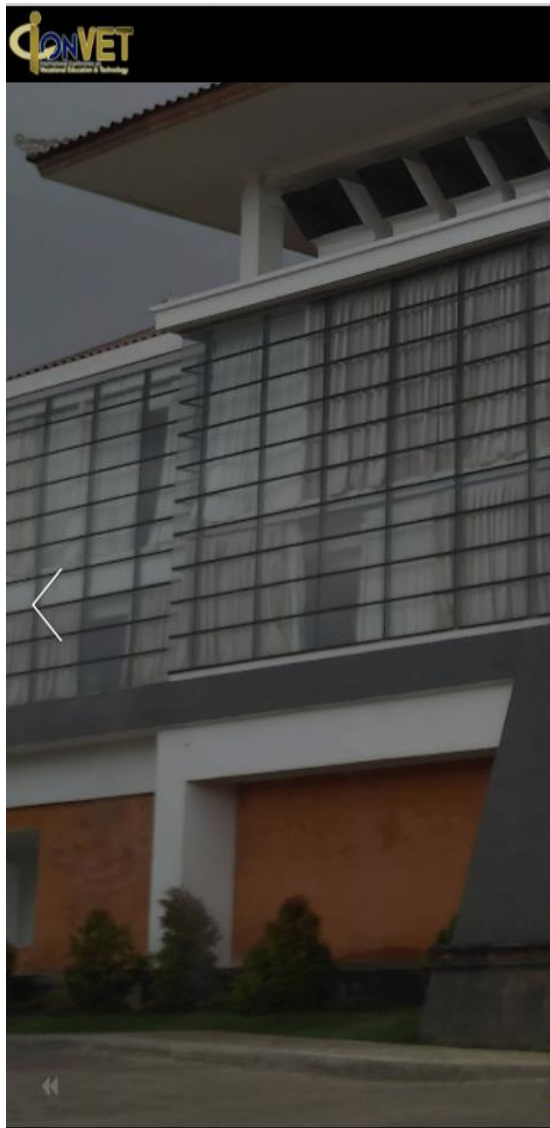
Let us praise the Almighty God, Ida Sang Hyang Widhi Wasa, because with his blessings, we can gather here today on a precious occasion, on the 3rd International Conference on Vocational Education and Technology (IConVET), hosted by the Faculty of Engineering and Vocation, Universitas Pendidikan Ganesha, Bali, Indonesia. Let me also extend my warmest welcome to the Keynote Speakers for this event. It is a great pleasure to have esteemed scholars to speak at our conferences.

Ladies and Gentlemen,

It is an honor for me to stand here and welcome you today as we seek to embrace scholars, researchers, and practitioners in technology and vocational education in an academic discussion that is expected to bring forward the advances in technology

| 5 |





ICONVET
International Conference on Vocational Education & Technology

The 3rd International Conference on Vocational Education and Technology (IConVET) Universitas Pendidikan Ganesha - Bali | 7th November, 2020

and its application in vocational schools to help our nation face Industrial Revolution 4.0, Society 5.0, and also New Normal Era.

Our theme for IConVET this year is "Future of TVET Graduates: Developing Talent for Industry 4.0 and the New Normal". This theme has a vision on the importance of the latest TVET education, which is to prepare TVET graduates to compete in the era of the Industrial Revolution 4.0. As we all know, the Industrial Revolution 4.0 integrates cyber technology and automation technology. The impact of the Industrial Revolution era 4.0 is that it no longer empowers the human workforce in its application because everyone has applied the concept of automation. Of course, this is a challenge for TVET graduates, which is to be able to survive and contribute to it. The challenges in TVET education also increase when we are faced with a new normal era, which has emerged due to the Covid-19 virus outbreak. But we must be confident, with our shared roles and the right education, we will be able to create the best TVET graduates for the future.

I congratulate the committee for choosing a very state of the art theme and for organizing this event from the scratch, until today, and also all the post-conference activities in order to get the articles published by an esteemed publisher, through which our discussions today can create ripple effects that reach the intended audience across the world.

Valued Scholars,

Allow me to extend my congratulations to all the participants and presenters in this 3rd International Conference on Vocational and Technology, for taking the forerunner positions in Industrial Revolution 4.0 and Society 5.0. Thank you for your contributions to this conference and the development of education, technology and vocational education.

Last but not least, I wish you a very productive conference and God Bless you.


<https://conference.undiksha.ac.id/iconvet/> | 6 |

ICONVET
International Conference on Vocational Education & Technology

The 3rd International Conference on Vocational Education and Technology (IConVET) Universitas Pendidikan Ganesha - Bali | 7th November, 2020

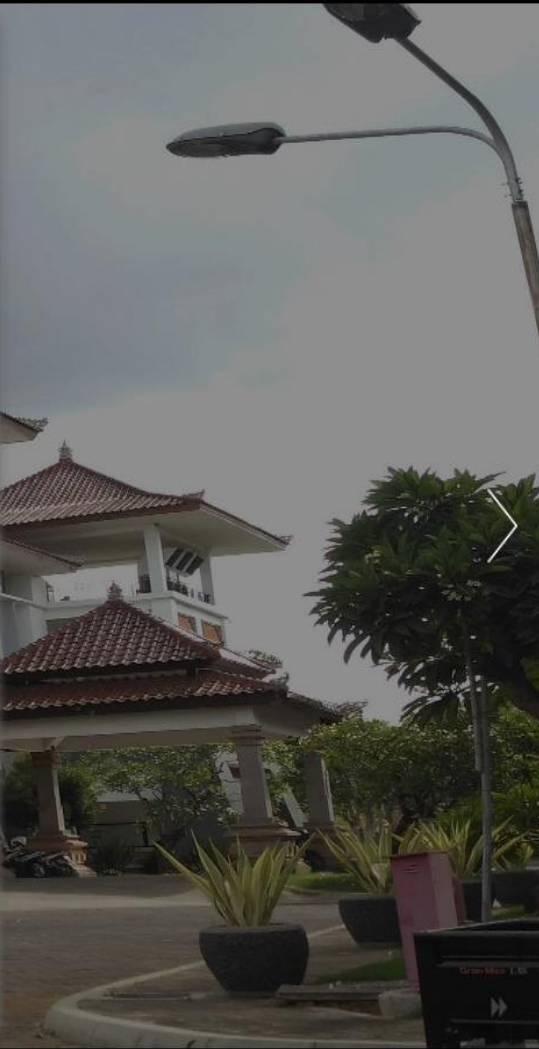
Om Shanti, Shanti, Shanti, Om, Wassalamu'alaikum Warahmatullah Wabarakatuh, Nano Buddhaya, Shalom, Salam Kebajikan.

Singaraja, November 7th, 2020
Rector of Universitas Pendidikan Ganesha



Prof. Dr. I Nyoman Jampel, M.Pd.
NIP. 19591010986031003

<https://conference.undiksha.ac.id/iconvet/> | 7 |





The 3rd International Conference
 on Vocational Education and Technology (iConVET)
 Universitas Pendidikan Ganesha - Bali | 7th November, 2020

The 3rd International Conference on Vocational Education and Technology
iConVET 2020
 Virtual Conference Format | November 7th, 2020

Rundown Activities

| No | GMT+8 | Event Description |
|----|---------------|---|
| 1 | 08.00 – 08.30 | Preparation and Participant Zoom Registration |
| 2 | 08.30 – 09.00 | Opening ceremony <ul style="list-style-type: none"> • Singing Indonesian National Anthem (Indonesia Raya) • Reading Prayers |
| 3 | 09.00 - 09.30 | • The Committee Chair's Report • Speech from Rector of Universitas Pendidikan Ganesha (and official opening of the conference) • Video Opening iConVET 2020 • Online Photo Session |
| 4 | 09.30 – 10.30 | Presentation from Keynote Speaker 2 Prof. Dr. Drs. Putu Sudira, MP (Universitas Negeri Yogyakarta, Indonesia) |
| 5 | 10.30 – 11.30 | Presentation from Keynote Speaker 3 Ferry Jie, Ph.D. (Edith Cowan University, Australia) |
| 6 | 11.30 – 12.00 | Break |
| 7 | 12.00 – 13.00 | Presentation from Keynote Speaker 1 Prof. Dr. Thomas Kohler (Dresden University of Technology, Germany) |
| 8 | 13.00 – 13.30 | Announcements |
| 9 | 13.30 – 16.00 | Parallel Session |
| 10 | 16.00 – 16.15 | Announcements and Closing |

The 3rd International Conference
 on Vocational Education and Technology (iConVET)
 Universitas Pendidikan Ganesha - Bali | 7th November, 2020

Parallel Session Schedule

**THE 3rd INTERNATIONAL CONFERENCE
 ON VOCATIONAL AND TECHNOLOGY**
 Singaraja – Bali, November 7th 2020

Room : 1

Moderator : Putu Yudia Pratiwi, S.Pd., M. Eng.

