UNIVERSITAS KRISTEN IMMANUEL JOGJAKARTA
FAKULTAS SAINS DAN KOMPUTER
Jl. Solo Km. 11,1 P.o. Box 4/YKAP Yogyakarta Telp. (0274) 496256, 496257 Fax. (0274) 496423

SURAT TUGAS
No: 020/ST/D/FISKOM/IV/2021

Yang bertanda tangan dibawah ini :

Nama	:	Surjawirawan Dwiputranto, M.Si.
NIDN	:	0520106501
Jabatan	:	Dekan Fakultas Sains dan Komputer UKRIM

dengan ini kami menugasi :

Nama	: Antonius Bima Murti Wijaya, S.T, M.T.
NIDN	: 0610068901
Jabatan	: Dosen Tetap Program Studi Informatika UKRIM

Untuk Melakukan Pengabdian Kepada Masyarakat :

Dengan judul Pengabdian	:	Pengembangan Kelas Alam Berbasis Teknologi di Desa Wisata Tinalah, Kulon Progo.
Tanggal	:	13 April 2021

Demikian surat tugas ini, agar yang bersangkutan dapat melaksanakan dengan sebaik-baiknya.

Yogyakarta, 13 April 2021
Dekan

Surjawirawan Dwiputranto,M.Si.
NIDN:0520106501

LAPORAN AKHIR

PROGRAM HIBAH PENGABDIAN MASYARAKAT

"PENGEMBANGAN KELAS ALAM BERBASIS TEKNOLOGI DI DESA WISATA TINALAH, KULON PROGO"

Desideria Cempaka Wijaya Murti, S.Sos., MA., PhD

Dr. Sundari Handoko, S.Sos., M.Si

Antonius Bima Murti Wijaya, S.T., M.T.

2021

HALAMAN PENGESAHAN LAPORAN AKHIR PROGRAM PENGABDIAN MASYARAKAT PRATAMA/UTAMA

Judul Pengabdian: PENGEMBANGAN KELAS ALAM BERBASIS TEKNOLOGI DI DESA WISATA TINALAH, KULON PROGO

Bidang Program Insinas: PENGABDIAN MASYARAKAT

Peneliti Utama/Ketua Peneliti:

1. Nama Lengkap: DESIDERIA CEMPAKA WIJAYA MURTI, S.SOS., MA., PHD
2. Alamat surel (e-mail): desideria.murti@uajy.ac.id
3. Nomor HP: 082134415750

Lembaga Pengusul

1. Nama Lembaga: UNIVERSITAS ATMA JAYA YOGYAKARTA
2. Nama Pimpinan Lembaga: PROF. YOYONG ARFIADI, PHD

c. Alamat

1. Alamat surel: **lppm**@**uajy**.ac.id
2. Telepon: 0274-487711 LPPM (0852 2604 6434)

Lama Penelitian Keseluruhan Pelaksanaan Tahun ke-1

Biaya Penelitian Keseluruhan: 46.800.000.

Yogyakarta, 11 Desember 2021

Mengetahui,

Ketua Lembaga LPPM	Peneliti Utama
	
(Prof. Ir. Suyoto, M.Sc., PhD)	(Desideria Cempaka Wijaya Murti, S.Sos., MA., PhD)

RINGKASAN

Pengabdian masyarakat ini bertujuan untuk melihat pemanfaatan TIK dalam suatu program kelas alam di desa wisata melalui teknologi *Artificial Intelligent (AI)* atau kecerdasan buatan untuk melihat keterlibatan interaksi masyarakat dengan penciptaan teknologi yang tepat guna. Proyek ini merupakan penelitian dan pengabdian masyarakat yang berbasis multidisiplin untuk mengembangkan desa wisata di Indonesia. Proyek ini juga bertujuan untuk melihat praktik suatu teknologi pada interaksi sosial antara penduduk, pemaknaan mereka pada potensi sekitar untuk dikaitkan dengan teknologi, serta proses alih teknologinya. Melalui *focus group discussion,* implementasi teknologi, dan observasi, proyek penelitian multidisiplin ini berusaha untuk menjawab secara rinci kapan, siapa, bagaimana, dan mengapa teknologi *artificial intelligent* ini bisa diterapkan dalam konteks desa wisata sebagai *lesson learned.* Implikasi dari penelitian ini adalah untuk memperlihatkan kompleksitas pada interrelasi aspek yakni komunikasi, alam, manusia, dan teknologi.

Selama hampir setahun pelaksanaan dari pengabdian masyarakat ini dilaksanakan. Hasilnya adalah penyusunan kurikulum kelas alam, pelatihan fotografi, pelatihan penulisan naskah feature, pengembangan aplikasi berbasis Artificial Inteligence untuk gaming flora fauna, pelatihan membuat promosi oleh pengelola desa wisata. Hasil pengembangan digital antara Universitas Atma Jaya Yogyakarta, Unversitas Kristen Immanuel dan pengelola Dewi Tibalah membuahkan hasil dalam Lomba Anugerah Desa Wisata Indonesia (ADWI) 2021 yang diadakan kunjungan oleh Kementerian Pariwisata dan Ekonomi Kreatif tangal 8 -11 Oktober 2021. Desa Wisata Tinalah mendapatkan juara 4 desa wisata terbaik kategori digital. Pemberian penghargaan pada hari Selasa, 7 Desember 2021 di Jakarta.

PRAKATA

Ucapan terima kasih kami haturkan terutama kepada:
Kemenristek DIKTI atas hibah yang diberikan kepada kami untuk menyelesaikan proyek berjudul, “Pengembangan Kelas Alam Berbasis Teknologi di Desa Wisata Tinalah, Kulon Progo”

Kami juga mengucapkan terima kasih kepada LPPM UAJY, LPPM UKRIM, Fakultas Ilmu Sosial dan Ilmu Politik UAJY dan Fakultas Ilmu Komputer UKRIM atas bantuan dan fasilitasi yang diberikan.

Kami juga ucapkan terima kasih kepada Desa Wisata Tinalah khususnya Pokdarwis Dewi Tinalah yang telah bersedia terlibat dalam proyek ini. Semoga ke depan hasil dari proyek ini dapat berguna bagi desa dan masyarakat.

Desideria Cempaka Wijaya Murti, S.Sos., MA., PhD

Dr. Sundari Handoko, S.Sos., M.Si

Antonius Bima Murti Wijaya, S.T., M.T.

DAFTAR ISI

DAFTAR LAMPIRAN

1. Draft Pengajuan Artikel Ilmiah Jurnal Ilmiah
2. Draft Abstrak Pengajuan Konferensi Internasional
3. Modul Kurikulum Kelas Alam
4. Modul Penulisan Naskah Feature
5. Foto Aplikasi yang sedang proses
6. Publikasi Koran yang ditulis oleh warga dan memperoleh juara I
7. Foto-foto pelaksanaan kegiatan

BAB I

PENDAHULUAN

Desa dan desa wisata adalah sebuah tempat yang secara konseptual menjadi pembicaraan dan perdebatan di kalangan akademisi mengenai dinamika perubahan transformatif yang terjadi karena waktu dan situasi. Sebagai contoh, desa dahulu merupakan sebuah tempat yang terabaikan (Askwith, 2012), terbengkalai dari urusan pembangunan (Geertz, 1980), hingga terpinggirkan karena urusan prioritas negara (Murti, 2020; Adams, 2004). Kemudian terjadi pergeseran, lalu desa menjadi tempat bagi perkembangan agroindustri (Dahles, 2013) karena adanya kebutuhan produksi pangan dan kebutuhan produksi bahan alam. Kini, banyak desa menjadi situs pelestarian tradisi (Guo & Sun, 2016) termasuk nilai-nilai sejarah, budaya dan arsitektur; dan sumber daya alam (da Silva et al., 2016) yang dalam konteks pariwisata sering dikategorikan sebagai desa wisata.

Desa wisata sendiri memiliki konsep mendasar yang menggabungkan antara desa dan pariwisata sebagai sebuah industri dan wadah bagi berkembangnya suatu gerakan ekonomi masyarakat agraris. Desa wisata mengacu pada masyarakat yang telah melestarikan dan melindungi daerah pemukiman mereka, termasuk nilai-nilai sejarah, budaya dan arsitektur, sejak awal berdirinya (Guo & Sun, 2016). Di beberapa negara, konsep imaji masa lalu ini mengarah pada konsep seperti *furusato* di Jepang (Robertson, 1988; Siegenthaler, 2003; Valaskivi, 2013) atau *gucunluo* di China (Pan, Luo, &Wen, 2017) atau *countryside* di negara barat seperti USA (Roberts, Hall, & Morag, 2017). Peran khusus desa wisata ini juga untuk melestarikan alam, mempertahankan pertunjukan warisan (Crouch, 2016), dan sifat pedesaan yang indah (Halfacree, 2006). Mereka mempertahankan rasa tempat dan menawarkan pengalaman berdasarkan karakteristik pedesaan (Rye, 2006). Dengan demikian, kegiatan sehari-hari (Crouch, 2016), budaya yang dilembagakan (Gradén, 2016), kepentingan

nasional, dan gerakan lokal (Robertson, 2016) semuanya membantu membentuk pembuatan situs warisan. Demikian pula, tiga faktor lain yakni wisatawan (Roberts, Hall, & Morag, 2017), sistem agro-pangan (da Silva et al., 2016), serta media (Chueh & Lu, 2018) turut membantu melestarikan konstruksi ini, dari pedesaan, dan narasi pedesaan, atau dalam istilah barat disebut *country side,* atau imaji tanah pastoral.

Sementara itu, teknologi informasi dan komunikasi menjadi salah satu bagian penting pula dalam siklus pariwisata terutama terkait dengan teknologi dalam telepon seluler. Aplikasi seluler mampu menciptakan diskusi akademik tentang koneksi, hubungan, interaksi, serta inklusivitas, maupun sebaliknya terputusnya koneksi, hubungan, interaksi manusia dengan sekitarnya serta ekslusivitas individu/grup (Molz, 2012). Penelitian ini ingin melihat bagaimana aplikasi yang dikembangkan dalam penelitian ini menyediakan "ruang" bagi orang untuk berinteraksi dan membangun kembali lanskap alam di dalam konteks desa wisata. Dengan demikian, penelitian saat ini berkontribusi untuk menginterogasi nuansa dalam studi teknologi informasi dan komunikasi melalui aplikasi seluler melalui hubungan yang terjalin dari praktik sehari-hari wisatawan, penduduk setempat, dan aktivitas mereka.
Mitra dalam pelaksanaan Program Holistik Pembinaan dan Pemberdayaan Desa (PHP2D) ini adalah Kelompok Sadar Wisata (Pokdarwis) Desa Wisata Tinalah (Dewi Tinalah). Desa Wisata Tinalah adalah salah satu tempat wisata yang berada di Jalan Persandian KM 5, Sendang Sari, Purwoharjo, Samigaluh, Kabupaten Kulon Progo, Daerah Istimewa Yogyakarta (Rizki, 2020). Ini memungkinkan jarak perjalanan dari Universitas Atma Jaya Yogyakarta (UAJY) ke Dewi Tinalah hanya berkisar kurang dari dua jam dengan mengendarai mobil.

Secara geografis Desa Wisata Tinalah terletak di sekitar kawasan Pegunungan Menoreh. Terbelah oleh Sungai Tinalah, Dewi Tinalah memiliki total 14 dusun yang terlibat dalam kawasan destinasi Dewi Tinalah yakni Dusun Puyang, Taman, Plarangan, Tukharjo,

Bangunrejo, Dukuh, Kedungrong, Duwet, Junut, Pagutan, Besole, Sendangrejo, Kalinongko, dan Sendangmulyo (Rizki, 2020). Kawasan Dewi Tinalah memiliki berbagai jenis potensi alam yakni pegunungan, persawahan, perkebunan dan wilayah sungai. Dari sisi kependudukan, Dewi Tinalah masuk dalam Pedesaan Purwoharjo. Desa ini dihuni oleh 1.088 keluarga dengan jumlah penduduk sekitar 3.537 jiwa. Mata pencaharian penduduknya adalah bertani, berdagang, berkebun dan bertukang. Tingkat pendidikan di desa ini sebagian besar adalah lulusan sekolah dasar sebanyak 2.915 orang, diikuti dengan lulusan sekolah menengah pertama/sederajat sebanyak 274 orang, sekolah menengah atas/sederajat sebanyak 250 orang, dan lulusan perguruan tinggi sebanyak 126 orang.

Secara historis, pendirian Dewi Tinalah dan Pokdarwis didasari oleh keinginan warga lokal untuk memanfaatkan sisi alam dan sejarahnya. Kawasan Dewi Tinalah yakni Dusun Duwet, Dukuh, dan Suwelo merupakan zona perjalanan lima tahun sejarah Perang Jawa yang mana Pangeran Diponegoro sering bergerilya di kawasan ini. Sementara pada zaman kemerdekaan, Museum Sandi di desa tersebut menjadi saksi bagi perjuangan pahlawan yang melacak kode, informasi, dan komunikasi untuk melawan penjajah. Dari berbagai sumber daya alam, manusia, sejarah dan budaya tersebut, masyarakat lokal dan pemerintah kemudian aktif berperan dalam pengembangan desa menjadi desa wisata melalui Program Nasional Pemberdayaan Masyarakat (PNPM) Mandiri Pariwisata dalam pembentukan menjadi Desa Wisata Tinalah (Dewi Tinalah). Pengembangan desa wisata ini dilakukan sejak tahun 2012 dan resmi berdiri pada tanggal 13 Oktober 2013. Kelompok Sadar Wisata (Pokdarwis) Desa Wisata Tinalah berupaya mengembangkan potensi wisata di daerah mereka yang kaya akan potensi alam, edukasi, dan budaya.

BAB 2

TUJUAN DAN MANFAAT PENGABDIAN MASYARAKAT

Permasalahan dengan pengembangan Desa Wisata Tinalah terkait dengan permasalahan produk wisata, pengetahuan, dan ketrampilan Sumber Daya Manusia, dan promosi kelas alam yang dikembangkan. Tujuan penyelesaian permasalahan dan manfaat pengabdian masyarakat tersebut mempunyai target sasaran dan luaran hasil program pengabdian kepada masyarakat. Permasalahan, tujuan solutif, manfaat, dan luaran dirinci sebagai berikut:

Tabel 1. Tujuan dan Manfaat Pengabdian Masyarakat

Permasalahan	Tujuan	Manfaat	Luaran
Perlu ada diversifikasi Produk Desa Wisata berbasis terknologi	Pengembangan aplikasi paket wisata kelas alam berbasis teknologi image recognition	Tersedia aplikasi kelas alam berbasis image recognition	a. Aplikasi kelas alam berbasis *image recognition* b. Hak Kekayaan Intelektual (HKI) c. Video kelas alam d. Artikel jurnal
Perlu penambahan ketrampilan pengelola Pokdarwis Desa Wisata	a. Pembuatan kurikulum kelas alam	a. 6 orang pengelola mampu menyusun kurikulum kelas alam	a. Modul pelatihan
	b. Pelatihan fotografi	b. 20 orang terampil fotografi	b. Modul pelatihan
	c. Penulisan naskah feature	c. 10 orang terampil menulis naskah	c. Modul Pelatihan
	d. Pelatihan penggunaan aplikasi kelas alam	d. 6 orang terampil menggunakan dan menggunakan aplikasi kelas alam	d. Modul pelatihan e. Publikasi artikel di Harian Jogja dan beritasatu.com
Belum ada	Pembuatan materi	6 orang pengelola	Disain Poster dan

promosi kegiatan kelas alam berbasis teknologi	promosi	Pokdarwis Dewi Taliman mampu mempromosikan	banner

BAB 3

METODE PENGABDIAN MASYARAKAT

Mitra kegiatan pengabdian ini adalah Kelompok Sadar Wisata (Pokdarwis) Dewi Tinalah. Kelompok Sadar Wisata (Pokdarwis) menurut Kementerian Pariwisata dan Ekonomi Kreatif **[5]** merupakan kelembagaan di tingkat masyarakat yang anggotanya terdiri dari para pelaku kepariwisataan yang memiliki kepedulian dan tanggungjawab serta berperan sebagai penggerak dalam mendukung terciptanya iklim kondusif bagi tumbuh dan berkembangnya kepariwisataan dan memanfaatkannya bagi kesejahteraan masyarakat sekitar. Fungsi Pokdarwis dalam kegiatan kepariwisataan menurut Kementerian Pariwisata dan Ekonomi Kreatif **[5]** adalah sebagai: **Pertama**, penggerak Sadar Wisata dan Sapta Pesona di lingkungan wilayah di destinasi wisata; **Kedua**, sebagai mitra pemerintah dan pemerintah daerah (kabupaten atau kota) dalam upaya perwujudan dan pengembangan Sadar Wisata di daerah.

Pencapaian target atau sasaran luaran kegiatan pengabdian kepada masyarakat dilakukan dengan menggunakan empat metode, yaitu:

a. **Focus Group Discussion.** Metode ini dipergunakan untuk penggalian pengetahuan bersama tentang kekayaan alam, lingkungan, sejarah, dan budaya masyarakat desa. Tokoh masyarakat, sesepuh, pengelola Pokdarwis dan tim pengabdi bersama-sama memetakan pengetahuan tersebut. Pemetaan pengetahuan tersebut kemudian dipergunakan untuk membuat kurikulum kelas alam berbasis CHSE.
b. **Pelatihan** penyusunan kurikulum kelas alam untuk meningkatkan kemampuan dan keterampilan pengelola pokdarwis dalam menciptakan disain kurikulum kelas alam berbasis CHSE. Selain itu juga dilakukan pelatihan fotografi, dan penulisan feature untuk mengisi dan mengembangkan konten kelas alam. Pelatihan penggunaan aplikasi kelas alam dilakukan untuk pengembangan produk supaya

bisa terus dipergunakan bagi wisata edukasi**.** Pelatihan-pelatihan ini dilakukan untuk pengembangan dan keberlangsungan aplikasi kelas alam berbasis CHSE di Desa Wisata Tinalah.

c. Pendampingan. Pendampingan dilaksanakan untuk melakukan kegiatan promosi produk wisata yaitu kelas alam kepada wisatawan**.** Metode ini dilaksanakan sebagai upaya dalam optimalisasi manajemen kelas alam berbasis CHSE melalui teknologi *image recognition*. Masyarakat perlu menggali pengetahuan dan kreativitas untuk menjaga keberlangsungan kegiatan tersebut. Kegiatan pendampingan yang dilakukan meliputi sistem pengelolaan kelas alam sebagai wisata edukasi. Selain itu, kegiatan pendampingan lainnya meliputi penataan kurikulum kelas alam berbasis CHSE, sistem promosi, dan sosialisasi kelas alam kepada komunitas-komunitas melalui berbagai media sosial. Target/sasaran kegiatan pengabdian dapat dipetakan berikut ini.

Tabel 2. Metode Pelaksaaan

No.	Metode Pelaksanaan	Jenis	Sasaran
1.	Fokus Group Discussion untuk pemetaan lingkungan Desa Wisata	1. *Brainstroming* kekayaan alam 2. Diskusi pemetaan kekayaan alam	Pengelola Kelompok Sadar Wisata Dewi Tinalah, kaum muda, tokoh dan Sesepuh masyarakat
2.	Pelatihan	Pelatihan penyusunan kurikulum kelas alam, pelatihan fotografi, pelatihan penulisan feature, dan pelatihan penggunaan aplikasi kelas alam.	Pengelola Kelompok Sadar Wisata Dewi Tinalah dan kaum muda desa
3	SDLC(Software Development Life Cycle)	Pengembangan Perangkat Lunak	Pengguna adalah pendamping wisata di desa wisata tinalah
4	Publikasi	Publikasi Ilmiah maupun non Ilmiah	Masyarakat umum

Kegiatan pengabdian ini memerlukan keaktifan kelompok mitra dalam pelaksanaan dan terwujudnya pembuatan aplikasi kelas alam berbasis protokol CHSE. Adapun keterlibatan Pokdarwis Dewi Tinalah, adalah sebagai berikut:

1. Menyampaikan undangan dan izin kepada tokoh dan sesepuh masyarakat, seperti pihak kelurahan, kecamatan, sesepuh desa, dan sebagainya
2. Menyediakan tempat dan peserta untuk Focus Group Discussion
3. Menyampaikan undangan dan mengkoordinir pengelola Pokdarwis Dewi Taliman dalam kegiatan pelatihan dan pendampingan
4. Ikut serta dalam pemetaan kekayaan alam melalui rapat-rapat yang diadakan bersama antara tim pengabdian dan pengelola pokdarwis.
5. Ikut aktif dalam kegiatan pengembangan kurikulum dan aplikasi kelas alam.
6. Ikuit serta dalam kegiatan pelatihan

BAB 4

HASIL DAN LUARAN YANG DICAPAI

Pengembangan aplikasi produk wisata kelas alam supaya bisa terus berlangsung, maka membutuhkan monitoring dan evaluasi yang dilakukan oleh pengelola pokdarwis, masyarakat dan tim pengabdi. Monitoring untuk produk kelas alam dilakukan dengan cara melihat hasil upload aplikasi kelas alam ini mendapatkan seberapa banyak respon dari wisatawan dan penggunaan aplikasi kelas alam ini oleh wisatawan di Dewi Tinalah. Monitoring juga dilakukan terkait kemampuan pengelola dan kaum muda di Dewi Tinalah dalam mengelola dan mengembangkan produk wisata kelas alam ini. Evaluasi dilakukan dengan cara melihat tanggapan dari pengguna terkait produk kelas alam, kemudian dari promosi kelas alam bisa dilihat dari respon orang-orang yang membaca promosi pemasaran produk wisata tersebut. Hasil akhirnya berupa semakin meningkatnya jumlah wisatawan yang berkunjung di Dewi Tinalah yang mengambil paket wisata, seperti 20 orang wisatawan per bulan.

