

ABSTRACTS



UNIVERSITY-TECHVOC-INDUSTRY
ALIGNMENT AND PARTNERSHIP
FOR TEACHING, RESEARCH
AND DEVELOPMENT



KNOWLEDGE SHARING AND
PRODUCTION IN THE FOURTH
INDUSTRIAL REVOLUTION



TECHNOLOGY INTEGRATION AND
INSTRUCTIONAL DESIGN FOR GLOBAL
AND CULTURALLY-DIVERSE LEARNERS



LIBERAL ARTS, CREATIVITY, AND
FLEXIBILITY IN HIGHER EDUCATION



QUALITY ASSURANCE AND
RELEVANCE IN HIGHER EDUCATION



UNIVERSITY-TECHVOC-INDUSTRY ALIGNMENT AND PARTNERSHIP FOR TEACHING, RESEARCH AND DEVELOPMENT

A Thematic Analysis of Proctoring Practices in an Online Examination

Abisado, M.; Serrano, E., Rodriguez, R.

Student engagement is widely thought to be a key predictor of student achievement. Ensuring that student is engaged in learning process should not end during content delivery but also during assessment. The Philippine's implementation of the Outcomes Based Education sought to realize that all course outcomes and skills are delivered when the students complete each course. Ensuring that appropriate proctor action is taken to maintain student engagement provides to optimize completion of the learning process. This research investigates the concerns of online examination proctors in terms of what are observed of the students as they

take the examination and actions taken. To do so, the researchers used thematic analysis. A total of twenty-five university professors from CHED Center of Excellence and Center of Development Schools participated in the study. Results show three themes characterize the examinees' observed behavior and two themes characterizing proctor actions. These are bodily movements, gestures, and emotions; and encouragement and assistance respectively. Results of the study are deemed significance to establish a framework that will ensure student engagement in the learning cycle, and thereby realizing the benefits of OBE.

Waste Analysis and Characterization Study of a Hill Station: A Case Study of Baguio City, *Philippines*

Lunag, M. N., Duran, J. Z., Buyucan, E. D.

Waste analysis and characterization study is an essential factor towards the projection of a *feasible* and environmentally acceptable solution. Baguio city is the favorite vacation destination during summer; a hill station, initially designed for 25,000 people, but currently, its population rises to 345,400 that triple during peak seasons. As such, this study was conducted to determine *the* waste generation and assess the current diversion method of its MSW to prevent from further *deteriorating* due to this issue. The result showed that the total waste generation is 402,776.38 kg per day, wherein the average per capita generation (PCG) for domestic sources is 0.4193 kg per day. Solid waste is composed of

biodegradables (41.67%), recyclables (33.78%), residuals (24.15%) and special wastes (0.40%), with the average moisture level of the solid waste sample at 57.462 %. The only recoverable wastes were biodegradables and recyclables which have a diversion percentage of 23.28%. In conclusion, the City of Baguio should consider having its own engineered sanitary landfill, simulated GIS-based collection system and expanded waste *recovery* facility to increase waste diversion percentage and decrease its expenditure for hauling, collecting, storing, and transporting its solid waste, in order to keep its mission of creating a *creative* city.



In Vitro Entrapment and Release Studies of Levofloxacin Using Epichlorohydrin-Crosslinked Hydrogel

Rescober, A. S.

Levofloxacin, a fourth generation fluoroquinolone is proven safe in treating bacterial conjunctivitis, keratitis, and other eye infections however like other conventional eye drops drug impermeability and patient in compliance due to frequent eye instillations are common problems which leads to microbial resistance. This study aimed to further enhance the permeability and release rate of levofloxacin through drug entrapment in epichlorohydrin-crosslinked hydrogel consisting of gelatine and sodium carboxymethylcellulose. Various parameters such as polymer ratio, amount of crosslinker, temperature, reaction time, swelling capacity and percent drug loading were considered in optimizing levofloxacin hydrogel (OLH). Hydrogel preparations with higher amount of

drug loaded were further analyzed to determine its *in vitro* drug release rate, ocular irritancy on New Zealand rabbits, and antimicrobial activity against *Pseudomonas aeruginosa* and *Staphylococcus aureus*. Optimized levofloxacin hydrogel was then subjected to three-month stability testing at $40 \pm 2^\circ\text{C}$ and $75 \pm 5\%$ in which samples were withdrawn at the end of each month for analysis. This study revealed that epichlorohydrin enhanced the polymeric network of carboxymethylcellulose and gelatine which increases the swelling and loading capacity of the hydrogel to levofloxacin. Apart from these, cross-linked hydrogel improves the permeability and release profiles of levofloxacin as an ophthalmic preparation.

Visualization Student Performance Pattern: Input to Institutional Academic Intervention Program

Niguidula, J. D.; Caballero, J. M.; Rodriguez, L. G.

The current technology advancement had led in the development of several visualization and pattern recognition in order to provide intervention program to improve student's performance. Integration of technology to student's academic rating can be applied in order to visualize patterns and determine when to conduct intervention program specifically instructional design to produce global and culturally-diverse learners. Dataset from a select university in the Philippines was used and phases in Knowledge Discovery and Data Mining was

followed to provide knowledge discovery. A visualization tool was used to show students' academic rating patterns. The pattern was narrowed down to student's year level which determined when to implement intervention program such as integration of technology to classroom instruction, buddy system, and the like. This study is beneficial to higher educational institution where future workforce of our nation are being refined and educated to be culturally diverse and globally competent.



Inquiry Based-Learning (IBL) Approach in Teaching Disciplines and Ideas in the Social Sciences (DISS) Towards an Enhanced Academic Performance of Grade 11 HUMSS Students

Berondo, M. B.

Disciplines and Ideas in the Social Sciences (DISS) is one of the specialized subjects for Grade 11 senior high school students under Humanities and Social Sciences (HUMSS) strand. For instance, one of the challenges among teachers is how to enhance the academic performance of the learners and prepare them to become more critical in issues and problems they encounter in their lives as members of the society. In order to develop the skills intended to the students, the researcher utilized an experimental pretest/posttest design to determine the effectiveness of Inquiry-Based Learning (IBL) approach in teaching Disciplines and Ideas in the Social Sciences (DISS) towards an enhanced academic performance of

Grade 11 HUMSS students of J. Abad Santos Senior High School. Sixty two Grade 11 HUMSS students were purposively selected and divided equally into two groups, the IBL group and Non-IBL group. The instruments used in the study were teacher-made pretest/posttest and Daily Lesson Log (DLL) validated by the experts. The results of the study revealed that the used of Inquiry-Based Learning approach greatly improved the academic performance of the Grade 11 HUMSS students in the Disciplines and Ideas in Social Sciences specifically on the dominant approaches such as Structural functionalism, Marxism, Symbolic Interactionism and Psychoanalysis.

Core Drug Knowledge on Antibiotics: A Nursing Approach

Panopio, A. C.