Link Room : <https://conference.undiksha.ac.id/iconvet/room1>

| No | Paper ID | Author | Title | GMT+8 |
|----|----------|---|---|---------------|
| 1 | 1 | I Ketut Darma, I Gede Made Karma and I Made Anom Santiana | Development of Blended Learning in Applied Mathematics Using Schoology Applications to Improve Problem Solving Ability in Vocational Education Students | 13.30 - 13.45 |
| 2 | 12 | Deny Sutrisno and Basok Buhari | Designing Video for Nursing Skills Procedures Video Based Learning | 13.45 - 14.00 |
| 3 | 17 | Wika Rinawati, Putri Margani Ghassani and Andian Ari Anggraeni | The development of an engaging demonstration video for making shredded chicken | 14.00 - 14.15 |
| 4 | 24 | Putu Wirayudi Aditama, Putu Satria Udayana Putra, I Made Marthana Yusa and I Nyoman Tri Anindia Putra | Designing Augmented Reality SIBI Sign Language as a Learning Media | 14.15 - 14.30 |

Search

rini sefriani


Pages: 2

Page:10

..- rini sefriani and blend..

Page:40


.. indra wijaya , rini sefriani , menrisal ..



The 3rd International Conference
on Vocational Education and Technology (iConVET)
Universitas Pendidikan Ganesha - Ball | 7th November, 2020

| | | | | |
|---|----|--|---|---------------|
| 5 | 4 | Indra Wijaya, Rini Sefriani and Menrisal | Testing of The Validity of Blended Learning Based on Android Smartphones in the Computer Device Maintenance Course | 13.30 - 13.45 |
| 6 | 45 | Made Putra Jaya, Gede Rasben Dantes and I Made Candiasa | Analysis of jejak bali virtual class uses usability testing, concurrent think aloud techniques and performance measurement techniques | 14.45 - 15.00 |
| 7 | 58 | Made Dona Wahyu Aristana and Dewa Putu Yudhi Ardiana | Gamification Design for High School Student with Unstable Internet Connection During Covid-19 Pandemic | 15.00 - 15.15 |
| 8 | 66 | Niki Fadilla, Luthfiyah Nurlaela, Tri Rijanto, Sudirman Rizki Ariyanto, Latifahur Rahmah and Samsul Huda | Effect of Problem-Based Learning on Critical Thinking Skills | 15.15 - 15.30 |
| 9 | 67 | Nofvia De Vega and Jhoni Eppendi | Students' Perceptions of Online Learning in Teacher Training and Education Faculty | 15.30 - 15.45 |

https://conference.undiksha.ac.id/iconvet/ | 10 |



The 3rd International Conference
on Vocational Education and Technology (iConVET)
Universitas Pendidikan Ganesha - Ball | 7th November, 2020

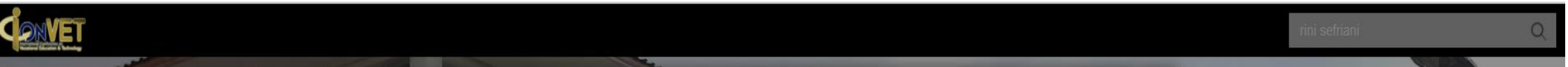
Room : 2

Moderator : I Gusti Lanang Agung Raditya Putra, S.Pd., M.T.

Link Room : <https://conference.undiksha.ac.id/iconvet/room2>

| No | Paper ID | Author | Title | GMT+8 |
|----|----------|---|--|---------------|
| 1 | 44 | Ni Ketut Widiartini, Hadelji Haji and Ni Putu Novi Darmini | Development Of E-Learning Content In Educational Program Evaluation Courses | 13.30 - 13.45 |
| 2 | 94 | I Dewa Ayu Made Budhyani and Made Diah Angendari | Development Of Housekeeping Learning Module Based On E-Learning | 13.45 - 14.00 |
| 3 | 91 | Damiati and Made Suriani | Development Of Bit Fruit Extract (Beetroot) As A Natural Color For Tempe Noodle Products | 14.00 - 14.15 |
| 4 | 70 | Sudirtha I Gede, Widiartini Ni Ketut and Diah Angendari Ni Made | Development Of 21st Century Skill Learning Designs Through The Application Of The Concept Of Independent Learning In The Vocational Field | 14.15 - 14.30 |
| 5 | 73 | Cok Istri Raka Marsiti and Ni Wayan Sukerti | Developing Stock And Sauce Learning Materials Of European Culinary Courses For The Third Semester Students Of The Culinary Arts Vocational Education Program | 14.30 - 14.45 |
| 6 | 74 | Komang Setemen and I Ketut Purnamawan | Student Performance Assessment Strategies By Involving Peers Students | 14.45 - 15.00 |
| 7 | 75 | Ni Wayan Sukerti and Cokorda Istri Raka Marsiti | Developing The Results Of Learning Megibung For Vocational Education And Culinary Arts Students Of Ganesha Education University | 15.00 - 15.15 |

https://conference.undiksha.ac.id/iconvet/ | 11 |



rini sefriani

Search

rini sefriani

Pages: 2

Page:10

.. rini sefriani and blend..

Page:40

.. indra wijaya , rini sefriani , menrisal ..

The 3rd International Conference
on Vocational Education and Technology (iConVET)
Universitas Pendidikan Ganesha - Ball | 7th November, 2020

| | | | | |
|---|----|---|--|---------------|
| 7 | 52 | I Made Marthana Yusa, I Gede Adi Sudi Anggara, I Ketut Setiawan, Rodney Westerlaken and Tutut Herawan | Revitalization of Dadong Dauh Balinese Children's Illustrated Song into 2-Dimensional Animation as an Educational Tourism Strategy | 15.00 - 15.15 |
| 8 | 62 | I Made Marthana Yusa, I Dewa Gede Agung Pandawana and I Nyoman Agus Suarya Putra | Manik Angkeran Storytelling Based on Android Mobile Tap Gameplay | 15.30 - 15.45 |
| 9 | 97 | Alfiantin Noor Azhiimah, Tri Rijanto, Munoto Munoto, Luthfiyah Nurlaela, Ismet Basuki and Joko Joko | Analysis of online learning media selection for student learning independence during the Covid-19 pandemic | 15.30 - 15.45 |

<https://conference.undiksha.ac.id/iconvet/> | 26 |

The 3rd International Conference
on Vocational Education and Technology (iConVET)
Universitas Pendidikan Ganesha - Ball | 7th November, 2020

Table of Contents

- keynote 1: Prof. Dr. Thomas Kohler..... 33
- The Acceleration Of Digital Technologies And Its Meaning For Theorizing Tvet Talent Development At The Interface Between Education And Industry..... 33
- Keynote 2: Prof. Dr. Drs. Putu Sudira, Mp..... 35
- Tvet's New Paradigm For Talents Development In The Era Of Industry 4.0..... 35
- Keynote 3: Ferry Jie, Ph.D..... 37
- Developing Competencies For Industry 4.0 And The New Normal 37
- Development Of Blended Learning In Applied Mathematics Using Schoology Applications To Improve Problem Solving Ability In Vocational Education Students..... 39
- Testing Of The Validity Of Blended Learning Based On Android Smartphones In The Computer Device Maintenance Course 40
- Comparative Analysis Of Naive Bayes And Knn On Prediction Of Forex Price Movements For Gbp/Usd Currency At Time Frame Daily 41
- Portable Waste Capacity Detection System Based On Microcontroller And Website 42
- Students Acceptance Toward Using A Mobile Learning In Fractions 43
- Designing Video For Nursing Skills Procedures Video Based Learning 44
- E-Magazine-Based Learning Media Innovation In Pastry Course, Tata Boga Education Study Program 45
- The Development Of An Engaging Demonstration Video For Making Shredded Chicken 46
- Detection Of Dos Attacks Using Naive Bayes Method Based On Internet Of Things (Iot)..... 47
- Modified Genetic Algorithm For Employee Work Shifts Scheduling Optimization..... 48
- The Simulation Of Divayana Formula Calculation To Determine Priority Of Recommendation In Evaluation Activities 49

<https://conference.undiksha.ac.id/iconvet/> | 27 |



Search [X]

rini sefriani [Q]

Pages: 2

Page:10

.. rini sefriani and blend..