Tabel 3. Hasil dan Luaran

No.	Metode Pelaksanaan	Jenis	Hasil	Luaran
1.	Fokus Group Discussion untuk pemetaan lingkungan Desa Wisata	*Brainstroming* kekayaan alam Diskusi pemetaan kekayaan alam	Warga terkumpul dan memberikan masukan dan wawasan terkait topik diskusi.	• Kurikulum Kelas Alam **(Luaran Tambahan)** • Naskah Feature **(Luaran Tambahan)** • MoU UKRIM-UAJY**(Luaran Tambahan)**

2.	Pelatihan	Pelatihan penyusunan kurikulum kelas alam, pelatihan fotografi, pelatihan penulisan feature, dan pelatihan penggunaan aplikasi kelas alam.		
4.	SDLC (Software Development Life Cycle)	Pengembangan Perangkat Lunak	Terbentuknya software Dewi Tinalah Edu Apps	• Aplikasi kelas alam berbasis *image recognition* **(Luaran Wajib)** • Buku Panduan Aplikasi **(Luaran Tambahan)**

BAB 5

KESIMPULAN DAN SARAN

Pandemi covid 19 mengharuskan pelaksanaan penelitian dan pengabdian pada masyarakat dilakukan dengan menggunakan protokol kesehatan yang ketat untuk meminimalisir resiko terpapar covid 19. Oleh karena itu, metode pengumpulan data yang inovatif perlu dikembangkan bersama masyarakat. Masyarakat diajak memikirkan cara menggali masalah sampai dengan solusi atas permasalahan yang dihadapi dengan menggunakan metode pengumpulan data yang inovatif seperti melalui zoom meeting, atau menggunakan media sosial yang lainnya.

Teknologi AI menciptakan fasilitas interaksi baru bagi wisatawan yang berkunjung di Dewi Tinalah karena penerapan protokol kesehatan yang harus dijaga ketat selama pandemi covid 19. Gamifikasi menggunakan mobile phone menjadi media pembelajaran alam yang aman bagi wisatawan dengan interaksi yang berjarak antar wisatan. Teknologi memiliki fungsi “extension”, dimana gamifikasi ini akan terintegrasi dengan kehidupan wisatawan sebagai pengguna dan penduduk yang menjadi subjek yang mengembangkannya. Penduduk sebagai subjek pengembang gamifikasi akan berinteraksi dengan teknologi tersebut secara terus menerus sehingga bisa menjadi bagian dari kehidupan mereka.

Gamifikasi melalui teknologi AI yang dikombinasikan dengan kegiatan alam lainnya yang memungkinkan wisatawan masih tetap bisa berinteraksi dengan wisatawan lain, penduduk, dan alam meminimalisir ketergantungannya. Wisatawan tidak akan terjebak kedalam realitas tiruan (hiperialitas) dan membentuk kehidupannya karena realitas yang riil (sesungguhnya) dihadirkan melalui interaksi dan permainan lainnya yang mempertemukan dengan orang lain meskipun tetap dengan protokol kesehatan.

Saran untuk pengabdian selanjutnya adalah menganalisis bagaimana implikasi dari pemanfaatan teknologi kelas alam tersebut dipergunakan dalam membangun kurikulum kelas alam. Hasil dari pemakaian apps tentu saja akan membantu dalam pembangunan pariwisata yang berkelanjutan pada waktu -waktu yang akan datang.

LAMPIRAN

1. Draft Pengajuan Artikel Ilmiah Jurnal Ilmiah
2. Draft Abstrak Pengajuan Konferensi Internasional
3. Modul Kurikulum Kelas Alam
4. Modul Penulisan Naskah Feature
5. Foto Aplikasi yang sedang proses
6. Publikasi Koran yang ditulis oleh warga dan memperoleh juara I
7. Foto-foto pelaksanaan kegiatan

Pemanfaatan Teknologi Informasi dan Komunikasi berbasis *Artificial Intelligent* untuk Pengembangan Kelas Alam di Desa Wisata

Abstract

Artikel ini bertujuan untuk melihat pemanfaatan TIK dalam suatu program kelas alam di desa wisata melalui teknologi *Artificial Intelligent (AI)* atau kecerdasan buatan untuk melihat keterlibatan interaksi masyarakat dengan penciptaan teknologi yang tepat guna. Proyek ini merupakan penelitian dan pengabdian masyarakat yang berbasis multidisiplin untuk mengembangkan desa wisata di Indonesia. Artikel ini juga bertujuan untuk melihat praktik suatu teknologi pada interaksi sosial antara penduduk, pemaknaan mereka pada potensi sekitar untuk dikaitkan dengan teknologi, serta proses alih teknologinya. Melalui *focus group discussion,* implementasi teknologi, dan observasi, proyek penelitian multidisiplin ini berusaha untuk menjawab secara rinci kapan, siapa, bagaimana, dan mengapa teknologi *artificial intelligent* ini bisa diterapkan dalam konteks desa wisata sebagai *lesson learned.* Implikasi dari penelitian ini adalah untuk memperlihatkan kompleksitas pada interrelasi aspek yakni komunikasi, alam, manusia, dan teknologi.

Kata kunci: *artificial intelligent, AI, kecerdasan buatan, interaksi, desa wisata, teknologi informasi dan komunikasi (TIK)*

1. PENDAHULUAN

Desa dan desa wisata adalah sebuah tempat yang secara konseptual menjadi pembicaraan dan perdebatan di kalangan akademisi mengenai dinamika perubahan transformatif yang terjadi karena waktu dan situasi. Sebagai contoh, desa dahulu merupakan sebuah tempat yang terabaikan (Askwith, 2012), terbengkalai dari urusan pembangunan (Geertz, 1980), hingga terpinggirkan karena urusan prioritas negara (Murti, 2020; Adams, 2004). Kemudian terjadi pergeseran, lalu desa menjadi tempat bagi perkembangan agroindustri (Dahles, 2013) karena adanya kebutuhan produksi pangan dan kebutuhan produksi bahan alam. Kini, banyak desa menjadi situs pelestarian tradisi (Guo & Sun, 2016) termasuk nilai-nilai sejarah, budaya dan arsitektur; dan sumber daya alam (da Silva et al., 2016) yang dalam konteks pariwisata sering dikategorikan sebagai desa wisata.

Label yang kuno, terlupakan, dan terabaikan ini justru yang menjadi peluang bagi desa. Geertz dalam bukunya Negara (1980) berpendapat bahwa desa (dan rakyat desa atau *wong ndeso*) telah diabaikan oleh negara, membuat mereka terbelakang dan terisolasi. Namun, manfaat dari tindakan pengabaian oleh negara ini adalah bahwa desa telah mampu menyelamatkan dan mencatat seperti apa sebuah Nagari atau negara atau *civilization,* sebelum "pembangunan" terjadi (Geertz, 1980). Geertz berpendapat bahwa memeriksa desa dapat membuka peluang untuk menemukan pola perubahan melalui orang-orang yang diselamatkan atau dihindarkan dari kemajuan modern (1980). Dalam pengertian ini, desa menawarkan suasana yang mencerminkan realitas masa lalu – kegiatan sosial dan budaya, kebiasaan sehari-hari, bangunan kuno, dan pemanfaatan ruang tradisional yang terpelihara di wilayah tersebut (Yamashita, 2003).

Desa wisata sendiri memiliki konsep mendasar yang menggabungkan antara desa dan pariwisata sebagai sebuah industri dan wadah bagi berkembangnya suatu gerakan ekonomi masyarakat agraris. Desa wisata mengacu pada masyarakat yang telah melestarikan dan melindungi daerah pemukiman mereka, termasuk nilai-nilai sejarah, budaya dan arsitektur, sejak awal berdirinya (Guo & Sun, 2016). Di beberapa negara, konsep imaji masa lalu ini mengarah pada konsep seperti *furusato* di Jepang (Robertson, 1988; Siegenthaler, 2003; Valaskivi, 2013) atau *gucunluo* di

China (Pan, Luo, &Wen, 2017) atau *countryside* di negara barat seperti USA (Roberts, Hall, & Morag, 2017). Peran khusus desa wisata ini juga untuk melestarikan alam, mempertahankan pertunjukan warisan (Crouch, 2016), dan sifat pedesaan yang indah (Halfacree, 2006). Mereka mempertahankan rasa tempat dan menawarkan pengalaman berdasarkan karakteristik pedesaan (Rye, 2006). Dengan demikian, kegiatan sehari-hari (Crouch, 2016), budaya yang dilembagakan (Gradén, 2016), kepentingan nasional, dan gerakan lokal (Robertson, 2016) semuanya membantu membentuk pembuatan situs warisan. Demikian pula, tiga faktor lain yakni wisatawan (Roberts, Hall, & Morag, 2017), sistem agro-pangan (da Silva et al., 2016), serta media (Chueh & Lu, 2018) turut membantu melestarikan konstruksi ini, dari pedesaan, dan narasi pedesaan, atau dalam istilah barat disebut *country side,* atau imaji tanah pastoral.

Sementara itu, teknologi informasi dan komunikasi menjadi salah satu bagian penting pula dalam siklus pariwisata terutama terkait dengan teknologi dalam telepon seluler. Aplikasi seluler mampu menciptakan diskusi akademik tentang koneksi, hubungan, interaksi, serta inklusivitas, maupun sebaliknya terputusnya koneksi, hubungan, interaksi manusia dengan sekitarnya serta ekslusivitas individu/grup (Molz, 2012). Penelitian ini ingin melihat bagaimana aplikasi yang dikembangkan dalam penelitian ini menyediakan "ruang" bagi orang untuk berinteraksi dan membangun kembali lanskap alam di dalam konteks desa wisata. Dengan demikian, penelitian saat ini berkontribusi untuk menginterogasi nuansa dalam studi teknologi informasi dan komunikasi melalui aplikasi seluler melalui hubungan yang terjalin dari praktik sehari-hari wisatawan, penduduk setempat, dan aktivitas mereka.

Secara spesifik, penelitian ini ingin melihat salah satu dari teknologi informasi dan komunikasi yang berupa *artificial intelligent* (AI) atau kecerdasan buatan yang diinjeksi dalam aplikasi seluler bagi desa wisata. Teknologi *AI* ini termasuk cukup baru tetapi saat ini dikembangkan secara masif. Tetapi, di Indonesia sendiri belum banyak pengembangan *AI* pada desa wisata dan kemanfaatannya bagi masyarakat desa. Oleh sebab itu, penelitian ini menawarkan suatu kebaruan dalam tiga hal yakni: (1) penelitian ini akan meneliti teknologi informasi dan komunikasi pada desa wisata menggunakan aplikasi seluler yang dibuat sendiri oleh para penelitinya tetapi terjadi aksi partisipatif dimana warga desa sendiri yang menentukan konstruksi proses produksi dan konsumsi pada suatu tempat wisata. (2) Penelitian ini juga menawarkan investigasi pada unsur *artificial intelligent* atau kecerdasan buatan dalam konteks desa wisata. (3) Penelitian ini akan melihat unsur interaksi antara manusia dengan teknologi dalam konteks desa wisata yang memiliki narasi dekat dengan alam, tradisional, dan sekaligus masih memiliki budaya agraris yang kuat.

2. TINJAUAN PUSTAKA

2.1. Teknologi dan interaksi sosial

Perkembangan teknologi memunculkan terjadinya perubahan dalam interaksi sosial dan berbagai bidang kehidupan manusia. Teknologi komunikasi dan informasi membantu manusia dalam mempermudah interaksi jarak jauh dan juga interaksi sosial yang berjarak dalam kurun waktu dan tempat yang berbeda secara cepat, tepat, dan efisien. Perkembangan teknologi informasi dan komunikasi membantu dalam interaksi manusia ketika interaksi antar manusia harus berjarak seperti implikasi dari adanya pandemi covid 19 yang terjadi sejak tahun 2019.

Interaksi sosial yang dimediasi dengan teknologi komunikasi dan informasi memunculkan model kehidupan yang disebut dengan *cyberspace* , dimana fungsi alam menurut Pilliang (2011) bisa diambil alih melalui pengganti teknologinya, disebut dengan kehidupan artifisial (*artificial life*). Berbagai ruang sosial di kehidupan nyata dapat diciptakan substitusinya di dalam dunia informasi digital melalui bentuknya yang artifisial yaitu yang disebut dengan simulasi sosial (*social simulation*).

Simulasi merupakan simulakrum dalam bentuknya yang khusus (Baudrillard, 1999). Selanjutnya Baudrillard menjelaskan bahwa simulasi adalah kelanjutan dari tahap simulakra itu sendiri. Simulakra bentuknya seperti menduplikasi atau mengkopi sebagai modelnya. Sementara itu, realitas tidak memliki eksistensinya di era simulasi ini. Realitas melebur dalam citra model-model

reproduksi yang tidak mungkin lagi menemukan referensi nyata, melakukan adanya pembedaan antara citra dan kenyataan, tanda dan ide, yang campur aduk (Medhy, 2012). Pengembangan Teknologi Artificial Intelligence untuk *image recognitian* merupakan bentuk simulasi untuk menduplikasi atau mengkopi realitas alam yang kemudian bisa dilihat melalui smart phone.

2.2. Teknologi *image recognition* menggunakan *Artificial Intelligent*

Teknologi *image recognition* yang dipakai untuk program ini adalah *Convolutional Neural Network* (CNN). Teknologi ini masuk dalam kategori *deep learning* yang sudah dipakai dalam berbagai aspek pengolahan data *non-structural* seperti pada gambar, video maupun suara (Suherman et al., 2021). Penggunaan teknologi CNN ini akan jauh lebih ringan ketika proses klasifikasinya berlangsung dibandingkan saat proses pembelajarannya. Untuk meningkatkan kecepatan eksekusi proses pembelajarannya, sistem akan memanfaatkan teknologi Tensorflow dan Keras dari bahasa pemrograman Phyton (Suherman et al., 2021). Agar teknologi ini mampu belajar dengan baik maka diperlukan banyak foto sebagai bahan untuk pembelajaran atau feed bagi CNN.

Teknologi *image recognition* menggunakan *Artifical Intelligent* diintegrasikan dengan *desain apps* Dewi Tinalah. Peserta kelas alam dapat melakukan foto pada benda alam dan secara otomatis, informasi akan muncul pada *apps* Dewi Tinalah. Teknologi akan membaca data foto benda alam (batu, burung, atau flora) tersebut, dan mengintegrasikan informasinya dengan aplikasi yang telah dibuat. Dengan demikian, peserta Kelas Alam dapat melaksanakan wisata edukasi dengan belajar secara mandiri untuk mengeksplorasi alam Dewi Tinalah.

3. Pertanyaan Penelitian

Penelitian ini hendak melakukan tiga tujuan yakni meninventarisasi potensi desa untuk dapat merumuskan teknologi yang tepat, mengimplementasikan teknologi, dan mencatat *lesson learned* dari prosesnya. Oleh sebab itu, riset ini menarik sebab menawarkan beberapa hal yang baru yakni:

1. Riset ini mencoba untuk bereksplorasi dengan teknologi informasi dan komunikasi yakni menggunakan *artificial intelligent*
2. Riset ini sekaligus menjadi sebuah paradox karena menempatkan AI pada konteks desa yang cenderung jauh dari teknologi
3. Riset ini tidak hanya mencari jawaban atas suatu pertanyaan riset tetapi sekaligus menawarkan solusi berupa penciptaan teknologi yang dapat menunjang paket wisata dan mendokumentasikan potensi desa.
4. Artikel ini sendiri, menjelaskan proses kreatif hingga pelaksanaan dan catatan penting seputar kapan, siapa, bagaimana, dan mengapa teknologi AI bisa diterapkan di desa dan mampu membawa keterlibatan masyarakat.

Melihat dari signifikansi yang ditawarkan pada riset ini, maka pertanyaan yang ingin digali dan dicatat dalam proses penelitian ini adalah:

1. Bagaimana warga menginventarisasi potensi desa untuk dapat masuk dalam aplikasi teknologi?
2. Bagaimana keterlibatan warga dalam proses pembuatan teknologi AI untuk desa ini?
3. Apa *lesson learned* yang didapat selama rangkaian prosesnya terkait dengan kapan, siapa, bagaimana, dan mengapa teknologi AI bisa diterapkan di desa wisata?

4. Metodologi

4.1. Jenis Penelitian

Penelitian ini menggunakan tradisi studi fenomenologis. Creswell menyebutkan bahwa: *"Where as a biography reports the life of a single individual, a phenomenological study describes the meaning of the live experiences for several individuals about a concept or the phenomenon"* (Creswell, 1998:51). Dengan demikian, studi dengan pendekatan fenomenologis berupaya untuk

menjelaskan makna pengalaman hidup sejumlah orang tentang suatu konsep atau gejala, termasuk di dalamnya konsep diri atau pandangan hidup mereka sendiri. Dalam hal ini, potensi desa menjadi sebuah makna yang dialami oleh warga dan menjadi fenomena dalam kehidupan mereka sehari-hari. Desa wisata sendiri memiliki potensi obyek dan pengalaman wisata yang bersumber dari kehidupan agrikultur yang dialami dan dilakukan oleh warga desa. Menurut Moleong (1999), fenomenologi tidak berasumsi bahwa peneliti mengetahui arti sesuatu bagi orang-orang yang sedang diteliti oleh mereka. Inkuiri fenomenologis memulai dengan diam.

Dalam proses studi fenomenologi ini peneliti ingin berusaha untuk masuk ke dalam dunia konseptual para subjek yang ditelitinya sedemikian rupa sehingga mereka mengerti apa dan bagaimana suatu pengertian yang dikembangkan oleh mereka di sekitar peristiwa dalam kehidupan sehari-hari. Hal ini sesuai dengan pengalaman untuk menjabarkan potensi desa dan pendapat warga apabila dilihat dari keterlibatan mereka dalam teknologi aplikasi itu sendiri. Warga desa wisata Tinalah, terutama yang terlibat dalam proyek ini memiliki familiaritas pada penggunaan gadget dan aplikasi lainnya. Fenomenologi menjadikan pengalaman hidup yang sesungguhnya sebagai data dasar dari realita sebuah potensi desa dan interaksi warga pada teknologi.

4.2. Lokasi Penelitian

Desa Wisata Tinalah di Samigaluh Kulon Progo Yogyakarta adalah salah satu tempat wisata yang berada di Desa Purwoharjo, Kecamatan Samigaluh, Kabupaten Kulon Progo, Daerah Istimewa Yogyakarta, Indonesia (Rahajeng, 2015). Secara khusus alamat lokasi Pokdarwis di Jalan Persandian km 5, Sendang Sari, Purwoharjo, Samigaluh, Kabupaten Kulon Progo, Daerah Istimewa Yogyakarta (Rizki, 2020). Ini memungkinkan jarak perjalanan dari Universitas Atma Jaya Yogyakarta ke Dewi Tinalah hanya berkisar kurang dari dua jam saja dengan mobil.