Patient safety has been an issue around a lot of healthcare institutions. According to the World Health Organization (2017), practices related to unsafe medications and related errors were the prominent causes of injury and healthcare related harm all over the world. In this study, level of knowledge of nurses on antibiotics related to the nursing process was explored. Furthermore, the relationship between the demographic profile and their level of knowledge was sought. Using descriptive correlational method and total enumeration to identify respondents in a private specialized healthcare institution, the study was properly

designed. A duly validated and pilot tested questionnaire composed of 25 questions, divided into the phases of the nursing process was used. Frequency distribution and percentage was utilized for the demographic profile while Chi-square test was used to determine relationship between the two variables. Respondents were mostly females between 26 to 28 years old, with a Bachelor's Degree, and more than 5 years of practice. Majority of them are assigned in the General ward, and occupy a staff nurse position. Their acquaintance of the antibiotic administration related to the nursing process varies with their demographic profile.



Networking Is “Knotworking” for Teaching, Research, and Development at the University of the East

Vicencio, E. M.

The University of the East is very active in developing different types of partnerships with universities and international and national organizations for teaching, research, and development, which we have likened to four different kinds of knots—some loose, some tight. Some of our partners are the Metrobank Network of Outstanding Teachers and Educators (NOTED) the Department of Education (DepEd), and UNESCO. We build

partnerships through KNOT: Know, Narrow-down, Organize, and Test. Through KNOT we have also gained Knowledge, learned new skills, opened Opportunities, and experience the Thrill of making friends, achieving good reputation, helping and receiving help, and receiving invitations to train. Through these partnerships we were able to identify and practice four principles that guide us in forging new relationships.

An Overview of the Performance of ASAIHL Region Countries and Universities in Global Ranking Systems

Fumani, M. R.

Universities and researchers constantly plan to promote their scientific authority and impact of research. Science assessment has long attracted the attention of many researchers. Accordingly, many different organizations have been founded worldwide to measure research, scientific and technological development of different countries. Measurement of scientific article publication, and ranking of universities are two prime metrics often used by scientometricians to undertake such assessment endeavors. In this paper, after a brief introduction of the Islamic World

Science Citation Center (ISC), as the third largest indexing system in the world, the scientific performance of ASAIHL countries is inspected and compared in terms of the number of universities each country has in global ranking systems, i.e. TIMES, QS, and Shanghai. Further, the paper introduces strategies and skills to be used to enhance impact of research in universities/research institutions. Finally, recommendations are made to enhance the contribution of ASAIHL region countries and universities to global scientific performance.

University for Society: Quadruple Helix Collaboration for Sustainable Development

Suaidi, M. K.; Wahab, N. A.

Universities are working in a dynamic and changing landscape of today's education. In reconfiguring universities for the future, universities need to ensure its relevance as institute of higher learning to civil, social, economic and moral issues. In response to the calls around the globe for universities to be deeply networked to the society around it, Univesiti Malaysia Sarawak (UNIMAS) had positioned itself by establishing a strategic focus in its mission statement to provide sustainability for diverse and disperse community in Sarawak. UNIMAS aspires to be an 'engaged university' where its engagement with its surrounding communities is based on a mutually beneficial exchange of knowledge and expertise. The operational definition of community in the context of UNIMAS is involving the local societies, industries

and professional bodies. UNIMAS has developed a quadruple helix collaboration to strategize its initiatives to address specific social needs identified in the community. The collaboration between the university, government, industry and community is essential to UNIMAS to ensure successes of its sustainable development solutions to resolve community needs and issues of mutual interest. In the past year, the community projects carried out by UNIMAS are evolving around seven Sustainable Development Goals (SDG) to promote good health, quality education, clean water and sanitation, renewable energy, good jobs and economic growth, innovation and infrastructure via partnerships for the goals. This paper discusses the framework, approaches, success and challenges in enculturation of this impactful partnership.



University-Industry Partnership: Perceptions of Students and Host Industries in the Cooperative Education Program of a Private Thai Higher Education Institution

Carreon, J. R.; Thongkon, W.; Soontornwipat, S.

Almost 30 years since its initial introduction in Thailand, cooperative education programs have continued to serve their purpose as a venue for providing professional experience, research and self-development through organized trainings in various areas of specialization in collaboration with public and private enterprises. With observable discrepancies between what are theoretically learned/taught in classrooms and those that will actually be practiced or applied in trainees' future workplaces, it is interesting to investigate the perceptions of both

trainees (students) and trainers (host industries) to shed light on their evaluative thoughts on cooperative education programs they have attended or hosted, respectively. To gather data, a questionnaire on perceptions of trainees and trainers were sent to 250 students and 30 host industries which have active Memorandum of Understanding (MOU) with a medium-sized Thai private university. The findings are interpreted in relation to the general goals of a university-industry partnership and whether or not these roles are still relevant in this Digital Disruption Era.

Increasing Efficiency of Research in Universities and Research Institutions of ASAIHL Region

Dehghani, M. J.

Universities and researchers constantly plan to promote their scientific authority and impact of research. Science assessment has long attracted the attention of many researchers. Accordingly, many different organizations have been founded worldwide to measure research, scientific and technological development of different countries. Measurement of scientific article publication and ranking of universities are two prime metrics often used by scientometricians to undertake such assessment endeavors. In this paper, after a brief introduction of the Islamic World Science Citation Center (ISC), as the third largest indexing system in the world, the scientific performance of ASAIHL countries is reported in terms of their ranking in global indexing systems like WOS

and Scopus – here focus is made on the quantity of papers as well as no. of top papers. Besides, ASAIHL countries are inspected and compared in terms of the number of universities each country has in global ranking systems, i.e. TIMES, QS, Shanghai and Leiden. Finally, recommendations are made to enhance the contribution of ASAIHL region countries to global scientific performance. Finally, recommendations are made to enhance the contribution of ASAIHL region countries to global scientific performance. Having participated in this conference, the participants, policy makers, researchers of universities/ research institutions, etc. will get acquainted with strategies and skills to enhance impact of research in their respective universities/ research institutions.

Academy Industry Partnership for Enlargement Education and Research

Kumaat, E. J.

University partnership is a linkage to strengthening the collaboration in both education and research. Sam Ratulangi University has numbers of those partnership programs; one of the programs is International Linkage Program with some universities from Indonesia, Philippines, Japan, Thailand, and Solomon Island. This program provides students to learn together and practicing after technical training course. Specifically, for lecturers and researchers, government program through Ministry of Research, Technology, and Higher Education, DRPM DIKTI funded research once a year for those

who are the research proposal be successfully accepted. There are three main schemes which are: fundamental, applied and advance research. Other government agents who are cooperate with after signing the Memorandum of Understanding such as Indonesian Institute of Science (LIPI), Ministry of Marine and Fishery (KKP), Meteorological, Climatological, Geophysical Agency (BMKG). The partnership program is mostly in scholarships and researches. Moreover, collaboration between other countries has been occurred such as Japan, Germany, Australia, England, and China.



KNOWLEDGE SHARING AND PRODUCTION IN THE FOURTH INDUSTRIAL REVOLUTION

Development of Transversal Competencies through Research and Information Technology

Sabile, L. D.