Page:40

.. indra wijaya , rini sefriani , menrisal..

ICONVET The 3rd International Conference on Vocational Education and Technology (IConVET) Universitas Pendidikan Ganesha - Bali | 7th November, 2020

| | |
|--|----|
| Sentiment Analysis Of Online Travel Agent Using Naive Bayes And K-Nearest Neighbor | 50 |
| Do Educational Robotics Competitions Impact On Students' Learning? | 51 |
| Designing Augmented Reality Sibi Sign Language As A Learning Media | 53 |
| User Experience Evaluation Of Academic Progress Information Systems Using Retrospective Think Aloud And User Experience Questionnaire..... | 54 |
| The Effect Of Digital Books Based On Kvisoft Flipbook Maker On Student Learning Outcomes..... | 55 |
| Content Development Of Flipped Classroom-Based For Microteaching Course.. | 56 |
| Work System Method As An E-Learning Design Framework In Private Universities | 57 |
| Road Extraction In Satellite Image With Fuzzy C-Mean | 58 |
| Analysis Of E-Learning User Satisfaction Itb Stikom Bali Using End User Computing Satisfaction (Eucs) Method..... | 59 |
| Design Of Automatic Three Phase Load Balancing For Dynamic Electrical Installation..... | 60 |
| The Design Of The Cse-Ucla Evaluation Model Using Topsis And Ahp Methods For Optimizing Digital Library Services In Badung Regency..... | 61 |
| Rindik Rod Sound Separation With Spectral Subtraction Method | 62 |
| Evaluation Instrument Testing Of Change Agents In Denpasar High Court With Stake Model | 63 |
| The Principles Of Blended Learning Design With Heutagogy Approac Thourgh E-Ganesha Moodle In Indonesian Language Learning..... | 65 |
| Student-Centered Learning Models And Learning Outcomes: Meta Analysis And Effect Sizes On The Student Thesis | 67 |
| The Impact Of External Knowledge On Organization Performance With Indirect Effect Of Instructional Agility And Process Innovation Effectiveness..... | 68 |
| Developing Home Health Care Application To Patient During The Covid19 Pandemic | 69 |
| A Feasibility Study Of Sensor And Transducer Trainers As A Learning Media For Electronics Engineering Students..... | 70 |
| Development Of Image Based International Bridal Makeup Course Textbook Fosters Learning Independence Of Beauty Students..... | 71 |

<https://conference.undiksha.ac.id/iconvet/> | 28 |

ICONVET The 3rd International Conference on Vocational Education and Technology (IConVET) Universitas Pendidikan Ganesha - Bali | 7th November, 2020

| | |
|--|----|
| Development Of E-Learning Content In Educational Program Evaluation Courses..... | 72 |
| Analysis Of Jejak Bali Virtual Class Uses Usability Testing, Concurrent Think Aloud Techniques And Performance Measurement Techniques | 73 |
| Smart School Strategic Design For Information Systems Using Framework Ward & Peppardin Smk Negeri 1 Tampaksiring..... | 75 |
| Social Media As Integrated Character Education Media..... | 76 |
| Application Of Partial Credit Models In Testing Performance Assessments For Programming Course | 77 |
| Developing Project Based E-Learning Content For Basic Computer System Course | 78 |
| Revitalization Of Dadong Dauh Balinese Children's Illustrated Song Into 2-Dimensional Animation As An Educational Tourism Strategy | 79 |
| Analysis Of The Utilization Of Bali Local Culture As Learning Resources In Designing Drapping Courses In The Family Welfare Education Study Program Undiksha | 81 |
| Double Exponential Smoothing Brown Method For Sales Forecasting System With A Linear And Non-Stationary Data Trend..... | 82 |
| Impact Of Cognitive Styles On Students' Psychomotoric Abilities On Multimedia Course Practicum..... | 83 |
| The Digital Strategic Partnership Of Covid-19 Pandemic In The Perspective Of National Resilience In Indonesia..... | 84 |
| Forecasting Foreign Exchange Rate Using A Combination Of Linear Regression And Flower Pollination Algorithm..... | 85 |
| Gamification Design For High School Student With Unstable Internet Connection During Covid-19 Pandemic | 86 |
| Developing Articulate Storyline 3 Based Learning Object In Supporting (Spada) Indonesia Online Learning | 87 |
| Manik Angkeran Storytelling Based On Android Mobile Tap Gameplay | 88 |
| Usability Testing And The Social Analysis On Online Counseling System For Recommendations In Technical Vocational Schools | 90 |
| The Utilization Of Lady Fingers Banana Flour Into Cake As Creative Product, As A Way To Empower The Local Ingredients..... | 92 |

<https://conference.undiksha.ac.id/iconvet/> | 29 |



rini sefriani

Search

rini sefriani

Pages: 2

Page:10

.. rini sefriani and blend..

Page:40

.. indra wijaya , rini sefriani , menrisal ..

ICONVET The 3rd International Conference on Vocational Education and Technology (IconVET) Universitas Pendidikan Ganesha - Bali | 7th November, 2020

| | |
|---|-----|
| Adaptation Strategy Of Authentic Assessment In Online Learning During The Covid-19 Pandemic | 93 |
| Effect Of Problem-Based Learning On Critical Thinking Skills | 95 |
| Students' Perceptions Of Online Learning In Teacher Training And Education Faculty | 96 |
| Trainer And Remote Lab Design Using Internet Of Things (Iot)..... | 98 |
| Development Of 21st Century Skill Learning Designs Through The Application Of The Concept Of Independent Learning In The Vocational Field..... | 99 |
| Development Of Prepaid Water Meters Based On At89s52 Microcontroller.... | 100 |
| Alkin Based On Saw Evaluation Model Simulation For Evaluating Flip Learning In Smk Ti Bali Global Jimbaran..... | 101 |
| Developing Stock And Sauce Learning Materials Of European Culinary Courses For The Third Semester Students Of The Culinary Arts Vocational Education Program..... | 102 |
| Student Performance Assessment Strategies By Involving Peers Students..... | 103 |
| Developing The Results Of Learning <i>Megibung</i> For Vocational Education And Culinary Arts Students Of Ganesha Education University..... | 104 |
| Educational Big Data Infrastructure: Opportunities, Design And Challenges..... | 106 |
| A Prototype Of Iot-Based Smart System To Support Motorcyclists Safety..... | 107 |
| Study Of The Implementation Of Online Learning Models In Vocational Schools..... | 108 |
| The Development Of Interactive Learning Media Autoplay Media Studio Eight In Digital Simulation Lessons At Smk Ganesha Nusantara Singaraja | 110 |
| Design Of User Satisfaction Evaluation Instrument Of Informatics Engineering Education Graduates, Faculty Of Engineering And Vocational, Universitas Pendidikan Ganesha | 111 |
| Indonesian Sentiment Summarization For Lecturer Learning Evaluation By Using Textrank Algorithm..... | 112 |
| Employability Skills Of Vocational Education Graduates Students Needed By 4th Industrial Revolution Workplace | 113 |
| Identifying Students' Learning Difficulties In Human And Computer Interaction Course Through The Implementation Of Project Based Learning Model.... | 114 |
| Designing The Balinese Script-To-Speech Synthesis System Using Noto Serif Balinese Font..... | 116 |