Secara geografis desa wisata Tinalah terletak di sekitar kawasan pegunungan menorah. Terbelah oleh sungai Tinalah, Dewi Tinalah memiliki total 14 dusun yang terlibat dalam kawasan destinasi Dewi Tinalah yakni (Puyang, Taman, Plarangan, Tukharjo, Bangunrejo, Dukuh, Kedungrong, Duwet, Junut, Pagutan, Besole, Sendangrejo, Kalinongko, Sendangmulyo) (Rizki, 2020). Kawasan Dewi Tinalah memiliki berbagai jenis potensi alam yakni pegunungan, persawahan, perkebunan, dan wilayah sungai. Hal ini yang kemudian dimanfaatkan oleh *Pokdarwis* Dewi Tinalah.

Dari sisi kependudukan, Dewi Tinalah masuk dalam Pedesaan Purwoharjo. Desa ini dihuni oleh 1088 keluarga dengan jumlah penduduk sekitar 3537 jiwa (Rizki, 2020). Mata pencaharian penduduknya adalah bertani, berdagang, berkebun, dan bertukang. Tingkat pendidikan di desa ini sebagian besar adalah lulusan Sekolah Dasar yakni 2915 orang, diikuti dengan lulusan SMP yakni 274 orang, SMA kurang lebih 250 orang dan beberapa yang lulus perguruan tinggi yakni 126 orang (Rizki, 2020). Sementara itu, masih banyak masyarakat yang hidup di bawah garis kemiskinan di desa tersebut misalnya dilihat dari masih banyak yang memiliki rumah belum layak huni (berlantai tanah), berpenghasilan kurang dari Rp 5.000 per hari, dan makan kurang dari tiga kali. Pariwisata menjadi salah satu cara untuk mendapatkan penghasilan tambahan yang cukup signifikan jika mendapatkan tamu-tamu untuk *camping* atau *outbound.* Tetapi selama pandemi, pariwisata ditutup sehingga otomatis tidak ada pendapatan tambahan.

Secara historis, pendirian Dewi Tinalah dan *Pokdarwis* didasari dari keinginan warga lokal untuk memanfaatkan sisi alam dan sejarahnya. Kawasan Dewi Tinalah yakni Dusun Duwet, Dukuh, dan Suwelo sebenarnya merupakan zona perjalanan lima tahun sejarah Perang Jawa yang mana Pangeran Diponegoro sering bergerilya di kawasan ini. Sementara pada jaman kemerdekaan, Museum Sandi di desa tersebut menjadi saksi bagi perjuangan pahlawan yang melacak kode, informasi, dan komunikasi untuk melawan penjajahan.

4.3. Teknik Pengumpulan Data

4.3.1. Focus Group Discussion

Focus Group Discussion menurut Walliman (2006) merupakan jenis pengumpulan data dengan cara melakukan wawancara secara kelompok, yang berkonsentrasi secara mendalam pada tema

atau topik tertentu dengan unsur interaksi. Kelompok yang diundang untuk melakukan FGD terdiri dari orang-orang yang memiliki pengalaman atau pengetahuan tertentu tentang subjek penelitian, atau mereka yang memiliki minat tertentu di dalamnya.

Gambar 1. Pelaksanaan FGD di Desa Wisata Tinalah
Sumber: Dok. Peneliti, 2021

Penelitian di Desa Wisata Tinalah mengundang tokoh-tokoh pengelola Desa Wisata Tinalah yaitu terdiri dari pengurus, pemandu, dan pemasaran. Selain jumlah ideal untuk FGD maksimal adalah 10 0rang, juga karena kondisi masa pandemi covid 19 sehingga pertemuan *offline* (tatap muka) dibatasi jumlahnya dan dengan protokol kesehatan yang ketat.

Gambar 2. Diskusi Warga untuk mencari potensi di Desa Wisata Tinalah untuk pembuatan aplikasi teknologi berbasis *Artificial Intelligent*
Sumber: Dok. Peneliti, 2021

FGD dilakukan selama 3 kali pertemuan, dimana pertemuan pertama, membahas tentang kebutuhan terkait pelatihan-pelatihan yang akan diadakan; pertemuan kedua membahas tentang kurkulum kelas alam, dan pertemuan ketiga membahas tentang penulisan feature. FGD menghasilkan kurikulum kelas alam dan tulisan anggota kelompok tentang cerita alam di sekitar mereka, seperti capung, pohon-pohonan, binatang, bebatuan, destinasi wisata di Dewi Tinalah akan memperkaya kemampuan penduduk dalam mengeksplore kekayaan dan menuliskannya dalam suatu cerita yang menarik. Hasil FGD selanjutnya akan membantu penyusunan aplikasi *image recognition*.

Gambar 3. Tim Peneliti menjelaskan aplikasi teknologi pada rencana program Kelas Alam Desa Wisata Tinalah
Sumber: Dok. Peneliti, 2021

4.3.2. Observasi

Observasi menurut Walliman (2006) merupakan metode pengumpulan data untuk merekam kondisi, peristiwa, dan aktivitas melalui melihat daripada bertanya. Sebagai suatu kegiatan, observasi tentu saja diperlukan dalam banyak situasi penelitian, misalnya mengamati hasil eksperimen, perilaku model bahkan mengamati reaksi orang terhadap pertanyaan dalam wawancara.

Kegiatan observasi dipergunakan dalam penelitian ini untuk merekam sifat atau keadaan suatu objek atau peristiwa secara visual, misalnya dalam penelitian ini dengan mengobservasi secara langsung ke Desa Wisata Tinalah untuk mengamati jenis-jenis tanaman, bebatuan, dan binatang. Kemudian melakukan pemotretan dan analisis terkait hasil gambar yang diperoleh apakah sesuai dengan kondisi yang sesungguhnya. Walliman (2006) menyatakan bahwa cara observasi seperti ini disebut sebagai etnografi visual. Materi visual dapat menjadi sumber data untuk analisis, atau dapat digunakan sebagai pemicu reaksi orang yang diwawancarai. Observasi dapat digunakan untuk merekam data kualitatif.

4.4. Implementasi Teknologi

Jaringan syaraf tiruan merupakan basis teknologi yang digunakan untuk pengenalan obyek obyek pembelajaran pada desa wisata tinalah. Lebih lanjut, algoritma Convolution Neural Network dengan arsitektur LeNet digunakan karena memiliki kemampuan rekognisi yang tinggi (Suherman et al., 2021). Algoritma ini dijalankan menggunakan Bahasa pemrograman python, yang kemudian diintegrasikan ke aplikasi android melalui web service flask (Ilmawan, 2018). Algoritma dibangung dengan menggunakan bantuan library *tensorflow* untuk meningkatkan kemampuan kecepatan belajar.

Secara garis besar algoritma ini dibagi menjadi dua fase yakni fase belajar dan fase rekognisi atau sering juga disebut fase evaluasi. Sistem akan belajar dari gambar gambar dari obyek obyek yang ada di desa wisata tinalah yang dipilih. Pemilihan obyek yang akan direkognisi ini berdasarkan nilai historis terhadap masyarakat desa wisata tinalah, obyek yang mampu meningkatkan dinamika selama proses pembelajaran alam dilakukan, dan tentunya obyek yang mampu membantu meningkatkan nilai paket paket wisata pada desa wisata tinalah.

Gambar 4. Fase Belajar pada Aplikasi Desa Wisata Tinalah
Sumber: Dok Pribadi peneliti, 2021

Fase kedua adalah fase evaluasi atau fase rekognisi. Pada fase ini sistem akan memberikan pengetahuan yang diperoleh dari fase pembelajaran ke pada aplikasi android melalui webservice flask. Proses evaluasi ini dalam konteks pembelajaran alam ini di wujudkan dalam bentuk gamifikasi. Semakin banyak obyek rekognisi yang diperoleh maka peserta akan mendapat poin lebih tinggi.

Gambar 5. Fase rekognisi pada Aplikasi Desa Wisata Tinalah
Sumber: Dok. Peneliti, 2021

Proses gamifikasi ini bertujuan untuk memberikan pembelajaran mengenai obyek terpilih dari aplikasi tentang kearifan lokal masyarakat yang ada terkait obyek tersebut. Selain itu gamifikasi ini berusaha untuk menarik konsumen atau peserta untuk mengambil keseluruhan paket Desa Wisata Tinalah dengan membuka seluruh obyek rekognisi. Hal ini diwujudkan dengan tersebarnya seluruh obyek rekognisi di seluruh destinasi Desa Wisata Tinalah.

Aplikasi yang dikembangkan saat ini masih memiliki kekurangan pada ruang lingkup perangkat yang baru bisa pada smartphone android. Selain itu aplikasi ini belum mampu membedakan objek acak atau objek yang ditentukan, karena menggunakan konsep klasifikasi. Pada konsep klasifikasi

setiap obyek yang diambil harus dikelompokkan pada kelas kelas yang telah ditentukan, sehingga jika terdapat obyek diluar kelas yang dimiliki akan di baca tetap sebagai salah satu obyek rekognisi.

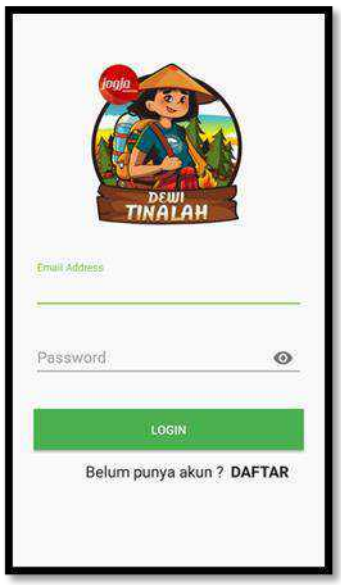
4.5. Kelas Alam Desa Wisata Tinalah

Melalui rapat bersama, Pokdarwis Dewi Tinalah berinisiatif untuk dapat membuka kembali paket di desanya terutama dengan mengembangkan pasar sekolah yang ingin belajar Ilmu Pengetahuan Alam (IPA) secara langsung di alam. Program ini adalah edukasi alam berbasis teknologi. Misalnya dengan pengamatan bebatuan, flora, dan burung yang ada di sekitar desa tetapi bisa mengintegrasikan pengamatan dan edukasi tersebut dengan teknologi. Oleh sebab itu, Desa Wisata Tinalah sudah mengembangkan Apps Dewi Tinalah yang dapat didownload di *google apps store*. Ini adalah sebuah inovasi desa yang dilakukan oleh pemuda-pemudi yang tergabung dalam Pokdarwis di sana.

Dari hasil diskusi dengan warga sekitar, Dewi Tinalah berharap agar *apps* yang mereka buat secara sederhana bisa dikombinasikan dengan acara *outbound* yang kerap diselenggarakan di desa tersebut. Dewi Tinalah membutuhkan mahasiswa dari perguruan tinggi dari berbagai bidang yakni bidang ilmu sosial, ilmu komunikasi, dan ilmu teknologi informasi untuk secara multidisiplin dapat meng-upgrade apps tersebut dan menyatukannya dengan edukasi alam. *Design thinking* untuk membuat informasi Apps menjadi menarik dan mengemasnya menjadi games dimana ada kompetisi, tantangan, hingga kolaborasi tim serta menunjang kelas alam sangat diperlukan.

Sementara itu dengan kondisi COVID-19, Desa wisata Tinalah berharap dapat membuka kembali paket di desanya terutama dengan mengembangkan pasar sekolah yang ingin belajar Ilmu Pengetahuan Alam (IPA) secara langsung di alam. Misalnya dengan pengamatan bebatuan, flora, dan burung yang ada di sekitar desa. Oleh sebab itu, Desa Wisata Tinalah sudah mengembangkan Apps Dewi Tinalah yang dapat didownload di *google apps store*. Ini adalah sebuah inovasi desa yang dilakukan oleh pemuda yang tergabung dalam Pokdarwis di sana. Tetapi, Dewi Tinalah tetap membutuhkan ahli dari perguruan tinggi yakni bidang ilmu sosial, ilmu komunikasi, dan ilmu teknologi informasi untuk dapat meng-upgrade apps tersebut sehingga dapat menunjang kelas alam.

Gambar 6. Tampilan Aplikasi Desa Wisata Tinalah



Gambar 6. Tampilan Pendaftaran Aplikasi Desa Wisata Tinalah
Sumber: Dok. Peneliti, 2021

Setelah melalui diskusi dengan Pokdarwis Desa Wisata Tinalah, dipilihlah teknologi *image recognition* yang menggunakan *Artifical Intelligent* untuk diintegrasikan dengan *desain apps* Dewi

Tinalah. Melalui teknologi ini, peserta kelas alam dapat melakukan foto pada benda alam dan secara otomatis, informasi akan muncul pada *apps* Dewi Tinalah. Teknologi akan membaca data foto benda alam (batu, burung, atau flora) tersebut, dan mengintegrasikan informasinya dengan aplikasi yang telah dibuat. Untuk dapat menunjang teknologi ini, diperlukan Sumber daya manusia yang dapat melakukan pengambilan foto (pelatihan fotografi), menulis konten (penulisan naskah feature), dan penggunaan aplikasi dan kurikulum kelas alam (pelatihan penggunaan apps dan desain kurikulum).

5. Hasil Penelitian

5.1. *Pemetaan Potensi Desa*

Objek Desa Wisata Tinalah di Samigaluh Kulon Progo Yogyakarta adalah daerah yang menjadikan sektor wisata sebagai andalannya, beragam potensi dan jenis wisata. Sebutan Dewi (Desa Wita) Tinalah ini menjadikan keindahan alam yang ada di daerahnya sebagai andalan. Aliran sungai Tinalah menjadikan desa ini memiliki keindahan alam yang mempesona. Deretan bukit yang hijau, area persawahan, dan aliran sungai berbatu berpadu menjadi bentang alam yang sangat memanjakan mata. Ada juga potensi wisata alam berupa gua Sriti yang memiliki kedalaman sekitar 70 meter. Panggeh Widodo, selaku Ketua Desa Wisata Tinalah, menjelaskan bahwa berbekal potensi yang ada pada tahun 2013 masyarakat Tinalah merintis desa wisata.

Sejumlah fasilitas telah disediakan pengelola, mulai dari dua buah area camping ground, dua buah pendopo, kamar mandi, permainan outbond, musala, hingga tenda. Biasanya wisatawan yang datang ke Dewi Tinalah adalah rombongan baik mahasiswa, pelajar, ataupun rombongan instansi. Ada beragam kegiatan yang disiapkan bagi para pengunjung, seperti susur sungai Tinalah, tracking bukit, outbond, dan beberapa kegiatan lainnya Letaknya berada di Kawasan Bukit Menoreh yang kaya akan keindahan alam dan budaya. Wilayah Dewi Tinalah dulunya pernah dijadikan tempat persembunyian Pangeran Diponegoro dan mengatur strategi perang. Di bukit Talun Miri, yang saat ini menjadi salah satu lokasi camping ground dulunya adalah tempat Pangeran Diponegoro berlatih berkuda. Ditempat ini juga terdapat museum sandi, yang dulu menajdi tempat penyerahan informasi dalam bentuk sandi pada masa perang gerilya Jenderal Sudirman.

Mitra kegiatan pengabdian ini adalah Kelompok Sadar Wisata (Pokdarwis) Dewi Tinalah. Kelompok Sadar Wisata (Pokdarwis) menurut Kementerian Pariwisata dan Ekonomi Kreatif merupakan kelembagaan di tingkat masyarakat yang anggotanya terdiri dari para pelaku kepariwisataan yang memiliki kepedulian dan tanggungjawab serta berperan sebagai penggerak dalam mendukung terciptanya iklim kondusif bagi tumbuh dan berkembangnya kepariwisataan dan memanfaatkannya bagi kesejahteraan masyarakat sekitar. Fungsi Pokdarwis dalam kegiatan kepariwisataan menurut Kementerian Pariwisata dan Ekonomi Kreatif adalah sebagai: Pertama, penggerak Sadar Wisata dan Sapta Pesona di lingkungan wilayah di destinasi wisata; Kedua, sebagai mitra pemerintah dan pemerintah daerah (kabupaten atau kota) dalam upaya perwujudan dan pengembangan Sadar Wisata di daerah.

Dalam proses pemetaan potensi alam desa, peneliti melakukan beberapa rangkaian FGD untuk pengumpulan hasil.

Tabel 1. Deskripsi aktivitas pelaksanaan diskusi

Proses	Deskripsi aktivitas
FGD 1	Dimulai dengan penjelasan mengenai teknologi yang ingin dikembangan serta potensi pasar, diskusi ini melibatkan warga masyarakat, pemangku kebijakan, dan pengurus Pokdarwis. Peneliti bertanya dan melakukan *brainstorm* umum mengenai apa yang menjadi potensi alam dan budaya yang dapat masuk dalam teknologi.
FGD 2	Peneliti melakukan diskusi lebih intensif dengan pokdarwis yang melibatkan ketua, sekretaris, dan marketing. Diskusi ini untuk membahas harapan dan pemetaan dalam pemanfaatan paket kelas alam yang mengidentifikasi potensi lokal dan teknologi.
FGD 3	Peneliti melakukan diskusi dengan melakukan pemetaan yang lebih intensif dengan melihat paket-paket outbound apa saja yang sudah ada. Kemudian dilakukan diskusi mengenai paket kelas alam wisata apa yang secara spesifik dapat dibangun dari kelas

	alam ini.
FGD 4	Peserta melakukan diskusi mengenai materi spesifik yang berhubungan dengan kelas alam dan menulis deskripsi sederhana mengenai benda-benda alam yang teridentifikasi dapat masuk dalam teknologi.

Sumber: Peneliti, 2021

Melalui proses pemetaan ini terdapat setidak-tidaknya tiga zona alam yang akan dieksplorasi dalam teknologi. (1) Daerah persawahan dan perkemahan, (2) Daerah sungai Tinalah, (3) Daerah hutan area *trekking* ke Puncak Kleco. Melalui tiga zona ini, warga berdiskusi mengenai benda alam apa yang dapat masuk dalam teknologi, paket apa yang dapat dibuat, dan obyek pengamatan apa yang dapat dijadikan bahan untuk teknologi maupun yang bisa digunakan untuk penjelasan pemandu wisata.

Tabel 2. Inventarisasi jawaban dan pertanyaan untuk pemetaan potensi

Pertanyaan untuk pemetaan potensi	Inventarisasi jawaban
Benda alam apa informasinya dapat masuk dalam teknologi?	Warga melakukan diskusi, observasi pada obyek dilakukan, dan pengambilan gambar dilakukan. Benda itu antara lain batu karang, kelapa, padi, pisang, singkong, generator mikrohidro, dan lain-lain.
Paket apa yang dapat dibuat?	Warga melakukan diskusi, inventarisasi pada acara outbound dan aktivitas dilakukan, serta catatan tentang potensi cerita dilakukan. Paket itu antara lain paket partisipatif bertema “singkong,” paket partisipatif bertema “kelapa,” paket partisipatif “mikrohidro,” paket partisipatif “sungai,” paket partisipatif “nasi dan persawahan.” Paket partisipatif yang dimaksud melibatkan aktivitas penjelasan, penggunaan teknologi dengan pengambilan gambar, hingga aktivitas misalnya membuat makanan ringan, memasak, bermain air, berkunjung ke rumah warga, hingga penanaman pohon.
Obyek pengamatan apa yang dapat dijadikan bahan untuk teknologi maupun yang bisa digunakan untuk penjelasan pemandu wisata?	Warga melakukan inventarisasi dan penceritaan mengenai obyek-obyek alam yang dapat masuk melalui teknologi, acara reflektif, maupun penjelasan pemandu wisata. Misalnya: stalagtit, stalagmite, padi, instalasi mikrohidro, embung, dan bebatuan sungai, ritual wiwitan, dan baritan.

Sumber: Peneliti, 2021

Melalui proses pemetaan ini, warga dilibatkan dan terlibat aktif dalam melakukan konstruksi terhadap tempat yang merupakan wilayah mereka sendiri. Warga desa juga terlibat aktif dalam hal produksi konten, paket, dan gambaran benda di sekitarnya yang bisa dimanfaatkan untuk paket, teknologi, aktivitas wisata, hingga penjelasan tur guide. Selain itu, warga juga terlibat aktif dalam konstruksi proses konsumsi atau *place consumption* (Murti, 2020) dimana warga menentukan hal apa yang dapat dilihat, dinikmati, dipelajari, dan dipahami oleh orang luar mengenai desa mereka. Tindakan partisipatif ini akan mencegah eksotisisme atau aksi yang mana membuat desa menjadi obyek pasif dalam *place consumption* yang kerap terjadi. Desa menjadi tidak punya kekuatan untuk menolak materi apa yang bisa “ditonton,” “dipertunjukkan,” atau *gazing of others* (Murti, 2020).