Until the dawn of the 21st century, education systems across the world are focused on preparing their students to accumulate content and knowledge. However, with the powerful entry of globalization fuelled by information communications technology, the paradigm shift in education turns to acquiring transversal competencies for them to translate competencies into suitable behavior for personal realization and development, active citizenship, social inclusion, employment and business and industry venture. There are 3 continuing trends that suggest the need for policy and pedagogical interventions and these are the participatory gap, the transparency problem and the ethics challenge in the learning process. In responding to these trends and knowing the transversal

skills required to be learned by the students in this 21st century, the University of Manila designed a platform of institutionalizing research and development and information technology programs. Through this platform, the students are practically and completely immersed in activities that enable them to attain the transversal skills needed in the 21st century corporate world. In this platform, the 4Cs Skills that promote the realization of transversal competencies: collaboration, communication, critical thinking (analytical thinking) and creativity are pursued using the Collaborative Institutional Design Program (CIDP), Diversity Responsive Teaching, and the Community of Inquiry (CoI) consisting of social presence, teaching presence, and cognitive presence.

A Configuration of Higher Education's Learning Spaces, Learning Management, and Learning Anchors for the 21st Century and the Fourth Industrial Revolution

Suatengco, R. T.

The revolving direction of higher learning has significantly made an impact on the configuration of learning spaces, learning management, and learning anchors. For more 600 years, the classroom has become the centerpiece of learning in higher education. This is where ideas are presented, transferred, and at times questioned. But with the inception of the age of information, propelled by the learner-centric ideation in the 20th century, the dominance of the classroom as a bastion of instruction and learning is now challenged. This paper makes a case for borderless and flexible learning spaces as the new physical but virtual structure for learning which mirrors a social structure in which positive social interactions are apparent and social roles are borne out of pragmatic, ideal needs, and ecological functionality (Pierce, 2009), not

pre-determined by social order established the dominant groups of society (Ernst & Richard, 1994; Gardner, 2010). Aligned with the new learning spaces is the challenge for more dynamic and progressive learning management and anchors which are the primary determinants of higher education's mobility and significance for the 21st century and the 4.0 Revolution. Shernoff (2013) envisions a full engagement in which the 'optimal state of cognitive and emotional engagement' towards learning is evident among the students and the faculty. In this case, the idea of conscious teaching and learning becomes a full-blown reality. The paper, then, ends with a reflection and a challenge that aims to stir higher education managers on carefully reflecting on the direction of the experiences that their higher education institutions provide to their students.



Status and Level of Acceptability of Filipinos on Cryptocurrency

Clarín, A. V.

Cryptocurrency, an encrypted, peer-to-peer network for facilitating digital barter, is a technology developed years ago. Bitcoin, the first and most popular cryptocurrency, is paving the way as a disruptive technology to long standing and unchanged financial payment systems that have been in place for many decades. While cryptocurrencies are not likely to replace traditional fiat currency, they could change the way Business and Internet-connected global markets interact with each other, clearing away barriers surrounding normative national currencies and exchange

rates. This study aims to determine the status and level of acceptability of Filipinos on cryptocurrency. Quantitative and qualitative methods were utilized through survey questionnaires and interviews from the one hundred (100) selected Filipino cryptocurrency players. In order to answer and answer the following problems specifically, the following tools will be used: frequency and percentage and weighted mean. Findings revealed that many Filipinos already accepted Cryptocurrency as a form of payment and investment.

Evaluation of the Factors Driving the Use of Agile Practices Among Software Developers in the Philippines

Orong, M.Y.

Agile methods were created to cope with potential limitations in traditional software development, such as the need for well-defined requirements, time-consuming process, excessive documentation, and high cost. It is recognized as effective methods due to their response to market expectation with high-quality software and their benefits such as improved software quality, faster time to deliver a product, increased flexibility in development, and lower development costs. The study determined the perception of the software developers of the different factors driving the adoption and use of agile practices among the teams using a standardized questionnaire. The research includes the benefits of using agile methodology, factors influencing the use of agile methods, problems in using agile methods, limitations of agile and agile processes. The respondents of the study include thirty-

five (35) software developers in the Philippines. Results showed that most of the respondents have four years' experience in system development; most of the developers experienced using agile in 2 years. Further, most of the respondents used Scrum as an agile method in software development, and most are using the whole team as an agile process in systems development. Size of the project was the main factor influencing the use of agile. On the other hand, inadequate training was the main problem identified in using the method. Lack of standards was the perceived limitation of using agile and faster time delivery was the perceived benefit of using agile. A comparative study as to the difference of the perception of the foreign software developers and Filipino developers must be conducted for future researchers.



Ambient Vibration Testing and Modal Analysis of the Bridge of Promise

Valle, S. B.; Cristobal, K. C.; Catapang, R. M.; Latoza, J. D., Marocom, D. A.; Montalbo, C. R.; Ramos, R. M.; Reyna, K. M.

The Bridge of Promise in Batangas City collapsed in 2009 when Typhoon Santi had hit the city. To assess the structural reliability of the bridge ten years after its rehabilitation, periodic inspection of the bridge is imperative for sustaining its serviceability by detecting any structural damage that may require repairs. As preliminary bridge assessment, this study ascertained the soundness of the Bridge of Promise by evaluating its natural

frequencies. Smartphone accelerometers were deployed along the deck of the bridge to record ambient vibrations. Acceleration data were converted into frequency-domain data using Fast Fourier Transform. Modal frequencies in the bridge ranged from 1.00 Hz – 1.9 Hz. A peak natural frequency of 2.48 Hz was determined at midspan. All measured modes were less than the maximum fundamental frequency of bridges of 2.50 Hz.

Preparing Tomorrow's Educators on Higher Education to Face the Fourth Industrial Revolution

Ari, A. B.; Widjaja, A.; Pringgadini, R.; Faviandhani, Q.

The 4th industrial revolution (4IR) is an interesting issue to be discussed at this time, especially in preparing human resources that can bridge these changes. The success story is also determined by the role of educators such as lecturers, teachers and other qualified educators. The process of knowledge management in an organization including for higher education institutions is not easy to implement, so knowledge sharing is needed in delivering information on changes. This research aims to find out how higher education institutions can be better at knowing what they know, then sharing information with knowledge sharing as well as provides a formula

description of educators who are able to bridging the challenge. This study used a qualitative approach with literature studies. Informants selected by purposing sampling, data for this research collected by in – depth interview then compare with theory and study of literature. The study found a formula of educators in higher education institutions that are ready to become agents of change in 4th industrial revolution (4IR) by maximizing knowledge sharing through *Behavioral, Research Skills, Experience, Acceptable, Communication, Creative and Problems Solving*, and *Hungry* or called as *BREACH Concept*.



Study of Indonesian Railway Service's Consumer Behavior in Accessing Information and Communication Technology of the 4.0 Era

Mudjanarko, S. W.; Dhaniarti, I.; Sukoco, A.; Setiawan, I.; Winardi, S.; Soendoro, A. T.; Wahyuni, A.; Limantara, A. D.; Supriyatno, D.; Lestari, D. A.; Wiwoho, F. P.

In the era of 4.0, the development of infrastructure of railroad transportation system is facilitated by the use of Information and Communication Technology. This is in line with the increasing needs of users of railway transportation. Train is one of the modes of transportation for Indonesians. Frequency of land transportation users is experiencing an upward trend as service improves as well. Number of users of train services in the period of January-July 2018 reached 242.93 million passengers. It leads to another problem as the ease of users in accessing railroad facilities has

not been fulfilled. One of the accesses in need is the availability of Information and Communication Technology. This study aims to determine the behaviour of train users in accessing available Information and communication Technology. The methodology is based on behavioural survey of train users. The survey was conducted with 50 respondents at train station. The result of the study shows that train users really need easy information technology services access as part of significant service in supporting transportation activities.