https://conference.undiksha.ac.id/iconvet/ | 30 |

ICONVET The 3rd International Conference on Vocational Education and Technology (IconVET) Universitas Pendidikan Ganesha - Bali | 7th November, 2020

| | |
|--|-----|
| A Model For Post Transliteration Suggestion For Balinese Palm Leaf Manuscript With Text Generation And Lstm Model..... | 118 |
| An Experiment Of Packing Ayam Betutu As Balinese Special Souvenir Using Vacuum Method | 119 |
| Development Of Bit Fruit Extract (Beetroot) As A Natural Color For Tempe Noodle Products | 120 |
| Monitoring Of The Feasibility Of Rice Field Using Iot Technology Based On The Forward Chaining Method | 121 |
| Evaluation Of Contrast Enhancement Methods On Finger Vein Nir Images..... | 123 |
| Development Of Housekeeping Learning Module Based On E-Learning | 124 |
| Design Of An Interoperable Social Assistance Health Insurance Validation System..... | 125 |
| Analysis Of Online Learning Media Selection For Student Learning Independence During The Covid-19 Pandemic..... | 126 |
| Implementation Of The Cipp Model In The Study Of The Effectiveness Evaluation Of The Research Board Implementation In The High School..... | 127 |
| The Effectiveness Of Automatic Network Administration (Ana) In Network Automation Simulation At Ganesha University Of Education..... | 128 |
| Increasing Student Achievement Motivation During Online Learning Activities | 129 |
| Architectures, Frameworks, And Applications In Iot-Based Smart Environment : A Review | 131 |
| Web-Based Buleleng Regency Agriculture Product Information System Development | 132 |
| Iot-Based Portable Modules For Energy Consumption Monitoring In Smart Home System..... | 134 |
| Development Of Search Engine Service For Academic Official Documents | 135 |
| Processing Mocal Into Pie Susu With The Addition Of Super Food 'Spirulina'. 136 | |
| Business Process Improvement Design Of Complaints On Technical Information System Problems Using The Business Process Improvement Method At Upt. Tik Undiksha..... | 137 |
| Comparison Of The Bm25 And Rabin Karp Algorithm For Plagiarism Detection | 138 |
| Consumption And Production Of Short Film: Toward The Conceptualization Of Multimodal Language Learning For Developing 6cs Skills In Digital Age | 139 |

https://conference.undiksha.ac.id/iconvet/ | 31 |

Search X

rini sefriani

Pages: 2

Page:10
..- rini sefriani and blend..

Page:40
... indra wijaya , rini sefriani , menrisal ..



The 3rd International Conference
on Vocational Education and Technology (IConVET)
Universitas Pendidikan Ganesha - Bali | 7th November, 2020

Performance Analysis Of Support Vector Machines With Polynomial Kernel For
Sentiment Polarity Identification: A Case Study In Lecturer Performance
Questionnaire 140



The 3rd International Conference
on Vocational Education and Technology (IConVET)
Universitas Pendidikan Ganesha - Bali | 7th November, 2020

Keynote 1: Prof. Dr. Thomas Kohler

**The acceleration of digital technologies and its meaning for
theorizing TVET talent development at the interface
between education and industry**



From an educational perspective developing talents for industry 4.0 cannot be understood without a media didactic framing. As there are only single pieces of a theory of digital learning available so far, the author suggests discussing the acceleration of digital technologies and its meaning for theorizing TVET talent development at the interface between education and industry.

Digitization is accompanied by the transformation of analogue media formats and communications into (permanent) digital mediatisation. This leads in particular to changing roles and representation of human actors in knowledge development (research) as well as knowledge distribution (education) towards data-based representations of all (!) actors. Since this has not yet been modelled theoretically, it can be assumed that such a modelling in form of a media-didactic theory can provide a renewed understanding of how talent development may be designed - especially for Industry 4.0.

Any media didactic framework must derive design approaches for meeting the complexity in digitized worlds. Indeed it is discussed design approaches in theory versus implementation may take into account (educational) roles in order to support the educational process effectively. Especially data-based versus object-based versus personal representation does not only allow but necessarily lead to multiple representations. However, those representations may even be possibly without implementing classical educational roles carried out by human actors.

What might be a basic conclusion? The above mention actors (experts, educationalists, learners and virtual supports) meet each other (possibly exclusively)

https://conference.undiksha.ac.id/iconvet/ | 32 |

https://conference.undiksha.ac.id/iconvet/ | 33 |

Search

rini sefriani

Pages: 2

Page:10

..- rini sefriani and blend..

Page:40

.. indra wijaya , rini sefriani , menrisal ..

CONFVET
International Conference on Vocational Education and Technology
Universitas Pendidikan Ganesha - Bali | 7th November, 2020

The 3rd International Conference on Vocational Education and Technology (IConVET) Universitas Pendidikan Ganesha - Bali | 7th November, 2020

via their data-based representations. For an effective implementation of development processes, the roles must be recognized and mapped in a suitable way. It remains an open question whether such a theorization has to focus even more on the perspective of knowledge genesis [=research], which clearly goes beyond the perspective of knowledge transfer [=education].

Based on the above-mentioned theoretical considerations, the following didactic basic questions are to be concluded by the theory-based derivation of specific education design approaches:

- (1) For didactic media design a theoretical approach from the field of connectivist theory would have to be added to any knowledge processing theory in order to model design variants of digitally supported modes of co-construction in knowledge generation and processing (cf. Köhler 2005)
- (2) For understanding differentiated roles in educational practice versus support a theoretical approach toward the mode of action and the expectations of impact for such roles in virtual educational communities should be applied (cf. Köhler et al., not published)

There is a stronger need for socio-technical guidance than ever before as the development and deployment of complex, networked, digital systems poses ethical challenges. These challenges differ in terms of both their scope and the level (individual, organizational and societal) at which they can occur and must therefore be reflected and addressed in each individual case. Since the educational guidelines/models/theories currently already in use have a high degree of abstraction and therefore often have little power of orientation in practice due to a lack of transfer to the individual case, instrumental support needs to be co-constructed which provides assistance in the ethical formation of judgement and thus orientation. Furthermore, the construction of the knowledge intense production systems of industry 4.0 is complicated by the fact that those bring together different perspectives of complex, socio-technical arrangements, which are not well aligned.

<https://conference.undiksha.ac.id/iconvet/> | 34 |

CONFVET
International Conference on Vocational Education and Technology
Universitas Pendidikan Ganesha - Bali | 7th November, 2020

The 3rd International Conference on Vocational Education and Technology (IConVET) Universitas Pendidikan Ganesha - Bali | 7th November, 2020

Keynote 2: Prof. Dr. Drs. Putu Sudira, MP

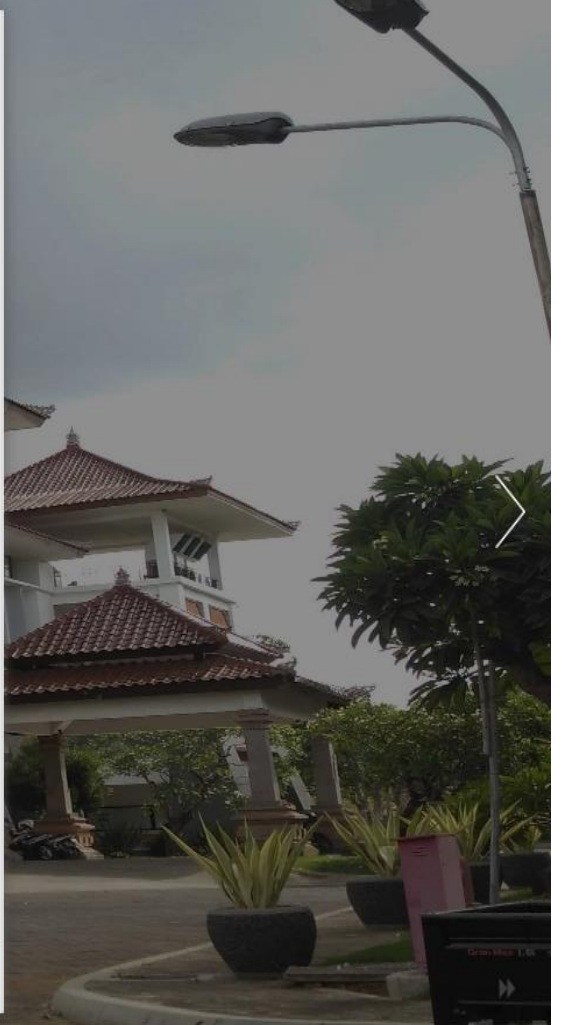
TVET's New Paradigm For Talents Development In The Era Of Industry 4.0