5.2. Teknologi dan Masyarakat

Secara umum, masyarakat menerima usulan teknologi informasi dan komunikasi yang akan diaplikasikan di desa mereka. Beberapa hal yang muncul dalam catatan penelitian ini adalah bahwa usulan pengembangan kelas alam yang digagas oleh warga dapat didukung oleh teknologi ini dan bahwa teknologi ingin mengembangkan apps yang memang sudah lebih dahulu dimiliki oleh warga. Poin *existing* ini menjadi penting sebab ini menentukan kepemilikan atas teknologi dan keinginan warga untuk terlibat, daripada semua usulan berasal dari peneliti atau pelaksana abdimas yang notabene adalah orang luar atau *outsider.*

> "Kami menyambut baik pembuatan teknologi ini karena ini dapat diintegrasikan dengan rencana kami mengenai kelas alam dan mengembangkan potensi di desa yang sudah ada"-Pernyataan A001

Selain itu, keterlibatan masyarakat dalam proses penciptaan teknologi juga memberikan dampak dari kemauan warga untuk berkomitmen menyelesaikan program maupun tugas yang diberikan. Masyarakat dilibatkan dalam berbagai proses diskusi untuk mengidentifikasi dan menginventarisasi potensi di desanya. Selain itu, masyarakat juga dilibatkan dalam proses memberikan makna dan narasi pada potensi benda maupun non benda yang ada di desanya. Proses memaknai dan membuat narasi baik lisan maupun tertulis ini merupakan bagian dari keterlibatan warga untuk ikut memproduksi tidak hanya konten tetapi alur pengalaman yang nantinya akan dirasakan oleh warga maupun pengunjung.

> "Ada banyak potensi di sini. Bisa cerita macam-macam. Ada cerita mengenai kelapa, ada cerita dan membuat singkong, ada cerita tentang mikrohidro, ada cerita tentang sungai tinalah, ada cerita soal batu juga bisa. Banyak yang bisa diceritakan untuk belajar adik-adik sekolah"-Pernyataan A002

Dalam proses pengambilan gambar, masyarakat dan terutama yang pernah berpengalaman sebagai *guide,* juga terlibat dalam menunjukkan benda-benda alam di sekitar desa wisata. Melalui pengalaman trekking, warga menceritakan obyek-obyek alam spesifik di sepanjang jalur *trekking* selama dua jam tersebut. Hal ini memberikan kesempatan pada warga untuk bisa membayangkan mengenai isi dan fungsi teknologinya. Selain itu, obyek-obyek yang ditemui secara langsung bisa memberikan wawasan tambahan bagi bahan konten untuk teknologi.

6. Pembahasan

Pembahasan ini akan membahas implikasi teoritis dan praktis dalam beberapa pertanyaan reflektif seputar *lesson learned* dalam pemanfaatan teknologi TIK berbasis AI dalam pengembangan program kelas alam di desa wisata. Pertanyaan itu antara lain mengenai kapan, siapa, bagaimana, dan mengapa teknologi AI ini bisa dan mungkin diterapkan di desa wisata secara inovatif tanpa menghilangkan interaksi dan keterlibatan masyarakat dalam pembuatan dan penggunaan teknologinya.

6.1. *Kapan Teknologi AI dalam TIK bisa diterapkan di desa wisata?*

Teknologi informasi dan komunikasi khususnya perangkat media seluler memiliki potensi untuk memberikan simulasi (*simulacrum)* ke ruang publik yang membentuk praktik sosial dan spasial yang berlangsung secara simultan (Humpherys, 2007) di desa wisata. Potensi dalam muncul dalam perangkat aplikasi untuk media seluler adalah dapat memperkuat keterkaitan tempat dan mobilitas serta pengembangan produksi dan konsumsi tempat (*place production and consumption).*

Desa wisata dalam hubungannya dengan TIK seharusnya bisa menjadi produsen sekaligus konsumen konten media tersebut (Groote & Haarsten, 2016; Reijnders, 2016). Dengan demikian, proses produksi dan konsumsi ini tidak hanya melibatkan komoditas tempat, tetapi juga narasi sejarah dan warisannya (Foster et al., 2017; Groote & Haarsten, 2016). *Artificial intelligent* dalam aplikasi desa wisata Tinalah ini merupakan bentuk implementasi teknologi informasi dan komunikasi untuk mengembangkan sebuah desa wisata. Teknologi AI banyak dianggap sebagai pengganti pekerjaan manusia. Anggapan

bahwa teknologi mampu membuat manusia mengalami kerugian dan terpinggirkan banyak muncul sebab kemampuan teknologi yang bisa melebihi manusia. Tetapi, apabila *AI* dipergunakan untuk keuntungan manusia, teknologi justru dapat memberikan keuntungan, memberdayakan, dan mengedukasi masyarakat. Dalam proses penelitian ini, penerapan AI menggunakan konsep *human centered empowerment* dimana pemberdayaan berpusat pada manusia di sekitarnya. Ini berarti bahwa teknologi hanya sebagai alat atau instrumen komunikasi untuk memfasilitasi manusia dan hanya demi kebaikan manusia di sekitarnya.

Aplikasi teknologi informasi dan komunikasi seperti AI sangat memerlukan keterlibatan masyarakat atau *pro human*. Masyarakat terlibat dalam proses produksi tempat, konsumsinya, dan narasinya. Hal ini juga memberikan implikasi pada isu ownership atau kepemilikan dalam pengelolaan suatu tempat. Masyarakat yang terlibat dalam proses ini menggunakan sumber daya untuk melestarikan nilai-nilai budaya (Beel et al., 2017), menarik wisatawan (Edelheim, 2015), meningkatkan pengeluaran wisatawan (Luscombe, Walby, & Piché, 2018), dan memperkuat lokasi (dirasakan/diproyeksikan) "identitas budaya" (McDowell, 2016). Dengan demikian, media – baik offline maupun online – memainkan peran penting dalam membentuk representasi tempat (Groote & Haarsten, 2016), berpartisipasi dalam membangun makna komunikasi pada suatu tempat wisata (De Groot, 2016). Aplikasi seluler berfungsi untuk membentuk representasi tempat melalui konsep koneksi, mobilitas sosial, dan kedekatan virtual dalam ranah siklus pariwisata.

6.2. *Siapa yang bisa menerapkan AI untuk kebutuhan TIK desa wisata?*

Manusia, tempat, dan teknologi memiliki relasi yang menarik sebab teknologi dapat memicu proses mobilitas yang terjadi pada suatu tempat. Mobilitas adalah konsep yang sangat menonjol untuk memahami pariwisata dan teknologi seluler, ruang fisik dan virtual, pengalaman di tempat dan online (Molz, 2012). Melalui mobilitas teknologi mobile, pariwisata menjadi sebuah konsep yang menghubungkan, menghubungkan kembali, dan memutuskan tempat (Bauman, 2003).

Manusia dalam hal ini perlu memahami potensi teknologi dalam membentuk hubungan sosial, serta kesenjangan sosial, yang tampaknya hadir dalam aspek eksklusif dan inklusif dari dunia fisik dan virtual ini (Urry, 2007). Praktisi pariwisata, akademisi, industri pariwisata, konsultan melalui teknologi informasi dan teknologi yang dimediasi dengan *Artificial Intelligent* akan mampu bergerak melampaui kehadiran fisik hingga dapat meningkatkan potensi wisata di suatu tempat, interaksi online maupun offline, dan identitas suatu tempat (Molz, 2012).

6.3. *Bagaimana menerapkan AI di Desa Wisata untuk kebutuhan TIK?*

Studi ini menemukan bahwa untuk menerapkan AI di desa wisata untuk kebutuhan teknologi informasi dan komunikasi diperlukan proses identifikasi yang melibatkan warga di desa wisata. Proses keterlibatan ini dapat melalui proses pengumpulan materi dalam proses pengaturan paket wisata maupun narasi. Studi ini menemukan bahwa setidaknya ada tiga hal mengenai desa wisata yang diidentifikasi sebagai hal yang dapat diangkat dalam teknologi yakni– budaya misalnya arsitektur rumah tradisional, ritual, dan benda bersejarah, aktivitas masyarakat lokal, dan alam sekitarnya. Materi nyata seperti ini penting dalam menjual tempat pedesaan di media seluler populer, serta imajinasi untuk mengkonstruksi *place making* desa wisata (Wang & Sandner, 2019; Oreglia, 2015; Carnegie, 2010; Murti, 2020).

Gaya hidup yang dekat dengan alam, menelusuri alam, dan menggunakan teknologi dapat menjadi bagian dalam pembuatan teknologi informasi dan komunikasi ini. Sebagaimana dipahami dalam benak konsumen mengenai desa wisata yakni mereproduksi imajinasi dan stereotip dominan tentang tempat-tempat pedesaan, pedesaan dan desa-desa (Milbourne, 1997).

6.4. *Mengapa menerapkan AI di Desa Wisata?*

Penelitian ini juga menemukan alasan mengapa AI bisa dan dapat diterapkan di desa wisata. Penggambaran desa wisata sebagai ruang pedesaan berimplikasi pada duplikasi lanskap. Duplikasi lanskap adalah proses dimana suatu tempat terduplikasi dalam bentuk gambar atau video atau realitas virtual yang menggunakan teknologi (Halfacree, 2003; Milbourne, 1997). Tentu, ini akan berimplikasi pada cara melihat dan cara berinteraksi dari tempat ini secara berbeda. Tetapi, teknologi ini dikembangkan justru dengan mengandalkan interaksi dan tidak dapat dilakukan oleh wisatawan tanpa bantuan penduduk sekitar. Hal ini menyebabkan teknologi menjadi alat bantu terjadinya interaksi sosial yang dimediasi oleh aplikasi seluler (Couldry & Hepp, 2018; Vásquez, 2012; Carter, 2016). Masyarakat termediasi ini mengandalkan pengalaman antarmuka para pengguna (Couldry & Hepp, 2018). Selain itu, produsen dan konsumen juga mengikuti batasan, pengelolaan konten, dan pengalaman pengguna dari masuk hingga keluar, hingga proses membaca dan menulis ulasan. Wisatawan tidak hanya mengalami aplikasi, tetapi juga dalam menceritakan dan akhirnya mengalami tempat itu sendiri (Vásquez, 2012; Carter, 2016). Narasi yang melingkupi desa wisata kemudian dihasilkan juga melalui foto dan cerita pengalaman dan aktivitas. Akhirnya, desa wisata ini melalui cara aplikasi seluler dan proses AI yang mekanis dan sistematis menghasilkan narasi-narasi ini melalui fitur-fiturnya sendiri.

7. Simpulan dan Keterbatasan

Pandemi covid 19 mengharuskan pelaksanaan penelitian dan pengabdian pada masyarakat dilakukan dengan menggunakan protokol kesehatan yang ketat untuk meminimalisir resiko terpapar covid 19. Oleh karena itu, metode pengumpulan data yang inovatif perlu dikembangkan bersama masyarakat. Masyarakat diajak memikirkan cara menggali masalah sampai dengan solusi atas permasalahan yang dihadapi dengan menggunakan metode pengumpulan data yang inovatif seperti melalui zoom meeting, atau menggunakan media sosial yang lainnya.

Saran untuk penelitian selanjutnya adalah menganalisis bagaimana implikasi dari pemanfaatan teknologi kelas alam tersebut dipergunakan dalam membangun kurikulum kelas alam. Hasil dari pemakaian apps tentu saja akan membantu dalam pembangunan pariwisata yang berkelanjutan pada waktu -waktu yang akan datang.

Teknologi AI menciptakan fasilitas interaksi baru bagi wisatawan yang berkunjung di Dewi Tinalah karena penerapan protokol kesehatan yang harus dijaga ketat selama pandemi covid 19. Gamifikasi menggunakan mobile phone menjadi media pembelajaran alam yang aman bagi wisatawan dengan interaksi yang berjarak antar wisatan. Teknologi memiliki fungsi “extension”, dimana gamifikasi ini akan terintegrasi dengan kehidupan wisatawan sebagai pengguna dan penduduk yang menjadi subjek yang mengembangkannya. Penduduk sebagai subjek pengembang gamifikasi akan berinteraksi dengan teknologi tersebut secara terus menerus sehingga bisa menjadi bagian dari kehidupan mereka.

Gamifikasi melalui teknologi AI yang dikombinasikan dengan kegiatan alam lainnya yang memungkinkan wisatawan masih tetap bisa berinteraksi dengan wisatawan lain, penduduk, dan alam meminimalisir ketergantungannya. Wisatawan tidak akan terjebak kedalam realitas tiruan (hiperialitas) dan membentuk kehidupannya karena realitas yang riil (sesungguhnya) dihadirkan melalui interaksi dan permainan lainnya yang mempertemukan dengan orang lain meskipun tetap dengan protokol kesehatan.

DAFTAR PUSTAKA

Baudrillard, J. (1999). Simulacra and simulation (Translated by Sheila Faria Glaser). Ann Arbor: The University of Michigan Press

Piliang, Yasraf Amir. 2012. Masyarakat informasi dan digital: Teknologi informasi dan perubahan sosial. *Jurnal Sosioteknologi* 11.27 : 143-155.

Medhy, A. H. (2012). Menggugat Modernisme Mengenali Rentang Pemikiran Postmodern Jean Baudrillard. Yogyakarta: Jalasutra

Walliman, Nicholas. 2006. *Social Research Method*. SAGE Publications Ltd. London.

Suherman, A. H., Ibrahim, N., Syahrian, H., Rahadi, V. P., & Prayoga, M. K. (2021). KLASIFIKASI DAUN TEH GAMBUNG VARIETAS ASSAMICA MENGGUNAKAN CONVOLUTIONAL NEURAL NETWORK DENGAN ARSITEKTUR LENET-5. *Journal of Electrical and System Control Engineering*, *4*(2), 63-71.

Ilmawan, L. B. (2018). Membangun Web Crawler Berbasis Web Service Untuk Data Crawling Pada Website Google Play Store. *ILKOM Jurnal Ilmiah*, *10*(2), 215-224.

Draft Abstrak Pengajuan Konferensi Internasional

Abstract

Communication technology in artificial intelligent applicative research are emerging areas of academic inquiry that remain heavily reliant on the applications of technology to gather qualitative data. Only recently have those in this field begun to explore more participatory methodologies, and their potential to generate knowledge. Yet, despite these developments, research in communication and artificial intelligent remains largely absent in research. This article focuses on the process, limitations, and benefits of this alternative approach, as discovered through a research project in Tinalah village in Kulon Progo, Yogyakarta. In particular, research combined participatory action research to develop the technology, developing the AI program accordingly, and observe the ways in which the technology is applied to examine how Desa Wisata Tinalah residents perceived, experienced, and responded to this technology. Overall, this method offers a new approach to understanding the interactions between human communication and technology to create a more nuanced theory-building in communication and technology

Keywords: *communication, technology, village, artificial intelligent, participatory*

Modul Kurikulum Kelas Alam

TOR
PENGABDIAN KELAS ALAM BERBASIS TEKNOLOGI
DESA WISATA TINALAH
UAJY DAN UKRIM

LATAR BELAKANG

Kegiatan pengabdian ini bertujuan melaksanakan pemberdayaan masyarakat berupa program pengembangan Desa Wisata Tinalah sebagai desa wisata dengan potensi wisata alam, budaya, sejarah, dan edukasi. Program pengembangan pengabdian ini berupaya mengembangkan Desa Wisata Tinalah sebagai desa wisata alam dan wisata edukasi berupa kelas alam berbasis teknologi *image recognition.* Masyarakat mempunyai kreatifitas dalam pengembangan keberagaman usaha dan pengelolaan alam supaya tetap terus berlangsung dan lestari. Kelas alam adalah salah satu potensi yang bisa dikembangkan untuk pendidikan pengenalan alam dan lingkungan bagi murid-murid mulai Taman Kanak-Kanak (TK) sampai dengan Sekolah Menengah Atas (SMA) yang sedang berkemah ataupun mengadakan kegiatan komunitas di Desa Tinalah.

GAMBARAN DESA WISATA

Pembangunan berbasis masyarakat dengan demikian semestinya berangkat dari kebutuhan masyarakat itu sendiri. Orang dari luar masyarakat yang akan mendampingi dalam pengembangan daerahnya bisa duduk bersama dan mendiskusikan masalah sampai dengan solusi atas persoalan mereka. Solusi atas permasalahan masyarakat dampingan berbasis pada sumberdaya dan kearifan lokal masyarakat yang didampingi untuk menghasilkan solusi terbaik demi kesejahteraan masyarakat dampingan.

Dari sejarahnya, masyarakat dan pemerintah aktif berperan dalam pengembangan desa menjadi desa wisata melalui Program Nasional Pemberdayaan Masyarakat (PNPM) Mandiri pariwisata dalam pembentukan menjadi Desa Wisata Tinalah (Dewi Tinalah). Pengembangan desa wisata ini sejak tahun 2012 dan resmi berdiri pada tanggal 13 Oktober 2013. Kelompok Sadar Wisata (pokdarwis) Desa Wisata Tinalah berupaya mengembangkan potensi wisata di daerah mereka yang kaya akan potensi alam, edukasi, dan budaya. Berikut ini adalah gambar kegiatan Desa Wisata Tinalah (gambar 1).

Gambar 1
Desa Wisata Tinalah

Sumber: Gambar dari Web Dusun Tinalah, 2020

Kegiatan ekonomi kreatif berbasis masyarakat yang sudah dikembangkan oleh mitra yaitu: **Pertama**, Wisata Alam berupa paket *outbond*, *camping*, *trecking*, *makrab*, *live in*, dan *river tubing*. Selain itu, wisatawan dapat melakukan kegiatan menelusuri keindahan alam sekitar desa wisata dengan jalan mendaki Puncak Kleco dan Goa Sriti, serta menyusuri Sungai Tinalah; **Kedua**, Wisata Sejarah. Situs sejarah terdapat di kawasan ini yaitu Rumah Sandi dimana pada masa Agresi Militer Belanda II dipergunakan oleh para sandiman untuk mengirim berita ke mata dunia bahwa Negara Kesatuan Republik Indonesia sudah berdiri dan berdaulat; dan **Ketiga**, Wisata Budaya. Wisata budaya seperti Merti Bumi Tinalah dan Angler Wiwitan Tandur di Puncak Kleco. Merti dusun merupakan acara bentuk syukur masyarakat kepada Tuhan atas segala panenan yang memberikan rejeki bagi penduduknya. Desa Purwoharjo terdiri dari 14 dusun dan semua dusun tersebut menyiapkan sesaji berupa tumpeng, ingkung ayam kampung, sayuran, dan jajan pasar. Sedangkan budaya Angler Wiwitan Tandur dilaksanakan setiap musim tanam akan dimulai.

Kekayaan alam, sejarah, dan budaya ini menjadi potensi yang sangat potensial untuk pengembangan wisata khususnya wisata edukasi untuk pengetahuan terkait dengan alam. Wisata edukasi dalam bentuk kelas alam berbasis teknologi *image recognition* perlu didisain dan dikembangkan oleh pengelola Pokdarwis Dewi Tinalah. Berikut ini adalah beberapa gambar kegiatan wisata di Desa Wisata Tinalah.

Gambar 2
Beberapa Kegiatan Wisata Alam di Desa Wisata Tinalah

Camping

Selusur Gua Sriti

River Tubing Sungai Tinalah

Mendaki Puncak Kleco

Sumber : Dokumentasi Desa Wisata Tinalah, 2020

Gambar 3
Wisata Budaya dan Sejarah

Budaya Merti Bumi

Rumah Sandi

Secara geografis, Desa Wisata Tinalah masuk dalam wilayah Desa Purwoharjo, Kecamatan Samigaluh, Kabupaten Kulon Progo, Daerah Istimewa Yogyakarta. Batas administratif desa wisata yang berada di Kabupaten Kulon Progo ini adalah sebelah barat berbatasan dengan Kabupaten Purworejo (Propinsi Jawa Tengah), sebelah timur berbatasan dengan Kabupaten Bantul dan Kabupaten Sleman, sebelah utara berbatasan dengan Kabupaten Magelang (Propinsi Jawa Tengah), dan sebelah selatannya berbatasan dengan Samudera Hindia. Secara geografis terletak pada 7 º 38'42'' – 7 º 59'3" Lintang Selatan dan 110º 1'37" – 110º 16'26" Bujur Timur **[4].** Alamat Desa Wisata Tinalah berada di Jalan Persandian Km. 5. Desa Purwoharjo, Kecamatan Samigaluh, Kabupaten Kulon Progo, Daerah Istimewa Yogyakarta. Jarak tempuh Kota Yogyakarta ke Desa Wisata Tinalah adalah 25.8 km atau 46 menit. Kawasan Dewi Tinalah berada di pegunungan Menoreh (ketinggian 300 – 600 mdpl) yang berbukit-bukit, udara sejuk, dan pemandangan indah.