E-Learning Method to Support Fourth Industrial Revolution

Pelle, W. E.; Ngangi, E.

The Fourth Industrial Revolution builds on the digital revolution, representing new ways in which technology becomes embedded within societies and even the human body. One of the learning method to support fourth industrial revolution is through e-Learning. e-Learning is a generic term for all technologically supported learning using an array of teaching and learning tools as phone bridging, audio and videotapes, teleconferencing, satellite transmissions, and the more recognized web-based training or computer aided

instruction also commonly referred to as online courses. The advantages of using e-Learning are (1) the material of subjects can be easily accessed of students and teacher; (2) more effective and efficient to access it due to unlimited space and time. In addition, the platform web based internet/online system. The subject materials completed with supplement such as handout provide in Pdf file that can be downloaded. *Framework Moodle* has been using as the computer language program and *Database MySQL* as data saving.

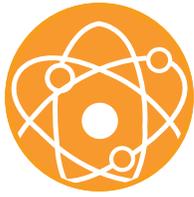


Affording Higher Education 4.0: UNIMAS Recent Developments and Success Stories

Suaidi, M.K.; Salleh, S.F.; Chen, C.J.; Wahi, R.

The Fourth Industrial Revolution, which is driven by advances and innovations in cyber-physical systems, the Internet of Things, cognitive computing and cloud computing, is impacting many aspects of how human beings work and live. In order for higher education to deliver the right set of skills and knowledge to meet the demand of this revolution, a paradigm shift to Higher Education 4.0 is essential. Such shift demands an immense need to devise the kind of education that will be needed to help the current generation of learners adapting to this revolution and to transform educational delivery that strategically employ the Internet of Things to prepare them for the challenges ahead. In line with this need, Universiti Malaysia Sarawak (UNIMAS), a Malaysian public university, has carefully planned and implemented a number of initiatives to afford such transformation. This paper highlights some recent developments. A significant initiative is to provide compulsory service learning experience to all undergraduate students as to nurture their competencies

and values in solving real-world problems. Service learning courses are designed to serve as a platform for students to think critically and engage with diverse communities in solving problems that can contribute towards sustainable community transformation process. In line with the needs of Higher Education 4.0, this paper also includes the university initiatives to redesign physical learning spaces to afford active learner-centred learning activities; redesign virtual learning spaces to tap into various possibilities offered by numerous online technological tools; implement continuous professional development programmes for UNIMAS academics to assist transformation in their course delivery; establish the UNIMAS Fellowship of Teaching and Learning Advancement to lead and pursue excellence, innovation and creativity in teaching and learning; enhance teaching excellence recognition as well as support scholarship of teaching and learning (SoTL) practices to improve teaching and learning in various disciplines. Some success stories will also be presented.



TECHNOLOGY INTEGRATION AND INSTRUCTIONAL DESIGN FOR GLOBAL AND CULTURALLY-DIVERSE LEARNERS

ATrack: Updating and Marketing Adamson University's Online Alumni Career Tracking Tool Using Data Analytics and Social Media

Bermudez, R. P.

Atrack is an online alumni career tracking system created to resolve the low response rate problem of tracer studies through the use of the social media platform. It also provides convenient report preparation and demonstration of analyzed data for the school administrators, which may be presented to the management to help in the making

of important decisions for the improvement of academic offerings and services. With the creation of a well-designed database, ATrack may be used to send periodic notices via email to remind the registered graduates to update their information without answering the questionnaire from scratch.

Utilization of Super Absorbent Polymers (SAP) in Extensive Green Roof as Water Retention in Urban Area

Asinas, J. T.; Bajar III, J. V.; Cabanes, J. R.; Domino, R. J.; Abestilla, G. A.D.; Lictaoa, C. S.

A green roof is formed by waterproof substrate covered with vegetation. It is capable of absorbing water and adding hydrogels may increase its water absorption. The objective of this study is to utilize hydrogel in extensive green roof as an aid in water retention in urban areas. There are four green roof models: Panel 1 has 0% of hydrogels, Panel 2 has 0.40% of hydrogels, Panel 3 has 0.50% of hydrogels and Panel 4 has 0.60% of hydrogels. Each green roof model undergoes series of test through the rain simulator with rain gauge at the center of the panel to determine the rainfall intensity. Other than the percentage of hydrogel; rainfall intensity, duration of rain event and moisture content of the substrate before testing are the factors that affect the water retention in the green

roof. This study shows that the green roof with hydrogel has greater water retention than the green roof without hydrogel. It is determined that the hydrogels can absorb approximately 330 times more than its own weight in a day and 37.048 seconds shows the most probable value of water run-off that may occur in the rain event based from the data collected in this study. It was concluded that the maximum value of water that the soil can absorb is entirely dependent on the time the water system was used. The result of the data analysis shows that each of the independent variable has a positive correlation to the dependent variable which is the volume of the water retained in the substrate.



An Empirical Challenge to the Student-Faculty Intergenerational “Digital Divide”

Alviar, N. M.

The “digital natives vs. digital immigrants” discourse has been a widely adopted viewpoint in higher education for the last two decades. This study sought to quantify differences in “digital native” traits among current students and their teachers using a validated tool. In this cross-sectional study, Teo’s (2013) Digital Natives Assessment Scale (DNAS) was administered to students and faculty of a private Philippine medical school during one academic year. Responses were anonymized and analyzed using MANOVA. Four hundred and two medical students and seventy-three medical teachers completed the DNAS. Millennials and Generation Z comprised the entire student cohort, while pre-Millennials (baby boomers, Generation

X) constituted 71% of faculty respondents. Students and faculty perceived themselves not significantly differently from each other on three of four DNAS sub-factors: comfortable with multitasking, grew up with technology, and thrive on instant gratifications, as well as on the total DNAS score. Conversely, students had a significantly higher ($p < 0.05$) preference for graphics in communication. These empirical results suggest that the differences previously ascribed to “digital immigrant” teachers and “digital native” students are not as germane today. Implications for 21st-century curriculum and instructional design, along with faculty development, will be put forward in the paper presentation.

Micro and Macro Practices of Multicultural Education: Is PWU Global Integration Ready?

Munalim, L. O.

Multicultural education in the Philippines has become more urgent amid the thickening of multicultural networks of educational exchange, interaction, learning and instruction especially in the higher educational institution. This mixed-modes study reports the present status of professors’ classroom practices vis-a-vis the five dimensions of multicultural education proposed by James Banks. Selected foreign students answered a questionnaire and joined in a focus group discussion to share their lived experiences related to content integration, knowledge construction, prejudice reduction, equity pedagogy and strengthening school culture and social structure (Banks, 1993) as practiced by selected

professors at Philippine Women’s University. Overall, foreign students aver that professors have sustained a level of exclusivity in their educational practices. The progressivist philosophy of the university allows them to feel integrated into the dominant Filipino culture of wider learning community, resulting in positive academic and social cohesion between and amongst the stakeholders. Needless to say, results also show areas for improvement. Although conducted at the parochial level of one university, implications for policy making, instructional preparation, academic reforms, faculty loading, and inter-university partnership and benchmarking are seen to be national and universal.