The Industrial Revolution 4.0 (IR 4.0) requires new intelligence in develop the talents. Gardner typology of multiple intelligences (spatial, linguistic, intra-personal, interpersonal, logical-mathematical, musical, body-kinesthetic, and naturalist) used a biological perspective. Gardner multiple intelligences is useful to understand individual's cognitive competence in terms of a set of basic abilities or "intelligences" (Cheng, 2005). When we want to develop a new generation of leaders or professionalis workers to lead the community in Industries 4.0 this perspective may be too "basic" and limited and does not have a strong relevance to TVET in such a complex context (Cheng, 2005). The biological typology of multiple intelligence may be useful to design curriculum and pedagogy for early children education or lower primary education to develop their basic abilities or talents, but it is not so sophisticated enough for TVET (Berman, 1995; Guild & ChockEng, 1998; Guloff, 1996; Mettetal & Jordan, 1997; Teele, 1995; Sudira, 2020). Human intelligence for IR 4.0 can be contextualized and categorized into the nine Contextualized Multiple Intelligences (*Wiweka Sanga*: CMI-WS), including (1) learning intelligence, (2) emotional-spiritual intelligence, (3) social-ecological intelligence, (4) body-kinesthetic intelligence, (5) arts & cultural intelligence, (6) intellectual intelligence, (7) technological intelligence, (8) political intelligence, and (9) economic intelligence.

CMI-WS develop a new generation of leaders and professionalis workers for IR 4.0 in the aspect of emotional-spiritual, social-ecology, body-kinesthetic, arts & culture, intellectual, technology, politic, economy, and learning. CMI-WS equip citizens with a broad mindset or multiple intelligences to deal with the diverse challenges in the new era IR 4.0. CMI-WS was facilitating intelligence transfer, talent & creativity development. CMI-WS can be used for talent development to educate leaders or

<https://conference.undiksha.ac.id/iconvet/> | 35 |



Search

rini sefriani

Pages: 2

Page:10

..- rini sefriani and blend..

Page:40

.. indra wijaya , rini sefriani , menrisal ..



The 3rd International Conference
on Vocational Education and Technology (iConVET)
Universitas Pendidikan Ganesha - Bali | 7th November, 2020




The 3rd International Conference
on Vocational Education and Technology (iConVET)
Universitas Pendidikan Ganesha - Bali | 7th November, 2020

professionalis workers who are humanist-spiritual, social and environmental, healthy, fit, passionate, smart workers, have the art of leadership, are innovative, skilled in developing and applying technology, builders of networks of cooperation and communication, and resilient lifelong learning.

TVET should put emphasis on developing students' ability to persistently learn how to learn systematically, creatively, and critically via web. Learning Intelligence as core of eight intelligence should be maximize the opportunities for the CMI-WS development via individualization, localization, nationalization, and globalization (Quarter-lization). The Industrial Revolution 4.0 requires the new intelligence talents of CMI-WS. There are nine CMI-WS talents, namely: learning talents, emotional-spiritual talents, social-environmental talents, body-kinesthetic talents, intellectual talents, economic talents, technological talents, political talents, and arts-cultural talents. The nine talents of CMI-WS are built in individual, local, national, global dimensions. TVET in the era of the Industrial Revolution 4.0 requires a new paradigm of curriculum and learning. The new TVET curriculum characterized by CMI-WS focused curriculum, quarterized curriculum structure, world-class and globalized curriculum, localized curriculum, individualized curriculum, facilitating students' lifelong self-learning, multiple sources of learning and teaching, globally and locally networked learning and teaching WS theory. The new TVET learning characterized by self-learning, self-actualizing process, focus on how to learn, self-reliant, self-directing, self-determine, peeragogy-cybergogy, self-rewarding, multiple sources of learning, networked learning, lifelong and every where, unlimited opportunities, world-class learning, local and international outlook.

Keynote 3: Ferry Jie, Ph.D

Developing Competencies for Industry 4.0 and the New Normal



According to World Economic Forum's Future of Jobs Report, due to the adoption of technology increases, there are around 50% of all workers will require reskilling by 2025. There are two top the list of skills employers will grow by 2025: critical thinking and problem solving.

Critical thinking and problem-solving top the list of skills employers believe will grow in prominence in the next five years. Newly emerging this year are skills in self-management such as active learning, resilience, stress tolerance and flexibility.

There are a lot of definitions about competency, such as:

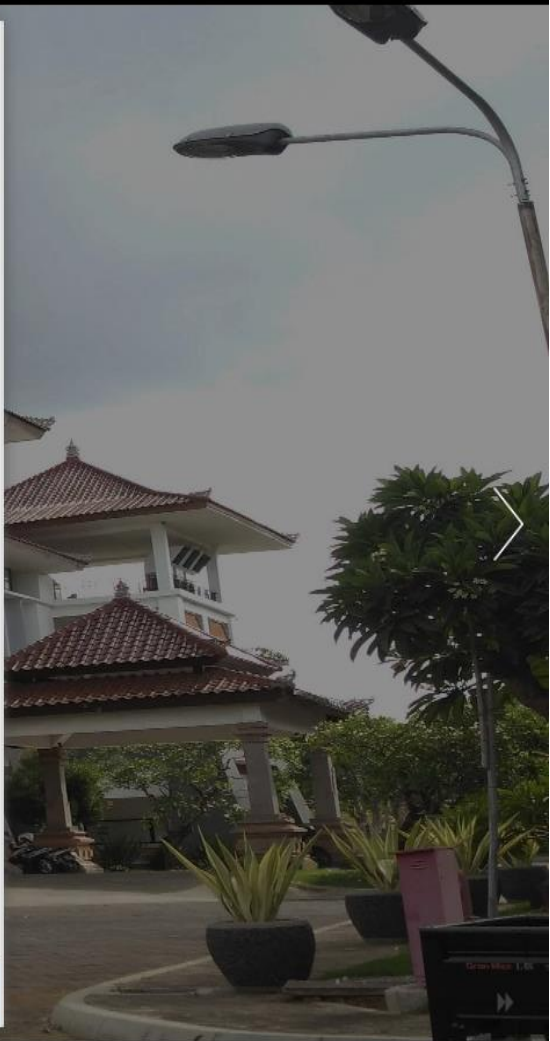
- Describes what people need to be able to do to perform their jobs well (Armstrong, 1998)
- Demonstrated ability including knowledge, skills, and attitudes to perform a task successfully according to the standards (Porasmaa and Kotonen, 2010)
- A combination of resources and capabilities within an organisation (Hitt et.al, 2005)
- Refer to skills or knowledge that leads to superior performance (Richey et.al, 2007)

In the previous research (Sangka, B., Rahman, S. Jie, F., (2019), we proposed the competency framework for operations managers in logistics providers:

- Management dimension, which has 5 different competencies (leadership, people management, teamwork and communication, change management and negotiation)

<https://conference.undiksha.ac.id/iconvet/> | 36 |

<https://conference.undiksha.ac.id/iconvet/> | 37 |



Search

rini sefriani


Pages: 2

Page:10

.. rini sefriani and blend..

Page:40

.. indra wijaya , rini sefriani , menrisal ..