Sementara itu dengan kondisi COVID-19, Desa wisata Tinalah berharap dapat membuka kembali paket di desanya terutama dengan mengembangkan pasar sekolah yang ingin belajar Ilmu Pengetahuan Alam (IPA) secara langsung di alam. Misalnya dengan pengamatan bebatuan, flora, dan burung yang ada di sekitar desa. Oleh sebab itu, Desa Wisata Tinalah sudah mengembangkan Apps Dewi Tinalah yang dapat didownload di *google apps store*. Ini adalah sebuah inovasi desa yang dilakukan oleh pemuda yang tergabung dalam Pokdarwis di sana. Tetapi, Dewi Tinalah tetap membutuhkan ahli dari perguruan tinggi yakni bidang ilmu sosial, ilmu komunikasi, dan ilmu teknologi informasi untuk dapat meng-upgrade apps tersebut sehingga dapat menunjang kelas alam. Setelah melalui diskusi dengan Pokdarwis Desa Wisata Tinalah, dipilihlah teknologi *image recognition* yang menggunakan *Artifical Intelligent* untuk diintegrasikan dengan *desain apps* Dewi Tinalah. Melalui teknologi ini, peserta kelas alam dapat melakukan foto pada benda alam dan secara otomatis, informasi akan muncul pada *apps* Dewi Tinalah. Teknologi akan membaca data foto benda alam (batu, burung, atau flora) tersebut, dan mengintegrasikan informasinya dengan aplikasi yang telah dibuat. Untuk dapat menunjang teknologi ini, diperlukan Sumber daya manusia yang dapat melakukan pengambilan foto (pelatihan fotografi), menulis konten (penulisan naskah feature), dan penggunaan aplikasi dan kurikulum kelas alam (pelatihan penggunaan apps dan desain kurikulum).

PROGRAM PELATIHAN DAN PRODUKSI

a. Penyusunan kurikulum kelas alam untuk meningkatkan kemampuan dan keterampilan pengelola pokdarwis dalam menciptakan disain kurikulum kelas alam.
b. Selain itu juga dilakukan pelatihan fotografi, dan penulisan feature untuk mengisi dan mengembangkan konten kelas alam.
c. Pelatihan penggunaan aplikasi kelas alam dilakukan untuk pengembangan produk supaya bisa terus dipergunakan bagi wisata edukasi**.** Pelatihan-pelatihan ini dilakukan untuk pengembangan dan keberlangsungan aplikasi kelas alam berbasis Teknologi di Desa Wisata Tinalah.

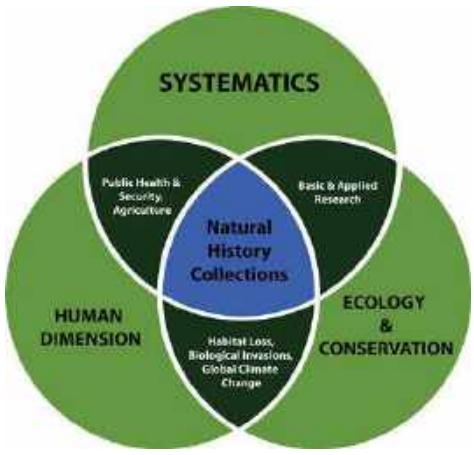
Target Peserta dan Target Luaran

Pelatihan dan penyusunan kurikulum kelas alam	Target 10 Peserta Dokumen Kurikulum Kelas Alam dapat dibuat
Pelatihan Penulisan Naskah Feature untuk mengangkat informasi lokal dan khas	Target 10 Peserta Pembuatan 10-20 naskah benda alam yang dideskripsikan sesuai dengan kekhasan desa wisata
Pelatihan Fotografi dan Pelatihan Penggunaan prototype APP	Target 10 Peserta Pengambilan gambar Uji Coba Penggunaan Prototype App
Launching: Webinar Diskusi Uji Coba dan Foto dokumentasi	Target 20 Peserta Diskusi Uji coba dan foto

***

Sekapur Sirih Dewi Tinalah #Berbenah

Desa wisata Tinalah yang terletak di Kabupaten Kulon Progo sejak tahun 2013 telah menjadi salah satu destinasi eduwisata untuk kalangan siswa sekolah dan mahasiswa perguruan tinggi di DIY. Berbagai sarana kegiatan luar kelas diwadahi dalam sebuah kawasan terintegrasi antara wisata alam, perkemahan dan aktivitas pemanduan fisik dengan destinasi wisata sejarah perjuangan Pangeran Diponegoro melawan penjajahan Belanda.



Sebagai bagian kawasan pegunungan Karst Kendeng dan bercampur dengan bebatuan dan mineral piroklastik Merapi kuno maupun Gunung Gajah Kaligesing Purworejo menjadikan kawasan Dewi Tinalah menarik bagi kalangan perguruan tinggi. Para peneliti bidang Geomorfologi dan Biologi banyak mengangkat informasi dan potensi alam yang ada ranah sains. Saat ini kekayaan alam flora, fauna, dan lanskap dengan tradisi turun temurun yang menjaganya, secara **inovatif** (1) dikembangkan kearah kegiatan ekoeduwisata. Aneka macam tehnologi konvensional hingga aplikasi android berbasis *artificial intelligent* pengenalan flora, fauna dan bebatuan akan dimanfaatkan untuk pengembangan ekoeduwisata ini.

Pengelolaan kegiatan dan pemanfaatan sumber daya alam Dewi Tinalah secara organisatoris dilakukan oleh kelompok sadar wisata Dewi Tinalah. Kekompakan tim pengelola dengan gaya **kepemimpinan**(2) delegatif mampu mengatasi aneka kelemahan yang dihadapi tim pengelola. Persoalan tersebut antara lain minimnya konsistensi jumlah keterlibatan personil, kapasitas penguasaan iptek, dan tekanan biaya operasional yang

harus dikelola dengan sangat efisien. Pola kepemimpinan demikian berpotensi untuk berkembang cepat dengan terus berinteraksi antar sesama pengelola dan pemangku kepentingan pengembangan ekoeduwisata Dewi Tinalah. Berkembangnya pengalaman pengelolaan ini juga dapat menjadi pola asuhan dan pemanduan sebagai satu bagian materi yang dapat disampaikan kepada para wisatawan yang menginginkan pula adanya paket pengembangan gaya kepemimpinan (diutamakan bagi para kaum muda usia).

Pola pemanduan yang tidak terlalu rigid membuat para pengunjung/ wisatawan dapat mengembangkan **inisiatif**(3) kegiatan kreatif yang disajikan oleh para pemandu. Interaksi ini terus diolah oleh para pengelola sebagai bagian dari inisiatif mengembangkan paket-paket wisata alternative yang pada gilirannya juga akan menguatkan secara organisatoris komunikasi para pengelola.

Pengembangan modul ekoeduwisata ini dikembangkan dengan basis pengetahuan untuk karakteristik wisatawan usia siswa sekolah menengah atas. Kawasan wisata Tinalah saat ini mampu menampung hingga 200 pengunjung untuk berada di bumi perkemahan. Kapasitas area kunjungan Dewi Tinalah masih sangat memungkinkan untuk terus ditingkatkan jumlah pengunjungnya. Pengembangan aktivitas ekoeduwisata ini juga menjadi salah satu strategi pengembangan **kapasitas**(4) pemanduan bagi pengelola, juga manjadi sarana peningkatan kapasitas usaha dibidang kepariwisataan bagi warga diseputar kawasan Dewi Tinalah.

Saat ini bisnis eduwisata menjadi salah satu alternative yang menjanjikan bagi pengembangan usaha ekowisata di DIY. Potensi jumlah siswa sekolah dan mahasiswa perguruan tinggi di DIY secara maksimal terus dieksplorasi untuk dapat menjadi salah satu pendukung **keberlanjutan bisnis**(5) ekowisata Dewi Tinalah. Maka pengembangan sarana dan instrument pembelajaran dalam basis kegiatan ekoeduwisata akan dikembangkan untuk menarik minat siswa dan mahasiswa di DIY. Situasi karakter anak muda yang saat ini mengalami titikbalik hidup dalam pola persekolahan daring, menjadikan sebuah peluang tawaran untuk menikmati pembelajaran daring di alam secara kontekstual. Belajar daring di masa pandemic ini menjadi salah satu potensi juga yang dapat mendukung pengembangan sarana belajar berbasis AI di kawasan Dewi Tinalah. Tawaran untuk bermain kreatif, suasana segar, interaksi sosial yang sehat dengan penerapan protocol kesehatan pandemi, dan sajian-sajian baru berbasis tehnologi AI menjadi salah satu aspek penting dalam pengembangan bisnis wisata ekologis edukatif di kawasan Dewi Tinalah.

Pengembangan sarana online dalam pelayanan wisata Dewi Tinalah bukan hal yang baru bagi pengelola. Penyediaan infrastruktur jaringan internet sudah disediakan perangkat *hot spot wi-fi* di lapangan utama. Perangkat ini sangat penting untuk memberikan kemudahan bagi para wisatawan untuk tetap eksis secara **daring**(6) melalui unggahan-unggahan status terkini saat mereka berkunjung di Dewi Tinalah. Pemanduan yang memberikan kesempatan para wisatawan berswafoto saat ini menjadi pertimbangan yang tidak kalah pentingnya disamping soal materi edukatif yang disajikan oleh pengelola.

Pemanfaatan sosmed bagi pemasaran obyek wisata Dewi

Tinalah telah digunakan oleh pengelola mulai dari akun IG @dewitinlah, facebook https://id-id.facebook.com/dewi.tinalah, sajian infografis di pinterest https://id.pinterest.com/dewitinalah/infografis-dewi-tinalah/ dan https://br.pinterest.com/dewitinalah/ juga akun google bisnis dan youtube serta web https//www.dewitinalah.com. Basis data informasi yang dengan mudah didapatkan oleh setiap pengguna internet merupakan salah satu kunci keberhasilan dalam mengundang wisatawan jauh yang secara mandiri terdorong untuk datang berwisata di kawasan Dewi Tinalah. Pada akhirnya praktik hospitality yang khas bagi anak muda usia sekolah menjadi bagian dari tehnik pemanduan untuk pengembangan aspek ekoeduwisata Dewi Tinalah. Model pelayanan dan transaksi yang melibatkan **sistem online** (termasuk pemanfaatan *fintech*) menjadi salah satu bentuk hospitality baru yang akan menjadi bagian cara mudah bertransaksi dan gaya hidup wisatawan muda yang berkunjung di Kawasan Dewi Tinalah.

Kelengkapan enam aspek edupreneurship inilah yang secara penuh dapat dimaksimalkan untuk mengembangkan kawasan Dewi Tinalah dari wisata berbasis alam menjadi pola ekoeduwisata. Keterkaitan sajian materi belajar ditempat wisata diharapkan menjadi unsur penguatan belajar di sekolah ataupun di kampus secara langsung. Obyek-obyek kenakearagaman hayati dan ekosistem karst Dewi Tinalah dapat dikaitkan pada pelajaran Biologi SMA dapat menjadi target sasaran kunjungan belajar bagi siswa SMA kelas X. Sedangkan potensi temuan-temuan fosil kayu (kawasan perbukitan) dan fosil hewan laut di bebatuan karst/goa dan bebatuan di sungai Tinalah dapat menjadi jalinan cerita belajar evolusi siswa SMA di kelas XII. Sajian menarik wisata pengolahan pangan dapat menjadi bahan kajian alternative belajar kaitan nutrisi sehat (pangan organic) dan kesehatan sistem pencernaan di kelas XI. Materi perubahan energi dari potensial air bergerak menjadi energi listrik yang dapat diaplikasikan dalam instalasi mikro dan pikohidro dapat menjadi penjelas belajar fisika kekekalan energi bagi para siswa di kelas X , hukum fluida dan aplikasi untuk kelas XI dan belajar listrik dinamis arus DC di kelas XII. Lebih luas lagi tentu menyediakan sarana belajar alam yang tidak terbatas bagi ekplorasi mahasiswa belajar di luar kampus dengan aneka macam obyek dari setiap program studi yang ada.

Menyediakan ruang belajar dan berkompetisi menjadi cara baru dalam pengembangan sajian destinasi ekoeduwisata di kawasan Dewi Tinalah. Melalui alat bantu berupa aneka aplikasi berbasis android dan aplikasi android berbasis AI yang dikembangkan khusus untuk belajar keanekaragaman hayati Dewi Tinalah merupakan salah satu poin keunggulan komparatif dan sekaligus kompetitif yang diharapkan mampu meningkatkan kunjungan wisatawan kalangan muda sekaligus meningkatkan lama waktu tinggal di Dewi Tinalah.

PAKET BELAJAR : MENGENAL EKOSISTEM CAPUNG
LOKASI : Sungai Tinalah atau kolam-kolam buatan khusus untuk budidaya nimfa capung
JUMLAH PEMANDU : 1-5 pemandu
KAPASITAS PENGUNJUNG : 10-100 pengunjung
RASIO IDEAL PEMANDUAN : 1:10
LAMA WAKTU SESI : 45 menit observasi
MEDIA PERALATAN : aplikasi AI
METODE : discovery

TUJUAN PEMBELAJARAN

1. mempelajari pengetahuan tentang Capung sebagai bioindicator kesehatan ekosistem perairan
2. mencari tahu aneka jenis Capung yang berada diseputar sungai Tinalah

PERSIAPAN

1. disiapkan ranting ranting kering yang ditancapkan dibebatuan sepanjang aliran sungai yang terbuka dan diperkirakan terdapat banyak populasi Capung
2. disiapkan aplikasi AI untuk mengenal jenis jenis Capung melalui pemotretan
3. disiapkan cadangan berupa insectarium jenis jenis capung yang dapat ditemukan di ekosistem desawisata Tinalah

PELAKSANAAN

1. pemandu menjelaskan maksud dan tujuan kegiatan pengamatan
2. pemandu menceritakan kehidupan capung dan cara mengamati jenis jenis capung
3. pengunjung dipersilakan untuk mempraktikan tehnik mengidetifikasi capung melalui aplikasi AI yang sudah di download
4. pemandu mengajak untuk mencoba tehnik lain jika tidak dapat ditemukan oleh pengunjung (dapat melalui awetan capung yang sudah teridentifikasi jenisnya untuk dikonfirmasi melalui tehnologi identifikasi berbasis AI)
5. pemandu membantu pengunjung berswafoto selama beraktivitas

PENUTUP

1. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan konservasi melalui IG @dewitinalah

PAKET BELAJAR : BEBATUAN BERCERITA EKOSISTEM TINALAH
LOKASI : Sungai Tinalah
JUMLAH PEMANDU : 1-5 pemandu
KAPASITAS PENGUNJUNG : 10-100 pengunjung
RASIO IDEAL PEMANDUAN : 1:10
LAMA WAKTU SESI : 45 menit observasi
MEDIA PERALATAN : aplikasi AI
METODE : discovery

TUJUAN PEMBELAJARAN

1. mempelajari pengetahuan tentang aneka macam bebatuan sebagai pembentuk ekosistem sungai Tinalah
2. mengembangkan cerita evolusi geologi kawasan karst Tinalah (deretan Karst Jonggrangan) sebagai salah satu spot kawasan karst Kendeng
3. mengembangkan cerita evolusi geologi kawasan ekosistem lava andesit gunung api tersier Gajah, Jelok, Kaligesing, Purworejo yang berumur lebih dari 12juta tahun yang lalu
4. mencari tahu aneka jenis bebatuan yang berada diseputar sungai Tinalah

PERSIAPAN

1. disiapkan pembagian kelompok untuk belajar batuan vulkanik dan batuan karst dengan keunikan mengandung fosil biota laut
2. disiapkan aplikasi AI untuk mengenal jenis jenis batuan melalui pemotretan
3. disiapkan cadangan berupa koleksi jeni-jeni bebatuan karst dan vulkanik yang dapat ditemukan di ekosistem desawisata Tinalah

PELAKSANAAN

1. pemandu menjelaskan maksud dan tujuan kegiatan pengamatan
2. pemandu menceritakan asal mula sejarah geologi atau cerita turun temurun yang menggambarkan asal daerah aliran sungai Tinalah dan cara mengamati jenis jenis batuan dan ciri pembedanya
3. pengunjung dipersilakan untuk mempraktikan tehnik mengidetifikasi batuan melalui aplikasi AI yang sudah di download
4. pemandu mengajak untuk mencoba tehnik lain jika tidak dapat ditemukan oleh pengunjung (dapat melalui koleksi batuan karst dan vulkanik yang sudah teridentifikasi jenisnya untuk dikonfirmasi melalui tehnologi identifikasi berbasis AI)
5. pemandu membantu pengunjung berswafoto selama beraktivitas

PENUTUP

1. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan konservasi melalui IG @dewitinalah

PAKET BELAJAR : MENANAM PADI
LOKASI : Petak sawah warga
JUMLAH PEMANDU : 2 pemandu
KAPASITAS PENGUNJUNG : 10 pengunjung
RASIO IDEAL PEMANDUAN : 1:5
LAMA WAKTU SESI : 30 menit tanam padi
MEDIA PERALATAN : petak sawah, & bibit padi
METODE : discovery

TUJUAN PEMBELAJARAN

1. mempelajari pengetahuan menanam padi dan tatacaranya
2. mencari tahu cara pewarisan tradisi dan pemali-pemali yang menjadi kepercayaan warga
3. melatih kerjasama disawah melalui permainan lumpur sawah

PERSIAPAN

1. disiapkan petak penanaman padi yang sudah digenangi air
2. disiapkan semaian padi siap tanam untuk setiap peserta dengan mendapatkan satu genggam semaian
3. disiapkan petak permainan lumpur di lahan tanam padi yang sudah dibajag dan digenangi

PELAKSANAAN

1. pemandu mengawali dengan memberi contoh cara menanam padi
2. pengunjung dipersilakan untuk mempraktikan tehnik menanam
3. pemandu mengajak untuk mencoba tehnik lain yang dibebaskan
4. pemandu membantu pengunjung berswafoto selama beraktivitas
5. pengunjung diajak melihat hasil dan akibat yang terjadi ketika caranya keliru
6. pemandu memberikan cerita bagaimana cara tanam padi diwariskan

PENUTUP

1. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan nilai penting pewarisan tradisi melalui IG @dewitinalah

PAKET BELAJAR : BERMAIN LUMPUR
LOKASI : Petak sawah warga
JUMLAH PEMANDU : 2 pemandu
KAPASITAS PENGUNJUNG : 10 pengunjung
RASIO IDEAL PEMANDUAN : 1:5
LAMA WAKTU SESI : 15 menit tangkap ikan
MEDIA PERALATAN : petak sawah tergenang & ikan
METODE : kerjasama terbimbing & berburu

TUJUAN PEMBELAJARAN

1. menangkap ikan untuk lauk makan siang
2. melatih kerjasama disawah melalui permainan lumpur sawah

PERSIAPAN

1. disiapkan petak permainan lumpur di lahan tanam padi yang sudah dibajag dan digenangi
2. ditebarkan ikan nila siap tebar ukuran 1,5-2 ons diperkirakan 1-2 ekor per peserta
3. disiapkan ikan nila goreng untuk mereka yang tidak berhasil menangkap ikan

PELAKSANAAN

1. pemandu menghitung start pengunjung untuk masuk kelumpur dan menangkap ikan
2. setiap ikan yang tertangkap dimiliki oleh satu pengunjung dan dipersilakan untuk mencoba sekali lagi
3. setelah 5menit berlangsung, pemandu memberikan alternative bentuk kerjasama untuk menangkap ikan
4. setelah 15 menit permainan dihentikan oleh pemandu
5. pengunjung yang belum mendapatkan ikan bisa mendapatkan kejutan dari pemandu agar terkenang
6. selama kegiatan pemandu membantu pengunjung yang ingin berswafoto