Cooperative Learning Strategies in Mathematics Using Video and Digital Games: A Quasi – Experimental Study

Clarín, A. R.

Cooperative learning is an emerging trend around the globe. Educators and teaching community are accepting its importance. The purpose of this study was to explore the effects of cooperative learning strategies using video, digital games and lecture method on pupils' achievement in Mathematics. The study focused primarily on what among the three learning styles is most effective. The study was conducted through a quasi-experimental method with 75 Grade 3 pupils (25 for video, 25 for digital games and 25 for the lecture method). Instructional materials and a teacher-made test were used as measuring tools. The data collected were analyzed

using t-test and Pearson r. Findings revealed that there was a significant difference between using video, digital games, and lecture. The findings reveal that there were significant differences among the pretest and posttest performances of pupils in cooperative learning using videos, cooperative learning using digital games, and the traditional method using lecture. This study provides evidence that cooperative learning using digital games was the most effective in enhancing pupils' performance in Mathematics, particularly in fractions. Pupils' responses indicated that the use of digital games was helpful and has influenced their performance in Mathematics.

A Big Data /Artificial Intelligence Framework for Personalized Education

Srisa-An, C.; Jantavongso, S.

There are large numbers of unstructured data in electronic learning (e-learning). Hence, e-learning and registration systems are generating huge amount of data. Having the data with digesting perhaps not a smart way in a disruptive technology world. Big Data is a technology that works with a large volume of data, especially unstructured data. The proposed framework is applying Big Data and Artificial Intelligence (AI) to articulate the methodologies and steps by which educators can implement procedures tailored to the personal needs of that individual students (learners).

In this paper, personalized learning means an educational approach that aims to customize learning for each student's strengths, needs, skills and interests. Machine Learning (ML) and AI can make this concept happen in the real world. This paper discussed Big Data and AI techniques to construct a new method enabling personalized learning. The experiment revealed a good progress on the overall student marks on the final examinations. 70 percent of the students passed their final examinations and 18 percent obtained the grades of B+.

Google Classroom: Technology Integration for a Global Teaching-Learning Classroom

Chaisubanan, N.; Khruawan, M.; Carreon, J.R.

The advent of the Digital Era has witnessed the increasing use of cyberspace innovations, not only in business but also in schools, for accessing and managing classroom activities. Informed by Tananuraksakul (2014) and using a questionnaire to gather data, this paper examined the perceptions of 28 students and 14 lecturers from a private higher education institution in Thailand on the use of Google Classroom as Blended Learning (BL)

and Learning Management System (LMS) to shed light on two research questions: (1) Has the use of the free web service Google Classroom help improve students' English language? (2) If yes, in what way has the use of Google Classroom improved students' English? The findings are interpreted in relation to the current issues in the technology integration in classrooms and to Prensky (2001) concepts of digital native and digital immigrants.



Reconfiguring Universities for the Future: E-learning Resources and Instructional Designs in Training Translation

Askari, M.I.

This study attempts to understand about the importance of applying E-learning resources within higher education systems. In this view, it is necessary to examine the elements incorporated in the instructional designs of training for the new generation of universities. Although all the traditional references of training are influential in this process, but it is necessary to have an adaptive look on the modern elements used as the tools in developing the designs and materials, the most important of which could be E-learning educational resources. To evaluate the importance of said-resources as the purpose of the current study, the researcher measured the difference of translation quality of texts trained to the students through traditional reference works and E-learning resources translation tools (Corpus and multilingual terminology database tasks and tutorials on massive open online resources) during the first academic semester 2018-19 at Islamic Azad University. The evaluation of translation quality of the students who trained translation via traditional references and E-learning resources tools was conducted at the textual level according to the Sager's general classification for three levels of gravity of errors considering distortion of sense, omission, and minor errors using one way ANCOVA to determine a statistically significant difference in the learner's outcome through controlling the potential effect of translation pretest. Based on the margin of error 5%, and confidence level 95%, and z-score of 1.96, the size of the population for the study was determined as 300, based on which 100 participants were randomly selected from the homogenized population through running the Preliminary English Test [PET] The final participants were standing in the same level of language knowledge via considering the test's mean score and standard deviation. The results

indicated that applying traditional reference works were beneficial for training students, but the use of E-learning resources contributed to the enhancement of quality in translation among the students. The results of one way ANCOVA revealed that training translation via applying E-learning resources' main effect was significant on the students' translation proficiency development [$p (.001) < (.05)$] controlling for the effect of pretest and the null hypothesis was rejected. The significant value of .000, which was smaller than 0.05, indicated the fact that our groups were significantly different from one another. Also the effect size of .244 revealed the strength of independent variable as an appropriate numerical value for indicating the efficacy of the treatment-training translation via applying E-learning resources. The consistency of quality assurance in translation could be achievable via E-learning resources; however it is not possible to consider all the resources as the appropriate material within all educational contexts with various instructional designs. Thus, the use of E-learning resources, as the necessary factor in reconfiguring the universities for the future through updated instructional designs should be preserved by the teachers and students regarding the necessary adaptations required in the local contexts of training translation. The research implications are basically referring the stake holders in developing instructional designs to consider the importance of E-learning resources in the training procedures applied by the instructors to provide various courses including translation. However, it is necessary for the policy makers to pave the grounds to settle the required platforms for the use of such resources within educational contexts concerning their applicability in the local context.



LIBERAL ARTS, CREATIVITY, AND FLEXIBILITY IN HIGHER EDUCATION

The Field of Communication in Higher Education amidst the K-12 Climate: Experience-Based Perspectives in Implementing Gen-Ed Courses from SUC Faculty Members

Sayuno, C. M.

Because many courses that were previously offered in higher education were moved into the senior high school level, there was a need to re-evaluate general education courses in college and think of ways of expanding the horizons by offering courses that better prepare the senior high graduates not only to the demands of higher learning but also to the challenges of the real world. In the field of humanities, a more critical perspective became the focus of new course offerings. While the senior high school courses were already critical, to some extent, the discussions lay groundwork for theory but would still be more concerned with the practical aspects of learning, as what performance tasks would usually reflect. In the case of communication, the memorandum from the Commission on Higher Education mandated the offering of a course on Purposive Communication.

Meanwhile, in the University of the Philippines, Critical Perspectives in Communication (COMM10) was offered. Both courses, in many ways, provide discussion on the role of communication in various fields, as well as the appreciation of the field, using a critical lens. This study collected insights on how faculty members from various state colleges and universities implemented their communication courses, including major topics, activities, and class requirements. At the same time, the respondents shared their experiences in handling communication courses with senior high school graduates as compared with students from the old curriculum. Ultimately, the study compiles suggestions on how communication courses can better be implemented so that the learning experience can be more productive amidst the K-12 climate.

Towards the Development of an Executive Course for the Professoriate of Teaching

Digo, G. S.

This paper determined the student teachers' perception of their competencies and training needs along the seven domains of the Philippine Professional Standards for Teachers (PPST). The respondents are the 150 student teachers of Sorsogon State College Teacher Education Department. Data gathering was conducted during the second semester of academic year 2017 – 2018. The research instrument was designed along the seven domains, 37 strands and 37 descriptors for beginning teachers of the PPST. T-test results showed that there is no significant difference in the competencies of student

teachers before and after practice teaching. ANOVA reveals that there is no significant difference in the training needs of the respondents. In general, student teachers perceived themselves as highly proficient but need further training along the 37 strands of the PPST for beginning teachers. Hence, a professional development course composed of five modules were developed along the convergence of the PPST, Future Work Skills, Knowledge Management and Heutagogy in the formulation and design of outcomes for personalized and contextualized learning experiences.