The 3rd International Conference
on Vocational Education and Technology (IConVET)
Universitas Pendidikan Ganesha - Bali | 7th November, 2020

TESTING OF THE VALIDITY OF BLENDED LEARNING BASED ON ANDROID SMARTPHONES IN THE COMPUTER DEVICE MAINTENANCE COURSE

Indra Wijaya^{1*}, Rini Sefriani², Menrisal³

Universitas Putra Indonesia YPTK Padang

Abstract. This study aims to determine the validity level of blended learning media to support the learning process through blended learning. This type of research is Research and Development (R&D) using the 4D development model, namely the steps: (1) define, (2) design, (3) develop, and (4) assess. Based on the research that has been done, the average value of the test assessment for blended learning media to support the learning process through Blended Learning is 94.28%, so that the level of validity used is very valid can be interpreted. In conclusion, based on the assessment and input from material experts, Android application software experts and multimedia experts, namely the blended learning media is suitable for use in learning the maintenance of computer devices in the Informatics Engineering Education Department.

https://conference.undiksha.ac.id/iconvet/ | 40 |



The 3rd International Conference
on Vocational Education and Technology (IConVET)
Universitas Pendidikan Ganesha - Bali | 7th November, 2020

COMPARATIVE ANALYSIS OF NAÏVE BAYES AND KNN ON PREDICTION OF FOREX PRICE MOVEMENTS FOR GBP/USD CURRENCY AT TIME FRAME DAILY

K S Y Pande^{1,a}, D G H Divayana^{1,b}, G Indrawan^{1,c}

¹ Computer Science, Magister Program, Ganesha University of Education,
Bali, Indonesia - 81116

E-mail: ^asudana.yasa.pande@gmail.com,
^bhendra.divayana@undiksha.ac.id, ^cgindrawan@undiksha.ac.id,

Abstract. This study aims to analyze the comparison of the Naïve Bayes and kNN on the Prediction of Forex Price Movements for GBP / USD on Time Frame Daily. The data used is taken from the metatrader-4 application which is often used by forex traders when making transactions. There are 2,145 data rows consisting of the date, hour, open price, high, low, close, and transaction volume columns. From this data, a column for the target class is created with the name 'result'. The result column is filled with increasing or decreasing values. The value of increase or decrease is obtained from the comparison of the previous closing price with the closing price of the next day. This study analyzes the results of the comparison of the data mining classification algorithm between the Naive Bayes algorithm and kNN. The 2,145 data were divided into 2 parts, namely 80% for training data and 20% for testing data. The analysis is done by comparing the precision, recall, and accuracy test results for each algorithm. The conclusion of this study is that the kNN algorithm is better than the Naive Bayes algorithm in case prediction of forex price movements for GBP/USD currency at time frame daily.

https://conference.undiksha.ac.id/iconvet/ | 41 |

PAPER • OPEN ACCESS

Validity testing of blended learning based on android smartphones in computer device maintenance course

To cite this article: I Wijaya *et al* 2021 *J. Phys.: Conf. Ser.* **1810** 012041

View the [article online](#) for updates and enhancements.

You may also like

- [Analysis of Blended Learning Implementation on Waste Treatment Subjects in Agricultural Vocational School](#)
Y Sugiarti, S Nurmayani and S Mujdalipah
- [Blended Learning as Instructional Media: Literature Review](#)
Nora Listiana and Adam Amril Jaharadak
- [Increasing mathematical proficiency and students character: lesson from the implementation of blended learning in junior high school in Bali](#)
I G P Sudiarta and I W Widana



The Electrochemical Society
Advancing solid state & electrochemical science & technology

243rd ECS Meeting with SOFC-XVIII

More than 50 symposia are available!

Present your research and accelerate science

Boston, MA • May 28 – June 2, 2023

[Learn more and submit!](#)

Validity testing of blended learning based on android smartphones in computer device maintenance course

I Wijaya^{1,a}, R Sefriani^{1,b}, Menrisal^{1,c}

¹ Universitas Putra Indonesia YPTK Padang

E-mail: ^aindra_wijaya@upiyptk.ac.id, ^brinisefriani@upiyptk.ac.id,
^cmenrisal@upiyptk.ac.id

Abstract. This study aimed to determine the validity level of blended learning media to support the blended learning process. This was a Research and Development (R&D) using the 4D development model. The model involved four steps, namely: 1) Define, 2) Design, 3) Development, and 4) Assessment. Based on the research that has been done, the average value of the test assessment for Android media to support the learning process through Blended Learning is 94.28% which level of validity can be interpreted as very valid. Based on the assessment and input from material experts, Android application software experts and multimedia experts, it can be concluded that the blended learning media is suitable for learning the maintenance of computer devices in the Informatics Engineering Education Department.

1. Introduction

The non-optimal learning media for Blended Learning based on Android Smartphones in the Computer Device Maintenance Course in the Informatics Engineering Education Department has an impact on the achievement of student learning outcomes. This causes the learning process to be ineffective for students. Media plays an important role in the world of education. Hamalik, as quoted by [1], states that the use of instructional media in the teaching and learning process can generate new desires and interests, generate motivation and stimulation of learning activities, and even bring psychological influences towards students. The same thing is also conveyed by [2], who states that communication and information technology has a very important impact on learning, especially in increasing learning outcomes and student attractiveness and satisfaction in learning.

Variations in learning are not optimal due to the absence of Android Smartphone-based Blended Learning media and the rare use of Android-based learning media by utilizing smartphones owned by students in delivering subject matter. Educators are at the forefront of the learning process, because they help students to get good learning resources. Moreover, in today's development, educators must be creative and innovative in choosing good learning sources, so as to create conducive teaching and learning activities. The creation and innovation in teaching are expected to make learning activities to be more active, creative, innovative, and fun so that there are multi-interactions between educators and students, students and educators, students with learning media and learning resources, and students with other students so that they get good learning results.

Android-based learning media with the use of smartphones are expected to be additional learning sources that can help foster student motivation in learning. CepiRiyana (Guidelines for Interactive Multimedia Development: page 3) writes "In many cases, manual materials or modules are not able to solve the learning problems faced by training participants to easily and quickly achieve the competencies



Content from this work may be used under the terms of the [Creative Commons Attribution 3.0 licence](https://creativecommons.org/licenses/by/3.0/). Any further distribution of this work must maintain attribution to the author(s) and the title of the work, journal citation and DOI.

to be achieved, for that it is necessary to develop alternatives. The available alternatives for such condition are among others by using the Video program and the Interactive Multimedia Module. Research by Rian Vebrianto and Kamisah Osman also states that the teaching and learning process using a variety of constructive learning media has increased the achievement of SPS and Science among students (2011).

This Android-based learning media uses the blended learning method in the learning process. According to Semler (2005), "Blended learning combines the best aspects of online learning, structured face-to-face activities, and real-world practice. Online learning systems, classroom training, and on-the-job experience have major drawbacks by themselves. The blended learning approach uses the strengths of each to counter the other weaknesses. Blended learning is an ease of learning that combines various ways of delivery, teaching models, and learning styles, introducing various media choices for dialogue between the facilitator and the person being taught. Blended learning is also a combination of face-to-face teaching and online teaching, but more than that as an element of social interaction".

Android-based learning media with the use of this smartphone includes learning animations, video tutorials, practice questions and tests, which are related to the Computer Device Maintenance course. This Computer Device Maintenance course is a compulsory subject in the Informatics Engineering Education study program. This course contains material on Hardware Maintenance, Software Maintenance, Computer Installation and Assembly, Personal Computer (PC) disassembly materials which often result in component damage caused by frequent dismantling. For this reason, Android-based learning media are used with the use of an Android smartphone as another reference for this Computer Device Maintenance course. With this Android smartphone students will be guided through interesting animations that can be tried out as a substitute for direct practicum.

The purpose of this study is expected to produce an interactive blended learning module which provides 1) a simulation program to replace the direct practicum which can reduce the risk of equipment damage and reduce costs arising from the damage. 2) Solutions as creative and innovative learning media to improve student learning outcomes. 3) Teaching materials for the Computer Device Maintenance course.

2. Theoretical

2.1 *Interactive Learning Media*

According to Flemming (1987: 234) in AzharArsyad (2011: 3)[3], "... the media is often referred to as a mediator, namely a cause or tool that intervenes in two parties and reconciles them. The term media mediator indicates its function or role, namely to regulate the effective relationship between the two main parties in the learning process". "Interactive concepts in learning are most closely related to computer-based. Interactive means having the influence of each other. Computer learning will give students the opportunity to use learning materials that can interact better"[4].