PENUTUP

1. pemandu mengajak refleksi pengunjung makna kerjasama
2. pemandu menceritakan jerih payah warga lokal dahulu mencari ikan untuk mencukupi lauk pauk dalam sehari

PAKET BELAJAR : WIWITAN (agenda musiman)
LOKASI : Petak sawah warga
JUMLAH PEMANDU : 1-5 pemandu
KAPASITAS PENGUNJUNG : 100 pengunjung
RASIO IDEAL PEMANDUAN : 1:10
LAMA WAKTU SESI : 60-120 menit upacara
MEDIA PERALATAN : petak sawah, baju adat, fotografi dan aplikasi AI Tinalah
METODE : mangalami & partisipasi, inkuiri keanekaragaman hayati

TUJUAN PEMBELAJARAN

1. merasakan kebahagiaan saat warga memulai panen padi
2. belajar memahami maksud dan tujuan tatacara upacara wiwitan
3. belajar mengetahui keanekaragaman hayati (kehati) seputar tempat upacara wiwitan melalui tehnologi AI

PERSIAPAN

1. disiapkan upacara yang sudah disusun panitia lokal segala perlengkapan upacara wiwitan hingga koordinasi dengan peserta pengunjung atau wisatawan
2. disediakan asesoris atau baju adat sebagai syarat keikutsertaan pengunjung dalam upacara wiwitan
3. pengunjung dipersilakan mendownload aplikasi AI untuk mengidentifikasi kehati area persawahan yang diperlakukan dengan pola Bertani organik
4. disiapkan fotografer professional dan printer cetak foto

PELAKSANAAN

1. pemandu mengiformasikan kepada pengunjung untuk bersiap ikut serta dalam upacara wiwitan
2. pemandu membimbing pengunjung untuk memakai pakaian tradisional yang disewakan oleh panitia wiwitan agar dapat berswafoto atau memiliki foto cetak dari fotografer professional dengan mengganti biaya cetak
3. pemandu membimbing pengunjung menuju area upacara dan panitia wiwitan menyambut kehadiran pengunjung dengan percikan air dan taburan bunga atau kertas warna warni (hospitality panitia bisa dalam bentuk lain yang menggembirakan)
4. pemandu mempersilakan pengunjung bergabung dalam upacara sambil dijelaskan arti ucapan dan doa-doa dari pemimpin upacara wiwitan
5. sambal berjalan menuju peletakan sesaji, pengunjung diajak mulai memotret kehati disekitar sawah dengan aplikasi AI yang sudah didownload
6. selama upacara berlangsung pengunjung ditawari swafoto di spot yang menarik yang sudah disiapkan pemandu/ panitia
7. setelah ritual doa dan peletakan sesaji, pengunjung diajak berfoto bersama

PENUTUP

1. pemandu mengajak refleksi pengunjung makna upacara adat wiwitan

2. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan nilai penting pewarisan tradisi melalui IG @dewitinalah

PAKET BELAJAR : BARITAN (agenda musiman)
LOKASI : Sumber Mata air
JUMLAH PEMANDU : 1-5 pemandu
KAPASITAS PENGUNJUNG : 100 pengunjung
RASIO IDEAL PEMANDUAN : 1:10
LAMA WAKTU SESI : 60-120 menit upacara
MEDIA PERALATAN : baju adat, fotografi dan aplikasi AI Tinalah
METODE : mangalami & partisipasi, inkuiri keanekaragaman hayati

TUJUAN PEMBELAJARAN

1. merasakan syukuran warga melalui adat upacara pasca panen padi
2. memahami konservasi air melalui tradisi ritual baritan
3. belajar memahami maksud dan tujuan tatacara upacara baritan
4. belajar mengetahui keanekaragaman hayati (kehati) seputar tempat upacara baritan melalui tehnologi AI

PERSIAPAN

1. disiapkan upacara yang sudah disusun panitia lokal segala perlengkapan upacara baritan hingga koordinasi dengan peserta pengunjung atau wisatawan
2. disediakan asesoris atau baju adat sebagai syarat keikutsertaan pengunjung dalam upacara baritan
3. pengunjung dipersilakan mendownload aplikasi AI untuk mengidentifikasi kehati area sekitar sumber mata air yang dipelihara dan dirawat oleh warga
4. disiapkan fotografer professional dan printer cetak foto

PELAKSANAAN

1. pemandu mengiformasikan kepada pengunjung untuk bersiap ikut serta dalam upacara baritan
2. pemandu membimbing pengunjung untuk memakai pakaian tradisional yang disewakan oleh panitia baritan agar dapat berswafoto atau memiliki foto cetak dari fotografer professional dengan mengganti biaya cetak
3. pemandu membimbing pengunjung menuju area upacara dan panitia baritan menyambut kehadiran pengunjung dengan percikan air dan taburan bunga atau kertas warna warni (hospitality panitia bisa dalam bentuk lain yang menggembirakan)
4. pemandu mempersilakan pengunjung bergabung dalam upacara sambil dijelaskan arti ucapan dan doa-doa dari pemimpin upacara baritan
5. sambal berjalan menuju peletakan sesaji, pengunjung diajak mulai memotret kehati disekitar sumber mataair dengan aplikasi AI yang sudah didownload
6. selama upacara berlangsung pengunjung ditawari swafoto di spot yang menarik yang sudah disiapkan pemandu/ panitia
7. setelah ritual doa dan peletakan sesaji, pengunjung diajak berfoto bersama

PENUTUP

1. pemandu mengajak refleksi pengunjung makna upacara adat baritan
2. pemandu mengajak refleksi pengunjung makna ritual dalam langkah konservasi sumber mata air
3. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan nilai penting pewarisan tradisi melalui IG @dewitinalah

PAKET BELAJAR : TEKNOLOGI OLAH PANGAN TRADISIONAL
LOKASI : MUSEUM PERTANIAN BUKIT KLECO
JUMLAH PEMANDU : 2 pemandu
KAPASITAS PENGUNJUNG : 10 pengunjung
RASIO IDEAL PEMANDUAN : 1:5
LAMA WAKTU SESI : 30 menit guiding museum pertanian + 60menit wisata kuliner
MEDIA PERALATAN : Aplikasi AI peralatan pertanian, seperangkat alat masak dan bahan pangan ketela, kelapa & pegagan (opsional)
METODE : inkuiri konsep pertanian kuno & eksperimen kuliner

TUJUAN PEMBELAJARAN

1. mempelajari pengetahuan sejarah pertanian kuno dengan artefak perlatan pertanian hingga olah paska panen di museum pertanian bukit Kleco
2. mempelajari pewarisan tatacara penggunaan peralatan untuk menghasilkan bahan pangan warga lokal
3. mempelajari cara olah aneka panganan tradisional warga seputar Dewi Tinalah dan nilai nilai warisan untuk mendapatkan pangan sehat tanpa pengawet dan bahan kimia tambahan
4. mengenal aneka jenis pengolahan pangan modern sebagai bentuk inovasi olahan pangan sehat

PERSIAPAN

1. disiapkan grup grup tracking bukit Kleco atau grup kunjungan langsung ke musium pertanian
2. disiapkan kendaraan angkutan wisatawan yang tidak memilih jalur tracking
3. disiapkan seperangkat alat memasak dan bahan yang akan diolah (berupa pilihan ketela, pegagan dan kelapa)
4. disiapkan paket hasil olahan per pengunjung
5. disiapkan instalasi aplikasi android AI peralatan pertanian kuno dari museum pertanian

PELAKSANAAN

1. pemandu menjelaskan proses penemuan peralatan pertanian kuno dan menjelaskan fungsinya
2. pengunjung dipersilakan untuk mengamati dan diperbolehkan untuk mengidentifikasi jenis dan fungsi perlatan secara mandiri melalui aplikasi android AI
3. pemandu mengajak pengunjung melihat produk-produk hasil olahan yang dapat dibeli langsung dan nantinya akan dipraktikan tehnik pembuatannya
4. pemandu membantu pengunjung untuk memasak jenis-jenis bahan pangan sesuai pilihan yang diarahkan pemandu (ketela, kelapa dan pegagan)
5. Pemandu menceritakan tahapan olahan dan tujuan dilakukan tatacara memasak yang mampu menghasilkan citarasa khas dan menjadi oleh-oleh khas dewi Tinalah

6. pemandu dapat membuat eksperimen dengan memasak sendiri beberapa hasil olahan yang belum dimasak untuk dicicipi ditempat
7. pengunjung dibantu berswafoto saat observasi di musium maupun saat memasak

PENUTUP

1. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan nilai penting menjaga kelestarian tatacara oleh kuliner tradisional dan mengajak mengembangkan konsep pangan organic yang berkelanjutan melalui IG @dewitinalah

PAKET BELAJAR : TEKNOLOGI ENERGI TERBAHARUKAN TEPAT GUNA UNTUK PERDESAAN
LOKASI : Instalasi Mikrohidro dan Pikohidro
JUMLAH PEMANDU : 2 pemandu
KAPASITAS PENGUNJUNG : 10 pengunjung
RASIO IDEAL PEMANDUAN : 1:5
LAMA WAKTU SESI : 60 menit eksperimen+ 30menit wisata air
MEDIA PERALATAN : lembar observasi, stopwatch, multitester, alat ukur debit air
METODE : eksperimen & observasi

TUJUAN PEMBELAJARAN

5. mempelajari pengetahuan sejarah pembangunan saluran irigasi pada jaman penjajahan Belanda
6. mempelajari hukum fisika perubahan potensial energi air menjadi energi kinetic dan menghasilkan energi listrik
7. mempelajari perbedaan instalasi mikrohidro dan pikohidro
8. mengenal konservasi DAS melalui pola pemanfaatan sumber daya air secara berkelanjutan

PERSIAPAN

6. disiapkan instalasi peralatan mikrohidro dan pikohidro
7. disiapkan alat ukur debit air sesuai jumlah kelompok pengunjung yang belajar (perwakilan)
8. disiapkan alat ukur arus listrik (minimal multitester) sesuai jumlah kelompok pengunjung yang belajar (perwakilan)
9. disiapkan peralatan keamanan untuk wisata air per pengunjung

PELAKSANAAN

8. pemandu menjelaskan lingkungan sekitar irigasi dan proses pembangunan irigasi pada jaman penjajahan Belanda
9. pengunjung dipersilakan untuk mengamati lingkungan sekitar yang ikut mendukung terjaganya bangunan saluran irigasi yang berumur lewat seabad
10. pemandu mengajak pengunjung melihat peralatan mikrohidro dan pikohidro serta menjalaskan prinsip kerjanya
11. pemandu membantu pengunjung untuk mengukur debit air untuk menjalankan prinsip kerja kincir mikrohidro.
12. pemandu dapat membuat eksperimen dengan membedakan ukuran debit air yang masuk ke kincir untuk beberapa kali pengukuran arus listrik (dipertimbangkan jumlah pengunjung dan antusiasme pengunjung)
13. pemandu mengajak perwakilan pengunjung untuk mengukur kuat arus dan tegangan yang dihasilkan oleh unit mikrohidro dalam aneka macam debit air dan membandingkan dengan unit pikohidro
14. pengunjung dibantu berswafoto di dekat kincir mikrohidro secara hati hati dan bergantian

15. pemandu mangajak pengunjung untuk berwisata air di saluran air keluar (*outlet*) dari unit mikrohidro

PENUTUP

2. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan nilai penting menjaga kelestarian air untuk menghasilkan energi listrik yang berkelanjutan bagi warga perdesaan melalui IG @dewitinalah

PAKET BELAJAR : PEMBENTUKAN ORNAMEN & SEJARAH GOA SRITI
LOKASI : Goa Sriti
JUMLAH PEMANDU : 2 pemandu
KAPASITAS PENGUNJUNG : 10 pengunjung
RASIO IDEAL PEMANDUAN : 1:5
LAMA WAKTU SESI : 30 menit tanam padi
MEDIA PERALATAN : aplikasi AI
METODE : discovery

TUJUAN PEMBELAJARAN

1. mempelajari nilai sejarah perjuangan Pangeran Diponegoro melawan penjajah Belanda
2. mempelajari terbentuknya ornament goa (stalagtit, stalagmite, doline (kolam-kolam), draperi (tirai tirai) yang membentuk keindahan batuan karst
3. mempelajari nilai konservasi Goa Sriti dalam menjaga sumber air dan ekosistem sekitar dengan adanya populasi kelelawar/ sriti sebagai bioindicator keseimbangan hama serangga di alam

PERSIAPAN

1. disiapkan jalur aman susur goa yang dapat dijangkau secara berombongan. Jalur harus dalam kondisi paling aman untuk pengunjung dan tetap terpantau keberadaannya. Perlu dihindari jalur yang bercabang agar tidak menggoda pengunjung lepas dari rombongan. Perlu diperhatikan keamanan jalur saat musim hujan agar dihindari jalur aliran sungai atau lumpur saat terjadi hujan
2. disiapkan peralatan senter dan topi helm proyek
3. disiapkan biji-biji tanaman ikon desawisata Tinalah untuk ditanam di lahan kenangan

PELAKSANAAN

1. pemandu mengajak pengunjung untuk mengamati mulut goa sambil menyiapkan diri dan mental sebelum masuk goa
2. Pemandu memperkenalkan lokasi lokasi penting yang bernilai sejarah dalam perjuangan pangeran Diponegoro melawan penjajah Belanda
3. Pengunjung yang telah memiliki perlengkapan dipersilakan untuk masuk susur goa didampingi pemandu.
4. Sesampai diarea gelap total, pengunjung diajak untuk berhenti dan mematikan semua lampu untuk beradaptasi dengan lingkungan goa. Sambil diajak berefleksi pengunjung diajak mengatur nafas lebih pelan dalam suasana hening
5. pemandu mengajak pengunjung mulai mengenal ornament Goa dan proses terjadinya stalagtit dan stalagmite yang berawal dari tetesan air kapur yang terus menerus mengendap menjadi batuan (dalam satu tahun stalagtit dan stalagmite bertambah Panjang hanya 1cm). Ornamen goa ini perlu dijaga kelestariannya
6. pemandu membantu pengunjung berswafoto pada spot ornament terpilih (ditentukan oleh pemandu agar selalu terjaga kelestariannya)
7. pengunjung diajak menampung air tetesan dari stalagtit dan merasakan kesegaran airnya

8. pemandu membagikan biji kepada setiap pengunjung untuk dibungkus dengan tanah di dasar goa yang mengandung kotoran kelelawar (guano). Sesampai di luar Goa biji dibawa ke area menanam berupa lahan kenangan. Petak tanah yang sudah ditanami pengunjung ditandai dengan tulisan daerah asal pengunjung atau nama pengunjung dan asalnya ketika tidak dalam rombongan besar atau juga pejabat dan tokoh tokoh masyarakat penting yang sedang berkunjung ke Goa Sriti

PENUTUP

1. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan nilai penting pewarisan tradisi melalui IG @dewitinalah

Modul: Penulisan Naskah Feature untuk Desa Wisata Tinalah

Olivia Lewi Pramesti
FISIP UAJY

Apa itu feature?

Feature adalah berita yang memiliki nilai berita "menarik" yang bisa membangkitkan simpati dan empati bagi pembaca. Feature ini merupakan salah satu jenis berita jurnalistik di mana tulisan jurnalistik lainnya meliputi *hardnews* (berita langsung), *soft news* (berita ringan), *indept* (berita mendalam), serta investigasi. *Hardnews* lebih menekankan berita terkini, penting, dan harus segera diberitakan pada masyarakat luas. Contohnya: kebakaran, kenaikan BBM, dan sebagainya. *Soft news* menenkankan berita ringan dan tidak harus segera diberitakan. Contoh: Kisah Pejuang Covid-19 sembuh dari penyakitnya. *Indept news* lebih membahas sebuah peristiwa dengan lebih mendalam. Contoh: Bagaimana ketersediaan bed di rumah sakit di Yogyakarta untuk pasien Covid-19. Sementara investigasi membahas peristiwa yang menjadi "borok" yang merugikan masyarakat. Contohnya: Korupsi oleh salah satu Caleg di daerah tertentu.

Feature berisi fakta (kejadian yang sebenarnya) bukan sesuatu yang bersifat fiksi (khayal). Karena berisi sebuah fakta, maka tulisan *feature* menganut prinsip kaidah penulisan jurnalitik yakni 5W+1H (*What, When, Where, Who, Why)+ How*. Tulisan *feature* pun tidak ada yang bersifat opini dari penulis karena benar-benar bercerita keadaan sebenarnya.

Nilai berita dalam *feature*

Sebuah tulisan jurnalistik memiliki sebuah nilai berita. Nilai berita adalah kelayakan sebuah peristiwa untuk dijadikan sebuah berita. Artinya, tidak semua peristiwa bisa dimuat oleh media. Misalnya: seorang nenek jatuh dari becak. Peristiwa ini tidak akan diangkat oleh media karena nenek itu tidak terkenal. Tetapi kalau yang jatuh dari becak adalah pak Jokowi, maka media akan memberitakan karena Jokowi adalah seorang *public figure*.

Feature memiliki nilai berita (Ricketson, 2004), yaitu

1. *Impact*/Dampak : tulisan feature berdampak bagi banyak orang. Misal: menulis soal keunikan daerah Patuk Yogyakarta yang khas dengan sentra bakpianya. Penulis memilih salah satu gerai yakni bakpia 234. Karena belum terkenal seperti bakpia 75, maka dengan tulisan feature, akan membantu masyarakat luas pada bakpia 234. Ini memberi dampak bagi pengusaha lokal bakpia 234 untuk memasarkan produknya dan meningkatkan citra dari daerah Patuk serta Yogyakarta.

2. *Relevance*: nilai berita yang berkaitan dengan isu yang tengah marak. Misalnya: saat ini tengah ada isu Covid-19, lalu ada peneliti UGM yang menemukan Genose untuk mendeteksi virus ini. Maka tulisan *feature* bisa mengangkat peneliti UGM tersebut.

3. *Proximity*: nilai berita yang berkaitan dengan kedekatan baik kedekatan geografis maupun kedekatan emosional. Contohnya: Saya tinggal di Sleman, maka saya akan mencari *feature* soal objek wisata di daerah Sleman.

4. *Prominence*: nilai berita keterkenalan, bisa orang, tempat wisata, kuliner, dsbnya. Misal: *feature* soal sosok tokoh adat di suatu daerah

5. *Timeliness*: nilai berita kebaruan. Misalnya: peluncuran desa wisata A, maka siapa desa A dan seperti apa potensinya bisa ditulis sebagai feature

6. *Unusual:* nilai berita yang tidak biasa, aneh. Misalnya: feature soa kuliner bakso berukuran raksasa.

Perlu diketahui, bahwa dalam sebuah tulisan, bisa terdapat satu atau lebih nilai berita.

Apa saja jenis *feature* ?

Menurut Wolseley dan Campbell, terdapat enam jenis Feature:

1. Feature minat insani (*human interest* Feature): Feature yang langsung menyentuh keharuan, kegembiraan, kejengkelan atau kebencian, simpati. Contoh: kisah inspiratif dari Anggiasari, penyandang disabilitas yang terjun ke dunia politik

2. Feature sejarah (*hystorical* Feature): feature yang menceritakan masa lalu. Contoh: sejarah dari Kampung Pajeksan di Yogyakarta

3. Feature biografi (*biografical* Feature): feature yang menuliskan riwayat hidup seseorang. Biasanya dia adalah public figure dan memiliki karya

4. Feature perjalanan (*travelogue* Feature): feature yang menuliskan pengalaman perjalanan, bisa perjalanan ke tempat wisata, perjalanan kuliner

5. Feature yang mengajarkan keahlian (*how-to-do* Feature): *Feature* yang menjelaskan tentang bagaimana suatu perbuatan atau aktivitas dilakukan. Meski seperti tips yang disampaikan ke pembaca, namun tips tetap harus mencantumkan sumbernya. Contoh: feature tentang cara mengolah kopi pegunungan

6. Feature ilmiah (*scientific Feature*): feature mengenai hal yang berhubungan dengan ilmiah, riset, teknologi terbaru. Contohnya: feature tentang riset terbaru tentang kopi Menoreh

Bagaimana memulai menulis feature?