The Meanings and Functions of the English Language

Valdez, J. R.

The three hundred thirty-three (333) years of Spanish colonization in the Philippines deprived the Filipinos of learning a new language; nevertheless, the linguistic capabilities of the Filipinos in the 1800's acquired its communicative competencies in Spanish as proven by the literary works in the language during the era. The shorter reign of the Americans witnessed the birth of English as the medium of instruction in the classrooms through the Thomasites and the adoption of the English-only policy in government affairs. With an archipelagic geography, English was thought to unify the dialectical regions. From thereon, the Filipinos had experienced comfort in the language. Thus, the Filipino

schoolchildren started to read and write in English. Since then, the Philippines, including the province north of Metro Manila, used English with fluency and proficiency in formal interactions in education, in politics, in trade, and in government. With the change in the Philippine educational system to a K to 12 curriculum in 2016, there is a need to revisit the relevance of teaching and learning the English language. This study aimed at providing information about the meanings and functions of English to find out the necessity, relevance, and what masterate students of MAEd English at a private school who are teachers of English from the different schools in a province north of Metro Manila think.

“Do not English Me I am Panic” Drivers and Barriers in the Implementation of SBCA English Speaking Campaign Towards a Successful English-Speaking College

Aclan, E. A.

This study determined the level of awareness of the college students on the school's English-speaking campaign; drivers and barriers in the implementation of the campaign among college student; and the significant difference in the identified drivers and barriers across the profile of the respondents. The results from these inquiries will be used to strategize how to encourage college students to follow the campaign. Quantitative design, specifically the descriptive research was utilized and a survey questionnaire was used to gather data. The respondents were college students across academic programs and year levels within the age of 17 to 23 years

old. Majority of them speak Filipino at home. Students were highly aware that San Beda College Alabang is an English-speaking college. A less judgmental or a forgiving environment highly drives the students to speak in English. Drivers in the implementation of the campaign were perceived differently by year level. Likewise, barriers were perceived differently by gender and year level. Five barriers in speaking English in school were identified: the feeling of inferiority in English speaking; the native language interferes; the difficulty in choosing words; making the same mistakes; and difficulty in correcting mistakes and the fear to be judged by others.



Benefits of E- Learning Implementation for Students of Medicine Faculty

Bakhtiar, A.

We are currently in an era where the use of information technology is in such massive use. The abundant tasks of a lecturer and the increasing number of students would make the conventional interaction - lecture schedules become increasingly difficult to be carried on. Large amount of lecture materials could also make them difficult to deliver it conventionally. The benefit and student's satisfaction regarding an E-Learning method are still unknown in our institution, yet it could be the answer to those problems. With an E-Learning method, lecture materials from the respective lecturer could be uploaded to the web and the students could download them. A discussion forum could also be attached into an E- forum. This study is a simple

questionnaire based study which will be spread to the students to assess the benefits and satisfaction degree of the E-Learning method. The result shows more than 92% of the students are satisfied with this system. One of the benefits is that the students can still download the lecture material while having an online discussion on an E-Forum. The small number of students (8%) is not satisfied because this system must be supported by a fair internet connection and that this system reduced a human interaction between lecturer and students. However, this system becomes increasingly inevitable in this era thus we should provide a growing number of tools and meaning to support the E-Learning method.

To Encourage Active Learning in the Higher Educational Institute through the Change of Lecturer's Roles

Vithayaporn, S.

The purpose of this study is to review researches related to the changing role of lecturer in accordance with today's fast changing in the world education including in Thailand caused by the disruption of internet and technology. Educational institution needs to keep up with the best methods and tools to be used for ensuring the learning effectiveness. Therefore, the role of lecturer in this changing must not to be overlooked. This role can have a major impact upon the success of the teaching strategy and therefore the outcome of the students' learning. To respond with this, lecturer is required to think differently, be strategic,

be innovative, be creative, and promote learning culture. It is commonly known that teaching and coaching are two different occupational roles. However, the term of coach has been tremendously used in various areas thus teaching - coaching can be integrated to improve the student's learning outcome. This paper presents an analysis these contextual factors via using a literature review and data from practitioner. Upon conclusion, this study found a significant importance of lecturer's roles in conducting the active learning which is a summary of a discussion of related topics in machine learning research are also presented.



QUALITY ASSURANCE AND RELEVANCE IN HIGHER EDUCATION

Dynamics of Continuous Quality Improvement in the Fourth Industrial Revolution (FIR): Issues, Perspectives and Challenges

Conde, B.; Flores, G.

The study, “Dynamics of Continuous Quality Improvement in the Fourth Industrial Revolution (FIR): Issues, Perspectives and Challenges”, aims to discover and propose a school framework that will facilitate continuous quality improvement in schools while engaging the disruptions being caused by FIR. Departing from the critical reading of challenges of FIR, it analyzed the different elements of 21st century learning that may serve as catalysts to integrate FIR to values-driven education system that affirms and respects the place of man in the same education process. The study employed the mixed method approach. The quantitative part relies on the post-positivist view of the research process, while concurrently recognizing that the addition of qualitative data and approaches are likely to benefit this research project. The qualitative method provides in-depth understanding of participants’ lived experiences through concept development and description of the phenomenon of interest. Results of the study show that quality education and cultivation of quality that engage

FIR innovation and disruption are essentially appreciation and promotion of the dignity of the human person. More than ever, the crafting of quality assurance systems and continuous quality improvement in the 21st century education is both relevant and necessary. Quality assurance systems and continuous quality improvement should spearhead the recognition and affirmation the same man – subject and cause of the same quality in education process and in technology. The study recommends that leading and managing schools, administrators and the members of the education community should create moments to reflect, assimilate and communicate their PVMCVO. The advancement and progress in technology cannot and will not substitute PVMCVO’s place in teaching and learning process happening in schools. QA systems and CQI’s in schools must be centered and driven by PVMCVO. Effective and efficient promotion of quality that is relevant to the context of schools should be emanations of updated and well-articulated PVMCVO.

Determining New Measures: Evaluation of the Summer School of Life Programs (SSLP) for the Inclusive Years 2015-2017

Balaoing, J. G.

The study evaluated the implementation and impact of Summer School of Life Program (SSLP) for the inclusive years 2015-2017 and determined new measures by which the program can focus for its future evaluations and directions. It made use of four areas of interest in its evaluation; method, use, values and social justice. The data of the study were obtained through interviews of the participants, facilitators, family members and neighbors of the participants and evaluation documents

taken after the delivery of the programs. The data were processed using mixed method. The study reveals that SSLP was delivered efficiently and made an impact on the lives of the participants and facilitators directly and on families and neighbors indirectly. The participants were empowered to take the responsibility of promoting their own welfare while the facilitators were transformed by being more compassionate as they engage in the reality of the participants.



Newtonian to Quantum: Exploring Alternative Quality Assurance Framework

de Luna, C. A.