Indra Wijaya [5] suggests that interactive media has the following characteristics :

- 1) Combining several media elements such as text, images, audio, and video.
- 2) Ability to accommodate user responses.
- 3) Being independent, in the sense of providing ease and completeness of the content in such a way that users can use it without the guidance of others.
- 4) Fulfill the function to strengthen user response as soon as possible and as often as possible".

"Based on the characteristics of interactive media, it can be seen that interactive learning media must fulfill its function as a learning medium that is able to accommodate user responses through interaction and generate actions and reactions between the media and its users, so as to strengthen the user response as quickly and as much as user wants when giving action"[6].

According to Flemming (1987: 234) in AzharArsyad (2011: 3)[3], "... the media is often referred to as a mediator, namely a cause or tool that intervenes in two parties and reconciles them. The term media mediator indicates its function or role, namely to regulate the effective relationship between the two main parties in the learning process". "Interactive concepts in learning are most closely related to

computer-based. Interactive means having the influence of each other. Computer learning will give students the opportunity to use learning materials that can interact better”[4].

2.2 Blended Learning

According to Semler (2005) [3], “Blended learning combines the best aspects of online learning, structured face-to-face activities, and real world practice. Online learning systems, classroom training, and on-the-job experience have major drawbacks by themselves. The blended learning approach uses the strengths of each to counter the others’ weaknesses.”

Semler (2005) also explains that “Blended learning is learning that is supported by an effective combination of delivery methods, different teaching methods and learning styles and is found in open communication between all parts involved in the training ”. As for the advantages of using blended learning as a combination of direct (face-to-face) teaching and online teaching, it is more than that as an element of social interaction, namely:

- a. There is an interaction between teachers and students.
- b. Teaching can also be online or face to face
- c. Blended Learning = combining instructional modalities (or delivery media),
- d. Blended Learning = combining instructional methods

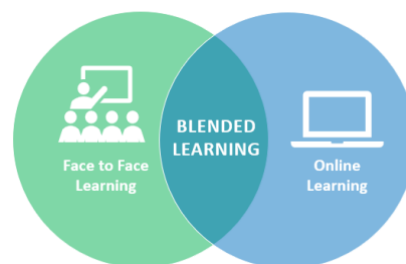


Figure 1. Blended Learning Method (sevima.com 2019).

The benefit of using e-learning and blended learning in education today is that e-learning provides flexibility in choosing the time and place to access lessons. Students do not need to travel to where the lessons are delivered, e-learning can be done from anywhere, whether they have access to the internet or not.

Blended learning provides the best opportunity to learn from the transitional classroom to e-learning. Blended learning involves classroom (or face-to-face) and online learning. This method is very effective at adding efficiency to classroom instruction and allowing for increased discussion or review of information outside the classroom.

2.3 Definition of Android

SugengPurwantoro, HeniRahmawati and AchmadTharmizi (2013: 177) [7] said "Android is a software that is used on a mobile device (running device) which includes the operating system, middleware, and core applications". Android, according to Satyaputra and Aritonang (2014: 2)[8], is an operating system for smartphones and tablets. The operating system can be illustrated as a bridge between a device and its use, so that users can interact with their device and run applications available on the device. ArifAkbarul Huda (2013: 1-5) [9] argues that Android is a Linux-based operating system specifically for mobile devices such as smartphones or tablets.

This Android operating system is open source, so a lot of programmers have flocked to create applications or modify this system. Programmers have a very big opportunity to be involved in developing Android applications because of the open source reasons. Most of the applications on the Play Store are free, while there are also some paid applications.

3. Method

The design of Blended learning based on Smartphone android in the Computer Device Maintenance Course was a research and development (R&D). According Sugiyono[10], "Development research method is a research method used to produce a particular product, and test the effectiveness of the product. The resulting product is not always in a form like books, stationery, and other learning tools. But it can also be in the form of software". The learning media of of Blended Learning Based on Android Smartphones in the Computer Device Maintenance Course is developed using the following four-D models developed by Thagarajan, (1974) in Trianto (2007)[11]:

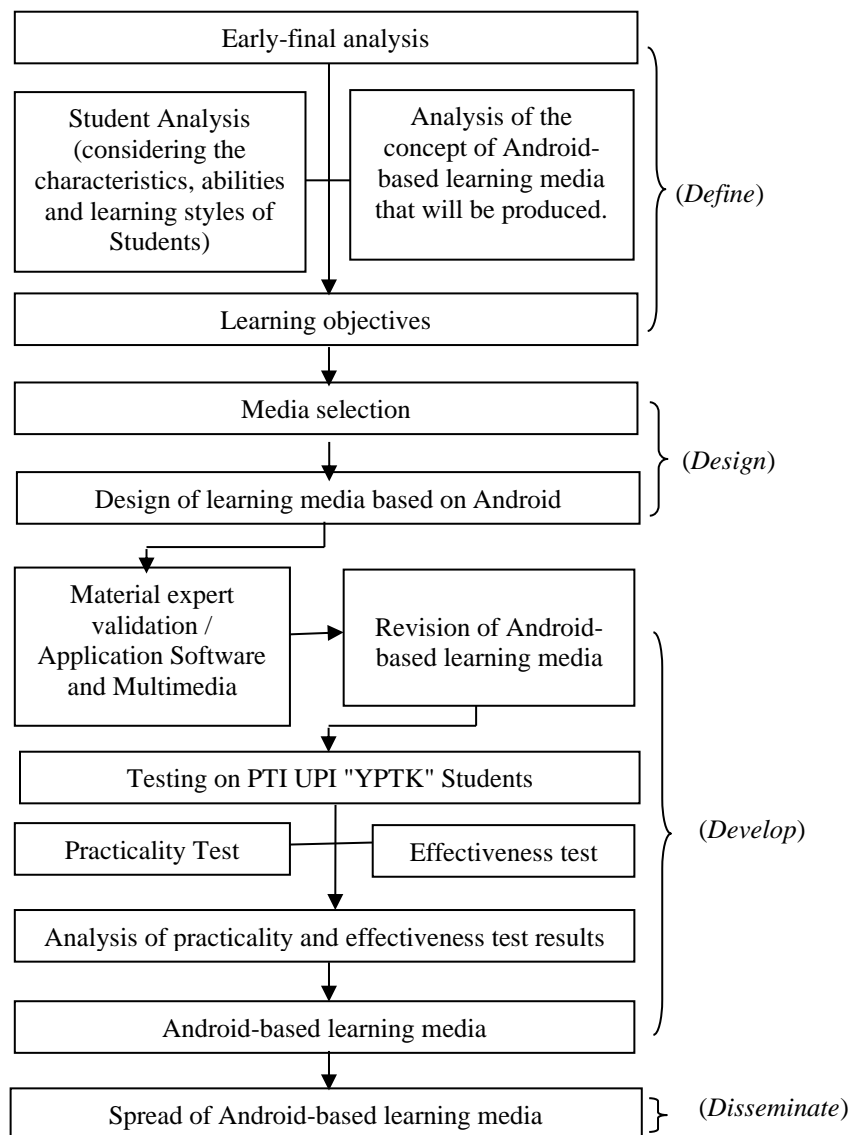


Figure 2. 4D Models.

4. Results and Discussion

4.1 Design Results

The results of the design and appearance of the product can be explained in the sections below:

4.1.1 *Home Screen Page and Main Menu Page.* This home screen page is the initial loading of the product display overview and the main menu page is the main page on Android media. The main menu consisted of instructions, competencies, material, training. These instructions are display usage of Android Media. The picture of the Home screen and main menu page for Use are as follows:



Figure 3. Home Screen.



Figure 4. Main Menu

4.1.2 *Basic Competency and Learning Material Pages.* The page of Basic Competency and Learning Material Pages contains Competency Standards, Basic Competencies and learning objectives from Basic Programming Subjects. Material 1 is about determining user requirements. In the first material, there are several components, namely, a) Explaining the meaning and types of data types, b) Explaining the meaning of identifier, c) Explaining about the kinds of basic operations. The picture of the Competency page and the Learning Material Page can be seen below :



Figure 5. Basic Competence.