1. Mengidentifikasi topik peliputan

   Topik peliputan ini bisa datang dari banyak sumber seperti pengamatan lingkungan sekitar, pembicaraan warga atas sebuah topik, potensi wisata, penelitian, dan sebagainya. Sebelum dijadikan topik untuk tulisan, penulis perlu memverifikasi (mengecek) ulang topik tersebut, caranya misalnya dengan wawancara singkat serta mencari referensi yang berkaitan dengan topik tersebut. Bila setelah proses verifikasi penulis yakin bahwa topik tersebut layak tulis, maka topik bisa dikembangkan menjadi tulisan.

2. Melihat nilai berita atas topik

   Penulis perlu melihat kelayakan dari topik yang akan ditulis. Ingat kembali akan nilai berita yang sudah dijelaskan di atas. Nilai berita ini penting karena akan bermanfaat bagi pembaca, seperti manfaat informasi, pendidikan, hiburan, dan sebagainya. Pemilihan topik yang sesuai nilai berita pun berguna juga untuk kepentingan penulis seperti menaikkan citra.
3. Mencari sumber referensi untuk memperkaya tulisan

   Sumber referensi bisa diperoleh dengan berbagai cara seperti dari buku, searching google (jurnal, media massa online, dsbnya—dengan catatan, bila mengutip dari

tulisan orang lain perlu diberikan sumber. Misal. Pisang berguna untuk kesehatan (Kompas.com, 7 Juni 2020, atau bila jurnal dengan mengetikkan nama penulis (misal nama penulis adalah Tika Dewi, maka mengutipnya adalah (Dewi, 2020)—nama belakang yang dikutip). Sumber referensi kalau dimungkinkan bisa lebih dari satu supaya data lebih valid (terpercaya).

4. Menentukan angle (sudut pandang)

   Sudut pandang (*angle*) wajib ada dalam sebuah tulisan feature. Sudut pandang akan menmbantu penulis untuk fokus pada satu topik. Cara menentukan sudut pandang adalah dengan melihat nilai berita atau tujuan dari tulisan tersebut. Setiap penulis wajib memiliki tujuan dalam tulisannya. Misalnya mau menulis feature bakpia 56, maka sudut pandang itu akan berisi informasi soal bakpia 56. Selanjutnya tubuh tulisan hanya akan bercerita soal asal muasal bakpia 56, apa keistimewaanya, cara pembuatan, dan sebagainya.

5. Mulai menulis

   a. Memulai dengan *lead* (pembuka)

      Lead adalah kalimat pembuka yang biasanya memancing pembaca untuk membaca tulisan secara terus menerus. Agar pembaca mau membaca terus, maka tulisan pembuka harus menarik.
      Ada berbagai macam *lead* dalam *feature*, seperti:

      - *Lead* ringkasan : *lead* yang berisi inti berita di mana pembaca langsung mengetahui isi tulisan tanpa membaca lebih dalam. Contoh: Walaupun hanya sebagai pemungut sampah, Jubaidi dengan tangan terbukanya, mau mengembalikan uang Rp 20 juta itu ke pemiliknya.

      - *Lead* bercerita: *Lead* ini menggambarkan cerita bersisian dengan situasi di lokasi. Contoh: Sesosok perempuan bersijingkat keluar kamar. Napas yang memburu sedemikian rupa ditahannya. Tidak lama berselang, menggema erangan panjang. Lampu panggung pun seluruhnya padam

      - *Lead* kutipan: Sumber *lead* berasal dari pernyataan menarik dari narasumber atau referensi tertulis yang dekat pembaca. Misal: “Bakpia pathuk 88 sangat enak,” kata seorang wisatawan

      - *Lead* bertanya : *lead* dengan menggunakan pertanyaan yang menimbulkan rasa penasaran pembaca. Misal: Benarkah desa wisata X sudah mendapatkan rekor MURI?

   b. Mengembangkan topik ke dalam paragraf

      Untuk memudahkan pengembangan topik, penulis perlu membuat outline kecil terlebih dahulu. Misalnya paragraf 1 akan diisi dengan cerita apa, paragraf 2 akan diisi cerita apa, dstnya. Kesinambungan isi antarparagraf perlu diperhatikan, jangan sampai antarparagraf satu dan yang lain tidak berkaitan.

   c. Menutup tulisan

      Penutup tulisan biasanya merangkum kembali hal-hal yag sudah dituliskan. Berbagai macam penutup dalam *feature*,

- Penutup ringkasan: meringkas isi cerita. Contoh: Dari banyak fungsi tumbuhan padi, ternyata padi memang tidak bisa dilepaskan dari kehidupan manusia.
- Penutup penyengat: penutup yang membuat kaget pembacanya karena sama sekali tidak diduga. Contohnya: Membahas soal pisang ambon, lalu di tubuh tulisan berbicara soal manfaat pisang ambon. Lalu di akhir cerita, penulis menutup dengan penemu pisang ambon ternyata adalah warga Bantul.
- Penutup tanpa penyelesaian: Cerita mengambang dan membiarkan pembaca memberikan kesimpulan sendiri. Contoh: Manfaat buah pisang mungkin bisa menyembuhkan stroke. Namun, sampai sekarang belum ada penelitian tentang ini.

d. Membuat judul

Judul tidak harus dibuat setelah tulisan selesai. Judul bisa dibuat di awak tulisan.

6. Jangan lupa dalam menulis memerhatikan SPOK (Subjek Predikat Objek Keterangan) dan mengacu pada KBBI (Kamus Besar Bahasa Indonesia) dan PUEBI (Pedoman Umum Ejaan Bahasa Indonesia). Usahakan menulis kalimat dengan kata aktif (me), misal: menulis bukan ditulis.Kalimat aktif lebih mudah dicerna oleh pembaca.

Contoh Penulisan *Feature*

Feature soal potensi desa wisata Ngliggo di Kabupaten Kulonrogo

1. Sebelum menulis *feature*, penulis akan memetakan dahulu topik apa yang kira-kira bisa ditulis dari Desa Nglinggo. Penulis bisa melakukan observasi langsung ke lapangan, atau melakukan riset dokumentasi (melihat sumber referensi dari jurnal, web Pemkab, berita media online, dan sebagainya)

Berdasar hasil penelusuran, penulis menemukan fakta-fakta soal desa wisata Nglinggo. Fakta ini diperoleh dengan cara mengidentifikasi potensi-potensi desa Nglinggo dari berbagai sumber referensi.

Fakta/potensi dari Desa Nglinggo

Potensi desa wisata	Jenis potensi	nilai berita
Sejarah desa wisata Nglinggo	Wisata pendidikan	Unsual, proximity, impact
Perkebunan teh dan kopi	Wisata alam	Unsual, proximity, impact
Air Curug Watu Jonggol	Wisata alam	Unsual, proximity, impact
Kesenian lengger dan tepeng	Wisata budaya	Unsual, proximity, impact
Teh Sangrai	Wisata kuliner	Unsual, proximity, impact
Criping tales	Wisata kuliner	Unsual, proximity, impact
Penderesan gula aren	Wisata kuliner dan edukasi	Unsual, proximity, impact
Pengolahan teh	Wisata kuliner dan edukasi	Unsual, proximity, impact
Peternakan kambing etawa	Wisata edukasi	Unsual, proximity, impact
Kesenian Jathilan	Wisata budaya	Unsual, proximity, impact
Pembuatan topeng	Wisata edukasi	Unsual, proximity, impact
Puncak suroloyo	Wisata alam	Unsual, proximity, impact
Kopi Nglinggo	Wisata kuliner	Unsual, proximity, impact

2. Tentukan topik dan tujuan tulisan. Tulisan ini akan memilih topik perkebunan teh Nglinggo. Perkebunan teh Nglinggo dipilih karena potensi wisata yang berbeda dengan dengan desa lainnya. Selain itu, perkebunan teh ini menawarkan kesegaran alam bagi pengunjung. Tujuan utama adalah untuk meningkatkan citra desa Nglinggo, memberikan informasi bagi calon wisatawan, serta memberikan alternatif wisata alam yang berbeda

3. Setelah menentukan topik, buatlah sub topik. Sub topik ini akan sebagai inti dari paragraf yang akan ditulis. Topik1 : Pengenalan utama perkebunan teh Nglinggo (lokasi, karakter geografis). Topik 2: Gambaran perkebunan teh Nglinggo. Usahakan memilih sub topik yang berbeda dengan tulisan lain. Carilah sub-sub topik yang memang hanya diketahui penduduk sekitar, sehingga keunikan tersebut bisa menjadi alternatif tulisan lain bagi pembaca.

4. Memulai menulis

Contoh tulisan

Perkebunan Teh Nglinggo Tawarkan Kesegaran Alam Alami

Siapa yang ingin merasakan kesegaran alam alami? Datanglah ke perkebunan teh di desa wisata Nglinggo Kulonprogo. Perkebunan teh ini terletak di Kelurahan Pagerharjo, Kecamatan Samigaluh. Perkebunan teh ini terletak pada ketinggian 800mdpl dan menyajikan hamparan pemandangan hijau *Camellia sinensis*. Perkebunan Nglinggo pun menawarkan sensasi udara dingin khas pegunungan.

Perkebunan teh ini menyajikan pemandangan yang berbeda dari setiap sudutnya. Dari sisi barat, pengunjung bisa melihat hamparan perkebunan teh. Dari sisi utara, puncak dari Gunung Kukusan pun dapat terlihat. Perkebunan teh ini memiliki dua puncak yaitu Puncak Dempok dan Puncak Kendeng. Puncak Kendeng ini merupakan petilasan berupa batu. Konon ceritanya, puncak Kendeng ini berkaitan dengan Pangeran Diponegoro. Puncak tersebut dipercaya warga sebagai makam kerabat Pangeran Diponegoro yang bernama Pangeran Kendeng. Untuk mencapai puncak-puncak inipun, pengunjung harus melewatinya dengan *trekking*. Penasaran dengan sensasinya?

Struktur tulisan

a. Angle: gambaran deskripsi soal perkebunan teh Nglinggo

b. Judul provokatif dengan tujuan membuat pembaca penasaran

c. Menggunakan *lead* bertanya dan penutup tanpa penyelesaian

d. Kaidah jurnalistik: What (apa) (merujuk pada perkebunan teh Nglinggo), Where (di mana)(lokasi perkebunan), Why(mengapa) (mengapa perkebunan teh ini menarik), How (bagaimana) (penjelasan tentang deskripsi apa saja yang ada di perkebunan Nglinggo.

Latihan

Buatlah tulisan feature dari desa wisata Dewi Tinalah

1. Carilah potensi desa wisata Dewi Tinalah

2. Cari satu topik untuk ditulis

3. Cari referensi berhubungan dengan topik tersebut
4. Buatlah sub topik
5. Mulailah menulis dengan sudut pandang tertentu

Panduan penggunaan Aplikasi

Buku Petunjuk Penggunaan Aplikasi (User Manual)
APLIKASI ANDROID
TINALAH EDU

UKRIM – ATMAJAYA
YOGYAKARTA
2021

PENDAHULUAN

Aplikasi tinalahEdu merupakan aplikasi yang dibuat untuk tujuan pembelajaran alam di Desa Wisata Tinalah Kulon Progo Daerah Istimewa Yogyakarta. Tujuan pembuatan aplikasi ini adalah selain sebagai brand produk pariwisata di Desa Wisata Tinalah adalah sebagai media pemebelajaran mengenai potensi alam di desa wisata tersebut. Aplikasi ini dibuat atas hasil kerjasama pengelola desa wisata Tinalah dengan Universitas Kristen Immanuel Yogyakarta dan Universitas Atma Jaya Yogyakarta. Untuk menggunakan aplikasi ini user harus sudah mengunduh dan menginstall aplikasi TinalahEdu.apk di handphone yang menggunakan sistem operasi Android.

PENGENALAN APLIKASI

Berikut ini adalah tampilan user interface dan beberapa fungsi kegunaan dari setiap fitur yang ada pada aplikasi android TinalahEdu :

1. Tampilan Menu Splash Screen

Tampilan pertamakali yang disajikan oleh system Ketika user membuka adalah splash screen. Setelah splash screen terbuka maka secara otomatis system akan mengarahkan user ke tampilan login. Berikut ini adalah tampilan dari splash screen :

2. Tampilan Menu Login

Tampilan login merupakan sebuah tampilan yang berfungsi untuk memverifikasi setiap user. Pada tampilan login, user diharuskan mengisi data beberapa inputan seperti alamat email dan password. Berikut ini adalah tampilan dari login :

Keterangan :

- Untuk login user harus mengisi email dan password
- Format inputan untuk form email harus berupa format email.
- Password dapat dilihat dengan cara menekan tombol mata pada inputan password.

3. Tampilan Menu Register

Tampilan register merupakan sebuah tampilan yang digunakan oleh user baru yang belum pernah mendaftar untuk mengakses tiap menu di aplikasi. Pada tampilan register user diharuskan mengisi data diri seperti nama user, email user, password user, nomor telephone user dan foto profile. Berikut ini adalah tampilan dari register :

Keterangan :

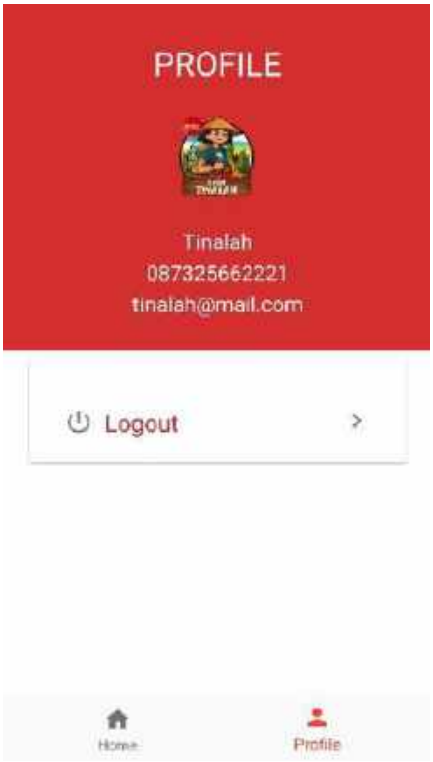
- Semua inputan data harus diisi dan tidak boleh ada inputan yang kosong.
- Format inputan untuk form email harus berupa format email.
- Format inputan password minimal 8 kombinasi karakter baik huruf, simbol atau angka.
- Untuk inputan foto profile user harus menekan tombol bingkai foto kosong kemudian secara otomatis system akan membuka kamera. Setelah kamera terbuka user dapat mengambil gambar foto profile kemudian menekan tombol centang.

4. Tampilan Menu Home

Tampilan home akan muncul ketika user berhasil login. Pada tampilan ini ada 4 menu yang disajikan diantaranya adalah new game (permainan baru), identifikasi, history scan dan highscore (poin tertinggi di setiap kelompok). Berikut ini adalah tampilan dari home :

5. Tampilan Menu Profile

Tampilan profile merupakan sebuah tampilan yang berfungsi untuk menampilkan data diri user yang sedang login seperti nama, email, nomor telephone dan foto profile. Selain data user yang sedang login, pada tampilan ini juga terdapat fitur logout untuk keluar dari sesi login. Berikut ini tampilan dari halaman profile :

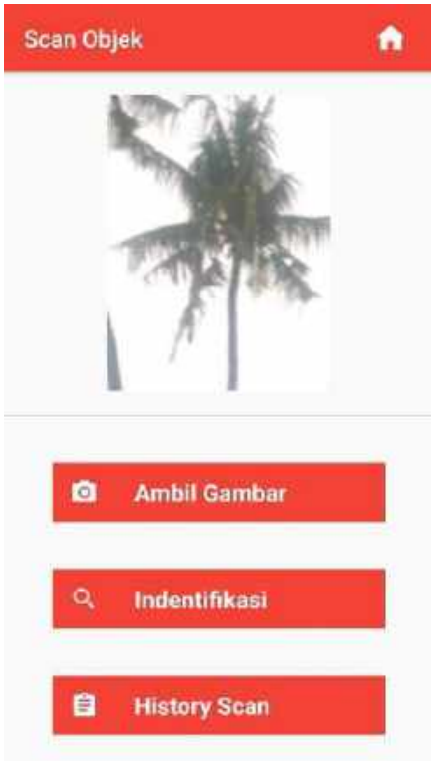


6. Tampilan Fungsi Permainan

Berikut ini adalah tahapan user untuk menggunakan fungsi permainan pada aplikasi TinalahEdu dimana sebelumnya user menekan tombol new game pada halaman home:

1) Pertama user melakukan verifikasi token dimana token akan diberikan oleh pemandu/guide dari tinalah berupa 5 kombinasi angka dan huruf.

2) Setelah berhasil melakukan verifikasi maka sistem akan menampilkan tampilan scan gambar permainan. Kemudian user akan membuka kamera untuk melakukan scan gambar dengan cara menekan tombol ambil gambar.



3) Setelah gambar berhasil diambil user akan mengidentifikasi gambar tersebut dengan cara menekan tombol identifikasi.
4) Setelah menekan tombol identifikasi system akan menampilkan halaman detail scan gambar.

5) Pada halaman detail scan gambar user dapat memilih untuk melakukan scan gambar kembali atau melihat history scan atau keluar dari permainan. Untuk melakukan scan gambar kembali user menekan tombol kamera. Untuk melihat history scan gambar user menekan tombol list.
6) Terakhir untuk keluar dari game user harus menekan tombol rumah. Ketika menekan tombol rumah akan muncul pop up apakah yakin keluar dari permainan. Jika user memilih ya maka akan keluar jika tidak maka akan kembali ke detail scan gambar.

7. Tampilan Fungsi Identifikasi

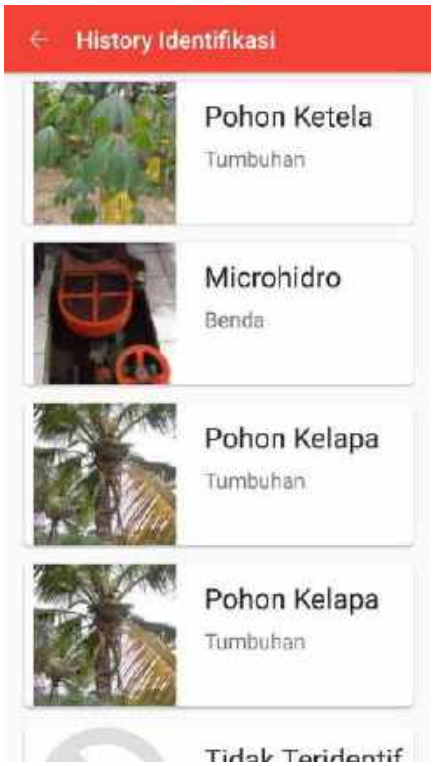
Berikut ini adalah tampilan untuk mngidentifikasi sebuah objek pada aplikasi TinalahEdu dimana sebelumnya user menekan tombol identifikasi pada halaman home:

1) Pertama sistem akan membuka tampilan identifikasi kemudian user menekan tombol ambil gambar untuk mengambil gambar objek yang akan di identifikasi.
2) Setelah berhasil mengambil gambar objek user harus menekan tombol identifikasi untuk melihat informasi gambar yang telah diambil tadi.

3) Setelah menekan tombol identifikasi maka secara otomatis system akan menampilkan detail informasi dari objek yang telah di identifikasi.

4) Pada menu detail identifikasi user dapat memilih untuk melakukan identifikasi kembali atau melihat history identifikasi atau keluar dari menu identifikasi.

Untuk melakukan identifikasi kembali user menekan tombol kamera. Untuk melihat history identifikasi user menekan tombol list.



5) Terakhir untuk keluar dari identifikasi user harus menekan tombol rumah. Ketika menekan tombol rumah akan muncul pop up apakah yakin keluar dari identifikasi. Jika user memilih ya maka akan keluar ke menu home, jika tidak maka akan kembali ke detail identifikasi.

8. Tampilan Fungsi History Scan Gambar Permainan

Berikut ini adalah fungsi untuk menampilkan history scan gambar pada permainan yang sebelumnya pernah dilakukan dimana user untuk mengakses menu ini harus menekan menu history scan pada halaman menu :

1) Ketika user menekan tombol history scan pada menu home maka secara otomatis system akan menampilkannya dalam bentuk list.

2) User juga dapat menampilkan detail informasi history scan gambar yang pernah diambil sebelumnya dengan cara menekan salah satu data pada list tersebut.