Most academic institutions anchor their quality assurance practices on traditional Newtonian model that is described as hierarchical in structure, focused on parts of a whole, emphasizing delimited roles and controlling boundaries, where the organization's internal dynamic affects members yet only leaders are seen as affecting the internal dynamic. This study explored Quantum model as an alternative quality assurance framework that could possibly blend well with the classical model. The study was conducted in an institution of higher learning with a total of 91 personnel participating purposively. An adopted and slightly modified quantum skills questionnaire was used

in gathering the data. Results showed that majority of the respondents were female, Gen-Xer, baccalaureate degree holder, finished Bachelor of Arts, office-based non-teaching personnel, and were involved as support person in the accreditation activities of the school. Weighted mean of the seven quantum skills were all on the positive scale and all the null hypotheses were accepted. The result is an indication of the respondents' willing to embrace Quantum model as a quality assurance initiative. It is recommended to integrate Newtonian model with Quantum model and come up with a unified framework that will be unique for the school.

Interdisciplinary Teaching in Law: A Study on Indonesian Law Schools

Prihandono, I.; Yuniarti, D. S.

Study by legal scholars and educators argue that interdisciplinary approach in teaching law at the universities is inevitable. Law by its nature is interdisciplinary. The interdisciplinary approach in legal education is becoming more important in the rise of Industry 4.0 era. In this era, legal problems in the society become more complicated, and may involve arrays of non-legal issues. Therefore, lawyers need to have a certain degree of interdisciplinary knowledge and skills. Interdisciplinary approach in law higher education is not a new concept. In the last two decades, a number of law school have increasingly offer interdisciplinary classes. These subjects include Law and Economic; Tax Law; Accounting for Lawyers; and Law and Demography. This article seeks to analyze two questions: being first, to what extent law schools in Indonesia adopt

interdisciplinary subjects into curriculum. Second, to what extent these interdisciplinary subjects are relevant with the government's Industry 4.0 Roadmap. This study analyses the curriculum of law schools, both in private and public universities across Indonesia, as well as making comparison with other ASEAN reputable universities. These samples of law schools represents three different areas of Indonesian archipelago, namely the eastern, central and western area. It is found that interdisciplinary courses are evident in all law schools in Indonesia. However, the number of these courses—and its percentage—remains low, if compared to the total number of courses offered. Likewise, the percentage of interdisciplinary courses and ID 4.0 subjects in Indonesian law schools is lower by about 20% and 15% respectively if compared to other ASEAN law schools.



Evaluating the K-12 Immersion Program using Goal-Based Model and Factor Analysis

Nemanzo, R. S.

The current change of educational system in the Philippines calls a need to establish an evaluative report particularly on the condition of the implementation of K-12 work immersion program. The main purpose of this study is to evaluate the conduct of K-12 work immersion program using Goal-Based Model and to extract the hallmark of a successful work immersion implementation using factor analysis. This study includes a substantial discussion on sixty, randomly selected Grade 12 Commercial Cooking students' relevant working immersion experiences and on how it affects them individually. The major findings reveal that K-12 work immersion program has successfully implemented at Abellana National School

and has truly provided students with a meaningful working experiences leading to greater potential of employability. Also, the unique inclusion of factor analysis identifies the characteristics such as optimum awareness, clarity and accessibility of challenging tasks, security due to reasonable workloads, appropriateness of training, satisfaction due to level of involvement, supervised developmental skills, operational related competencies, transactional behavior, acceleration of learning and punctuality, extended learning development, reinforced learning development, theoretical connections, and school-to-work learning transitions. Then, this study ends with the provision of recommendations.

Increasing Academic Performance of Students using Pheromones Model: A Case Study for Higher Education Supporting Blended Learning

Ballera, M. A.

E-learning as blended learning becomes an important online support of higher education. In the absence of human tutor, pedagogical strategy and increased of academic performance of learner must be ensured/enforced in the e-learning process. There are many studies that use different computing technology to ensure learning process such as fuzzy logic, artificial neural network, genetic algorithm, item-response theory and other evolutionary techniques. This study used pheromones model, a computing technique following the biological process of animals, a chemical extretes produced and released into the environment by a mammal

or an insect, affecting the behavior or physiology of others of its species (learners) and the psychological idea of reinforcement learning. Applying these concepts to 40 students enrolled in Design and Analysis of Algorithm, an optimal personalized learning sequence has been achieved, thus, increasing the academic performance of students. Fifty seven percent increased of competency level in terms of students' academic performance has been observed in the experimental study. If the new model will be widely implemented and validate the results, institutions supporting online education and e-learning process guaranteed academic performance of students.



Constructivism and the Technology of Instruction in a Chemistry Class

Daminar, N. L.

This study investigates the effect on the efforts of integrating technology in the classroom within the context of a constructivist framework using OBTL – CAIM. The development and design of OBTL-CAIM was specialized with the following essential features: based on students' alternative conceptions on chemical bonding, anchored on OBTL utilizing the framework of constructive alignment theory, and integrated with Computer Assisted Instructions (CAI). The study utilized a mixed – method research design; the quantitative part involved determining the pre-test and post – test gain of two intact classes of Electrical Engineering (EE) general chemistry students. The qualitative part involved audiotapes of focus group discussions (FGD), interviews, activity sheets, learning

journals, and assignments. Results of the study revealed that prior the implementation of OBTL – CAIM, students' had misconceptions on the meaning of covalent bond and shapes of molecules. Data were gathered on how effective the OBTL-CAIM to remediate students' alternative conceptions and to assess whether the Intended Learning Outcomes (ILOs) have been successfully achieved by the students during the implementation. The findings indicated that that OBTL – CAIM is effective in achieving students' conceptual understanding on covalent bonding and molecular structures. This implied that they have developed a better understanding of covalent bonding and molecular structures as a result of OBTL-CAIM intervention.

Students' Perception in Gamification in Learning Information Technology Courses: Case of Higher Education Institution in the Philippines

Hernandez, A. A.

This study investigates the understanding of students in applying gamification in learning as a strategy in teaching selected Information Technology courses to support Outcomes-Based Teaching and Learning (OBTL). A survey was deployed to forty computing students to gather their perception of key game elements including player profiles, achievement badges, leader boards, game points and progress status. This work analyzed the data and provides suggestion on game elements considerably useful in a gamified system for OBTL. The result shows that the students have a positive interest in gamification use for OBTL. The

results indicate that game leader boards, profiles and points encourage active learning as well as provide learning gaming activity performance status. Moreover, the students recognized the use of progress bars as motivators to finish tasks whereas collections of game badges are perceived to motivate mastery of the task. Thus, the students considered gamification beneficial in improving their understanding of course topics. This study has practical implications for the design of course materials and delivery to enable better achievement of student outcomes.



Classifying Emotion based on Facial Expression Analysis using Gabor Filter: A Basis for Adaptive Effective Teaching Strategy

Ramos, A. A.; Dadiz, B. G.