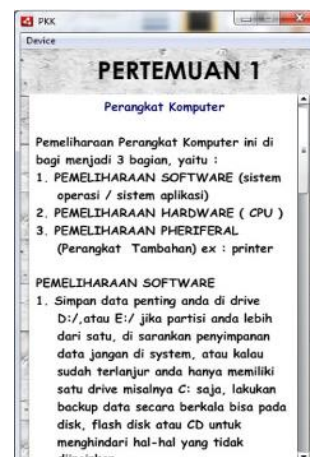


Figure 6. Learning Material Page.

4.2 *Analysis of Validity.*

Android-based media validation from the validator was carried out to assess the design, material, and effectiveness of the media. The validator provided ratings, comments, and suggestions on the android media design by filling the questionnaire provided. This android media validation was assessed by 3 assessors. Data from the validity test results can be seen in Table 1 below:

Table 1. The results of the data validity questionnaire.

| NO | Name | Content eligibility | | | | | Language Component | | | | Serving Components | | | | | Graphic Components | | | | X | X' | | |
|-----------------------------|------------------------------|---------------------|-------|-------|-------|-------|--------------------|-------|-------|-------|--------------------|-------|-------|-------|-------|--------------------|-------|-------|-------|-------|-------|-----|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | | | 19 | 20 |
| 1 | Harkamsyah Andriyanof, M.Kom | 5 | 4 | 5 | 5 | 4 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 4 | 5 | 4 | 5 | 5 | 4 | 5 | 5 | 94 | 8836 |
| 2 | Yuliawati Yunus, M.Pd.T | 4 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 96 | 9216 |
| 3 | Widia Marta Sds, M.Sn | 5 | 5 | 4 | 4 | 5 | 4 | 5 | 5 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 93 | 8649 |
| Total | | | | | | | | | | | | | | | | | | | | | | 283 | 26701 |
| Validity Value | | 93.33 | 93.33 | 86.67 | 93.33 | 93.33 | 93.33 | 100.0 | 100.0 | 93.33 | 86.67 | 93.33 | 93.33 | 93.33 | 93.33 | 93.33 | 100.0 | 100.0 | 93.33 | 100.0 | 93.33 | | |
| Σ Average Value of Validity | | 1886.67 | | | | | | | | | | | | | | | | | | | | | |
| Average Value of Validity | | 94.33 | | | | | | | | | | | | | | | | | | | | | |

| No | Interval Class | f0 | %f0 |
|--------------|----------------|----------|------------|
| 1 | 93 | 1 | 33.33 |
| 2 | 94 | 1 | 33.33 |
| 3 | 96 | 1 | 33.33 |
| Total | | 3 | 100 |

The following is an explanation of the results of the validity test to find class intervals and class lengths can be seen in the graph below:

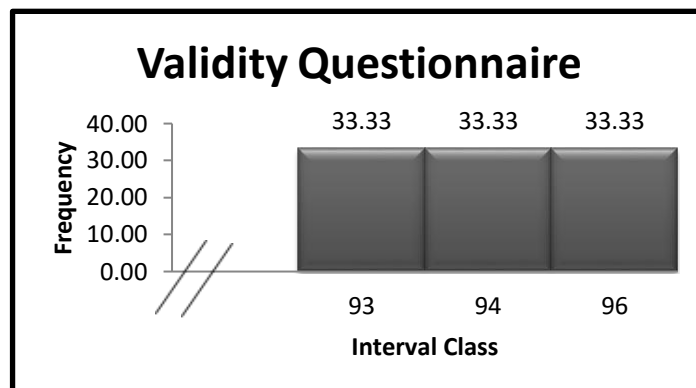


Figure 7. Graph of Questionnaire Validity

The average value of the 3 validators were 94.33%, and looking at the interpretation criteria table, it can be concluded that the validation of Blended Learning Media Based on Android Smartphone is very valid. The validity through the evaluation of the validator test for learning media based on android was 94.28%, so the level of validity can be interpreted as very valid to be used in the Computer Device Maintenance course for the UPI YPTK Padang Informatics Engineering Study Program. With the use of Android-based learning media, it is hoped that it can improve learning outcomes in blended learning. It refers to research conducted by Sefriani, R., & Sepriana, R. (2020) which resulted in the finding that e-learning helps improve learning outcomes of students in the Technology and Vocational Education curriculum. Research from Sefriani, R., Wijaya, I., Menrisal, M., & Dewi, M. (2020) [12] on Interactive learning module for Creative Learning and Entrepreneurship obtained the level of validity 91.92%, so that the level of validity used is very valid. Thus, the research conducted by IndraWijaya [13] had a better validity level than the research conducted by Rini Sefriani. Thus Android-based learning media in blended learning is very valid for use in Android-based learning in blended learning in computer maintenance courses.

5. Conclusion

The design and production of Android-based learning media follows the procedure and development (Research and Development) . Based on the description, data analysis, and development of Android-based learning media, it can be concluded that the media of Android-based blended learning is very valid to be used in the Computer Device Maintenance course to UPI YPTK Padang Informatics Engineering Education study program with the 94.28% validity value through the validator test assessment of Android-based learning media.

References

- [1] Arsyad A 2007 *Media Pembelajaran* (Jakarta: PT. Raja Grafindo Persada)
- [2] Olmedo-Torre N, Vidal O F, Castillo J L and Rodríguez F B 2017 The Influence of ICT on Learning in Graphic Engineering 7th International Conference on Intercultural Education "Education, Health and ICT for a Transcultural World" Elsevier available in www.Sciencedirect.com. accessed on March 25, 2017
- [3] Semler 2005 *Blended Learning* available in http://en.wikipedia.org/wiki/blended_learning, accessed on August 28, 2019
- [4] Wijaya I and Sefriani R 2016 Interactive Multimedia CD Design Chemistry Lesson In Concept Training Material and amendment For Class X Vocational High School (SMK) *Journal Of Dynamics (International Journal of Dynamics in Engineering and Sciences)* **1**
- [5] Wijaya I and Tanjung F 2017 Perancangan dan Pembuatan Media Pembelajaran CD Interaktif Berbasis Macromedia Director MX pada Mata Pelajaran Pemrograman Web Dinamis *PENDIDIKAN TEKNOLOGI INFORMASI UPI-YPTK* **4**
- [6] Indra W and Rini S 2017 Interactive Modules Based Adobe Director On Computer Assembling Subjects For Vocational Secondary School Students *VOLT Jurnal Ilmiah Pendidikan Teknik Elektro* **2** 73-80
- [7] Sugiyono 2013 *Metode Penelitian Kuantitatif, Kualitatif dan R & D* (Bandung: Alfa Beta)
- [8] Sugeng P, Heni R and Achmad T 2013 Mobile Searching Objek Wisata Pekanbaru Menggunakan Location Base Service (LBS) Berbasis Android *Jurnal Politeknik Caltex Riau* **1** 177
- [9] Satyaputra A and Aritonang E M 2014 *Beginning Android Programming With ADT Bundle* (Jakarta: Elex Media Komputindo)
- [10] Arif A H 2013 *24 Jam Pintar Pemrograman Android* (Yogyakarta: ANDI)
- [11] Trianto 2007 *Model Pembelajaran Terpadu dalam Teori dan Praktek* (Jakarta: Prestasi Pustaka Publisher)
- [12] Sefriani R, Wijaya I, Menrisal M and Dewi M 2020 Testing Of The Validity of Interactive Learning Module on Creative and Entrepreneurs Learning Products *Journal of Educational Science and Technology (EST)* **6** 73-78
- [13] Wijaya I and Firmansyah D 2018 Perancangan Dan Pembuatan Media Pembelajaran Berbasis Android Mata Pelajaran Teknologi Perkantoran (Studi Kasus Kelas X Otps Mk Negeri 3 Padang) *Jurnal Pti (Pendidikan Dan Teknologi Informasi) Fakultas Keguruan Ilmu Pendidikan Universitas Putra Indonesia" Yptk" Padang* **5** 9-20