Emotion is equivalent to mood or state of human emotion that correlates with non-verbal behavior. Related literature shows that human tend to give off a clue for a particular feeling through nonverbal cues such as facial expression. This study aims to analyze the emotion of students using Philippine-based corpus of a facial expression such as fear, disgust, surprised, sad, anger and neutral with 611 examples validated by psychology experts. The experiments used as feature extraction methods such as Haar-Cascade classifier for face detection; Gabor filter and eigenfaces API for features extraction; and support vector machine in

training the model with 80.11% accuracy. The result was analyzed and correlated with the appropriate teaching pedagogies for educators and suggests that relevant interventions can be predicted based on emotions observed in a lecture setting or a class. Implementing the prototype in Java environment, it captured video the actual class performance rating and had an average accuracy of 43.31% with the highest efficiency of 54.54%. It concludes that through aggregating the facial expression of students in the class, an adaptive learning strategy can be developed and implemented in the classroom environment.

University Students' Ethical Decision-Making: The Case for Students from In-Tact and Broken Families

Ilag, M. D.

In the Philippine local conditions alone, the number of students who come from broken families are exponentially increasing. In fact, this issue has become much more relevant when divorce law was proposed in Congress in 2005. On the one hand, it is argued in this paper that students' family status has impact on their ethical decision-making. Using mixed-mode methods, this study sought to compare ethical decision-making between a group from an in-tact and from broken family. Students enrolled in Logic and Ethics course this school year 2018-2019 were given vignettes involving ethical dilemmas related to familial issues, and were required to express their level of agreements based on three ethical perspectives such as, consequentialism, duty and virtue, and four ethical dimensions such as ethical deliberative process, ethical focus, ethical conduct and ethical motivation (Brown University, 2011), including the Machiavellian behavioral perspective (Christie &

Geis, 1970). By and large, the results indicate that students from an in-tact family show the propensity to be more duty/obligation-oriented in their decision-making emphasizing the ethical conduct of doing one's duties and doing the right thing in a given situation. On the one hand, those students from broken families tend to be consequences-oriented and are pragmatic in their way of viewing situations focusing more on the future effects of their possible courses of action. When triangulation was sought, both groups tend to focus more on what would motivate them to development their characters and to become better persons regardless of their decision-making perspectives. Some students from both groups tend to exhibit unethical behaviors as their reactions to the given situations. Such findings impinge on the possibility of reconfigurations and reforms in university curriculum, instruction and policies that are flexible and inclusive for all regardless from different social backgrounds.



Implementation of the Internal Quality Assurance System in Improving Higher Education Governance

Almilia, L.S., Sutarso, Y., Kristijadi, E.

STIE Perbanas Surabaya is one of the excellent campuses in Indonesia as reflected by the institution accreditation from the National Accreditation Board of Higher Education (BAN-PT) in December 2016. The practice of good governance is recognized by the Higher Education Service Institution (LLDikti) Region East Java with awarded STIE Perbanas Surabaya as the excellent campus in 2008, 2009, 2010, 2012, 2013, 2014, 2015, 2016, 2017, and 2018. STIE Perbanas Surabaya also won the title of Best (Best) Campus Award in 2011, 2013, 2014, 2015, 2016, 2017 and 2018 in the fields of governance, research and community service from the LLDikti Region East Java. The Internal Quality Assurance System is a systemic activity of quality assurance of higher education by each university autonomously or independently to control and improve the implementation of higher education in a planned and sustainable manner. Even though every college can develop The Internal Quality Assurance System autonomously or independently, but in UU

No.12/2012 concerning Higher Education it is stated that quality assurance is carried out through 5 (five) main steps abbreviated as Establishment, Implementation, Evaluation, Control, and Improvement of Higher Education Standards. The Higher Education standard that must be prepared is a minimum standard in accordance with Permenristekdikti No. 44/2015 and No. 50/2018 concerning the National Standards for Higher Education.

This article discusses how STIE Perbanas implemented the Internal Quality Assurance System to improve university governance. In this article also describes how STIE Perbanas Surabaya also improve other universities in developing the Internal Quality Assurance System. STIE Perbanas Surabaya proposed 2 programs to improve other universities in developing the Internal Quality Assurance System, namely: (1) Strengthening the Internal Quality Assurance System, and (2) Improving governance of Study Program based on National Accreditation Standards.

Stakeholders' Perception and Readiness in Implementing Trimester System in the Curriculum in Ozamiz City, Misamis Occidental, Philippines

Barillo, E.

Curriculum change is part of the educational process. It is vital to the success of the school in maintaining quality education. In the process of curricular change, stakeholders' consideration is accounted before the implementation. This study investigated the stakeholders' perception and readiness in implementing trimester system in Ozamiz City, Misamis Occidental, Philippines. The study employed descriptive quantitative design using means and standard deviation to test the respondent's perception and readiness which were based on criteria. The former's criteria included the possible effects of trimester system; the latter's included the level of readiness to new system. A researcher-

made survey questionnaire was used in gathering the data from a total of 271 currently-enrolled students and employed individuals in Ozamiz City, which underwent reliability test using Cronbach's alpha. The findings revealed that trimester system is perceived beneficial because of its academic quality assurance, curriculum design effectiveness, traceability of students' progress and achievement, and its cost savings and financial gain for the students and school. On the other, the stakeholders were less ready of the change due to non-familiarity of the system. The findings of this study serve as guidelines of designing trimester system in higher educational institutions.



Competency Test is a Measurement to Determine Quality Assurance in Teaching Learning Process of a Higher Education

Martini, S.

In Indonesia, association of higher education for public health working with professional organization (Indonesian Association of Public Health) have developed academic paper for higher education in public health. Through this collaboration both institutions have formulated Expected Learning Outcome (ELO). In terms of specific subjects contained in the mastery of knowledge consisting of (a) applying knowledge and/or health technology for promotions and preventions based on scientific reason of five major disciplines of public health, namely epidemiology, biostatistics, environmental health sciences or occupational health, administration and health policy, social and health behaviors logically, critically, systematically and

innovatively, (b) assessing knowledge and technology or health promotions and preventions based on scientific principles in researches and theses, published by qualified scientific writing. Since 2015, both institutions implement competency test for assessing whether expected learning outcome have been delivered well through teaching learning process for bachelor program in a school of public health. Until now, there is a correlation between accreditation of an institution and percentage of students passing from the test. Furthermore, a student gets certificate of competency if he or she pass the test. The certificate is recognition of graduated student who can work at health facilities or as health officer.

Strategic Management-Based Strategies in Indonesian Higher Educational Institutions

Cahyono, B.T.; Young, F.C.

In Indonesia, the development of quality in education as a commitment to achieving global competitive and comparative advantage has been applied to support three crucial aspects; namely, through the learning management systems, knowledge, skills and competencies, and work attitudes. Therefore, understanding about managing strategic management is important since these factors significantly help drive organizations to achieving organizational success and excellence. This research is a case study on the strategic management of higher educational institutions in Jakarta. It zeroes in on the implementation of knowledge-based strategy, competency-based strategy, technology infrastructure-based strategy and work attitude-based strategy. Surveys and interviews were conducted to

gather and validate results. A random of sample of 135 respondents from selected educational institutions in Jakarta was used in this study. Exploratory factor analysis was used to draw out significant factors from the items included in the questionnaire. The factor analysis results show that for knowledge-based strategy, the significant factor that was derived was “the implementation of high standards of knowledge”; For competency-based strategy, the new construct was “delivery of professional competencies.”; For technology infrastructure-based strategy, the new construct was “process improvement through technology redesign” while for work attitude-based strategy, “quality outlook of employees” was the new construct.