9. Tampilan Fungsi Highscore

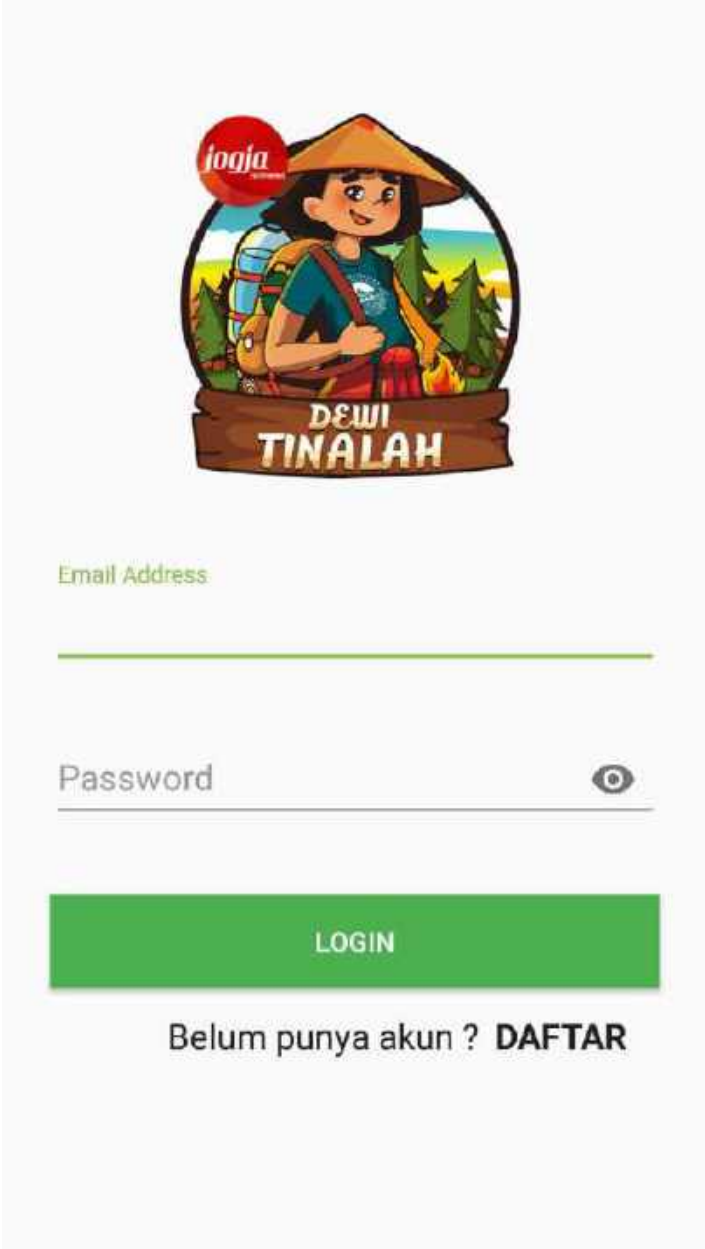
Berikut ini adalah fungsi untuk menampilkan highscore atau peroleh poin tertinggi pada setiap kelompok dimana sebelumnya user menekan tombol highscore pada tampilan home :

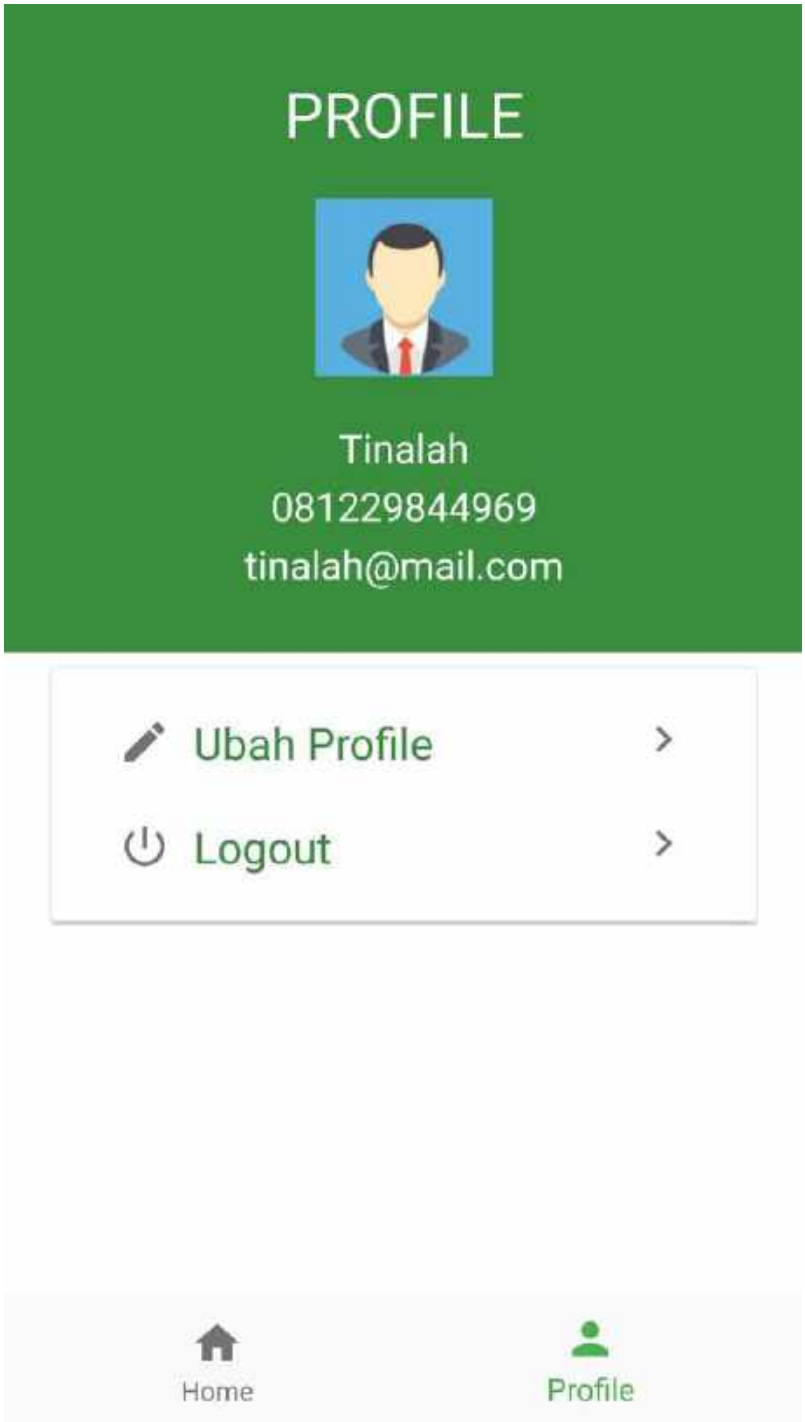
1) Pertama hal yang haru silakukan user adalah memasukkan token permainan kelompok mana yang akan dilihat peroleh poin tertinggi.

2) Setelah berhasil verifikasi maka system akan menampilkan peroleh poin tertinggi berdasarkan token kelompok yang di inputkan tadi.


High Score
Sundari
Nakula
1730
Dewi Tinalah
Nakula
260
Galang Adhitya
Nakula
250
Admin
Nakula
250
Yusuf
Nakula
210
dewi tinalah oye
Nakula
180
Galuh

Foto Aplikasi yang sedang proses



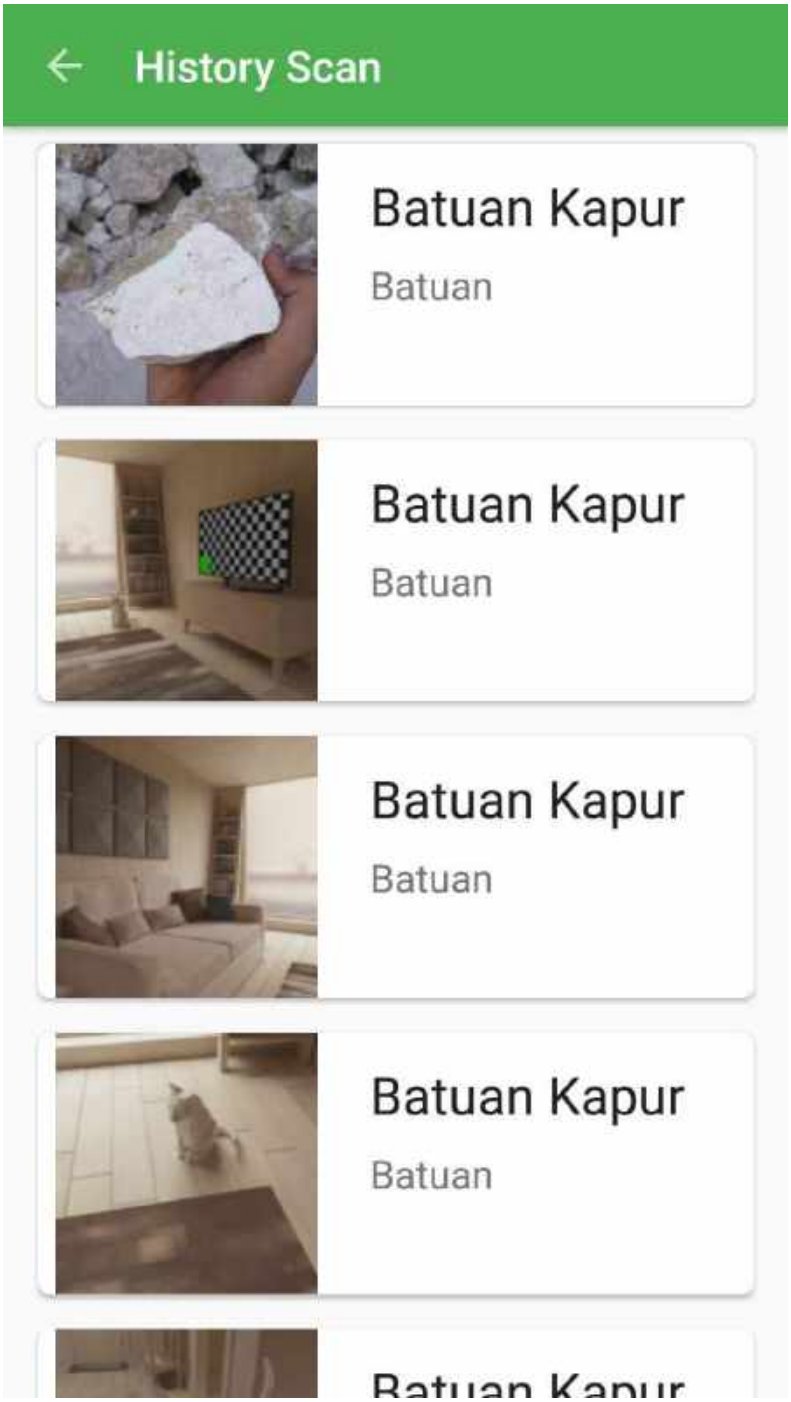

PROFILE
Tinalah
081229844969
tinalah@mail.com
Ubah Profile
Logout
Home
Profile

Detail Scan Objek

Batuan Kapur

Batuan

Gamping atau batu kapur adalah batuan sedimen yang tersusun dari mineral kalsit dan aragonit, yang merupakan dua varian yang berbeda dari kalsium karbonat


History Scan
Batuan Kapur
Batuan
Batuan Kapur
Batuan
Batuan Kapur
Batuan
Batuan Kapur
Batuan

Publikasi Koran yang ditulis oleh warga dan memperoleh juara I

SABTU WAGE, 21 AGUSTUS 2021 (12 SURA 1955) Kedaulatan Rakyat "KEDAULATAN RAKYAT" HALAMAN 5

Pesona 16 Desa Wisata Joglosemar

PEMENANG LOMBA KARYA TULIS DESA WISATA 2021 BADAN OTORITA BOROBUDUR (BOB)

Digitalisasi Dewi Tinalah Menuju Kelas Dunia

Oleh Janu Muhammad

MENTERI Pariwisata dan Ekonomi Kreatif Indonesia, Sandiaga Uno menargetkan tercapainya 244 desa wisata maju dan mandiri tahun 2024. Mimpi besar tersebut diikuti selama empat tahun sejak 2021. Kabar menggembirakan bagi penggiat desa wisata. Di tahun ini, saat ini masih dalam kondisi pandemi. Di sisi lain, hal tersebut adalah tantangan baru untuk dunia pariwisata.

Angin segar bagi pariwisata Indonesia. Pada tahun 2019, empat desa wisata dari Indonesia masuk 100 besar Destinasi Berkelanjutan di Dunia versi Global Green Destinations Days (GGDD). Dua di antaranya dari Yogyakarta. Tentu ini karena telah memenuhi standar internasional, baik dari aspek kelestarian lingkungan, sosial, dan ekonomi.

Untuk menjadi desa wisata kelas dunia tidak semudah membalikkan telapak tangan. Penerapan sustainable tourism sesuai Peraturan Menteri Nomor 14 Tahun 2016 tentang pedoman Destinasi Pariwisata Berkelanjutan yang mengadopsi standar Global Sustainable Tourism Council (GSTC) mutlak dilakukan. Perlu waktu, namun bisa diraikan secara profesional.

Lebih lanjut, dalam Panduan Praktis 10 Langkah Mengembangkan Desa Wisata Hijau (2021), desa wisata diharapkan mampu meningkatkan kesejahteraan masyarakat dan kelestarian sosial. Selain itu, mampu mengurangi risiko ekonomi dan eksploitasi sumber daya yang terbatas. Fungsi lainnya, desa wisata mampu menawarkan kegiatan wisata yang ramah lingkungan.

Langkah nyata terhadap Desa Wisata Tinalah (Dewi Tinalah) Dimerikan Tinalah sesuai nama sungai di sana. Lokasinya di Kawasan Pengumungan Menoreh zona 2 (ketinggian 200-600 mdpl), Kecamatan Samigaluh, Kulonprogo. Desa wisata yang berdiri 1 Oktober 2012 ini tengah merasa go global. Dengan konsep pesona alam dan budaya, Dewi Tinalah menawarkan paket kemah, outbond, pentas budaya, simulasi makanan tradisional, pemainan, gaya lesung, bersepeda, jelajah alam, dan tubing. Para wisatawan juga dapat menyusuri Goa Sidi, Goa Ojem, Sulit Tasun Mri, Puncak Alam Kaco, dan Monumen Perjuangan Rumah Sandi Negara.

Aplikasi Dewi Tinalah.

(Sumber: Dokumen Pengelola Desa Wisata Tinalah)

Sejak pandemi Covid-19, Dewi Tinalah bertransformasi secara digital. Pandemi menciptakan peluang untuk berkreasi. Aneka strategi yang biasanya kapat diterapkan di tempat, kini telah mengudara. Berbagai konten kreatif telah menghias beranda website, facebook, instagram, serta YouTube.

Awalnya, Dewi Tinalah sebatas menawarkan paket wisata alam. Memasuki tahun 2017 hingga 2019, pengembangannya pada manajemen desa wisata, promosi, dan sumber daya manusia secara berkelanjutan (Galuh, 2021:3). Untuk paket wisata, telah terintegrasi satu sama lain. Semuanya dengan pemasaran yang gencar, baik secara offline ataupun online.

Digitalisasi adalah kunci. Demi menciptakan branding yang kuat, Dewi Tinalah melakukan promosi secara masif dan terintegrasi. Pengelola jaringan dupayakan dengan mengikuti berbagai acara eksternal yang diselenggarakan oleh Dinas Pariwisata Kulonprogo maupun swasta. Untuk ranah online, masyarakat dengan mudah dapat mengetahui informasi Dewi Tinalah lewat facebook, instagram, website, ataupun media penghubung lainnya. Satu sama lain terseambung lewat aplikasi, muaranya di rumah reservasi. Atas kerja kerasnya selama ini, Dewi Tinalah meraih Juara 2 Pokja Ekonomi Kreatif Desa Wisata Kulon Progo 2021.

Dewi Tinalah berpeluang besar untuk menjadi destinasi kelas dunia. Pertama, posisi strategis di Kawasan Super Prioritas Nasional yang masih satu area dengan Kawasan Borobudur, Agalagi, adanya bandara New Yogyakarta International Airport. Lokasinya juga masih sepi dan kental dengan suasana pedesaan. Ini yang perlu dijaga. Sehingga, Dewi Tinalah memiliki ciri yang kuat dan mudah dingat masyarakat. Ketiga, karena digitalisasi yang intensif dilakukan, memudahkan calon wisatawan dalam mencari informasi.

Sebagai desa wisata berkembang, Dewi Tinalah perlu terus berbenah. Ada tiga resep yang ditawarkan Kemenparekraf: adaptasi, mitigasi, dan kolaborasi. Secara pedoman di masa new normal, standar Cleanliness, Health, Safety, and Environmental Sustainability (CHSE) wajib diterapkan. Dengan protokol kesehatan yang ketat, para pengunjung akan percaya sepenuhnya kepada berwisata. Menyongsong tahun ke-2 pandemi, Dewi Tinalah perlu mengupayakan perbaikan infrastruktur dan tata kelola lingkungan.

Ada beberapa rekomendasi produk baru untuk Dewi Tinalah. Paket family camping bisa menjadi tambahan, terutama untuk mereka yang kangen suasana kemah. Produk UMKM juga dapat dipasarkan di online marketplace, agar pelaku usaha segera bangkit. Dengan maksud trend anak sekolah maupun mahasiswa yang masih belajar daring, paket virtual edu trip bisa ditawarkan. Nilai edukasi bagi milenial menjadi keunggulan lainnya yang dikembangkan. Dengan begitu, ini yang ada tetap bergerak dan makin kreatif mengemas konten.

Dewi Tinalah dapat menambah jejaring kerja sama lintas komunitas maupun instansi. Selain dengan dinas pariwisata setempat, segmen kolaborasi bisa diperluas dengan para blogger, vlogger, ataupun influencer yang punya minat di traveling. Dengan pengadaan kompetisi pembuatan konten digital, misalnya. Hal ini cukup efektif untuk meningkatkan engagement di media sosial. Apalagi sudah siap, tanggal ke Bahasa Inggris juga bisa ditambahkan untuk membuka lebih wisatawan mancanegara.

Pada intinya, digitalisasi dan konsistensi dalam pengembangan destinasi adalah kunci. Dengan menampilkan pencapaian setiap indikator desa wisata maju, bukan tidak mungkin Dewi Tinalah akan menjadi epicentrum desa wisata di Indonesia. Dari kawasan Menoreh Kulonprogo, Dewi Tinalah siap mendunia. Semoga menjadi inspirasi untuk desa wisata lainnya.*-d

(Penulis adalah Juara I Kategori Desa Wisata Tinalah)

Wisata air Tubing

Penghargaan Poster terbaik

UNIVERSITAS ATMA JAYA YOGYAKARTA

DIES NATALIS

PENGHARGAAN

No. 208/In-Pen/LPPM/X/2021

Diberikan kepada:

Desideria Cempaka Wijaya M., S.Sos., M.A., Ph.D.
Dr. Victoria Sundari Handoko, M.Si
Antonius Bima Murti Wijaya, S.T., M.T.

Sebagai:

JUARA 2

"LOMBA POSTER ILMIAH"

dalam rangka Dies Natalis ke-56
Universitas Atma Jaya Yogyakarta

LPPM
Prof. Ir. Suyoto, M.Sc., Ph.D.
Koordinator Lomba
Ketua LPPM

Purnomo Anfin, S.Sos., M.Si.
Ketua Umum Dies Natalis ke 56
Wakil Rektor III

Foto-foto pelaksanaan kegiatan


Tinalah
Capung di kawasan Desa Wisata Tinalah yang terdapat di sekitar Sungai Tinalah, persawahan, dan lingkungan sekitar menjadi salah satu bioindikator lingkungan di desa wisata. Capung sangat tergantung dengan keragaman vegetasi, kualitas udara bersih dan kondisi air yang baik. Larva capung sangat tergantung pada kondisi air di lingkungan. Keberadaan capung dipengaruhi berhasil atau tidaknya larva berkembang menjadi capung dari proses metamorfosis.
Capung juga menjadi top predator serangga, berperan menjadi pengendali serangga seperti nyamuk, lalat, lalat buah, nyamuk, beberapa walang sangit. Jika keberadaannya hilang, maka terdapat masalah pada rantai makanan dan lingkungan sekitar. Capung jadi bagian dari assessment sungai, karena larva capung itu sangat sensitif terhadap kondisi perairan.


Rumus Jurnalistik
(5W+1H)

PEMANFAATAN *ARTIFICIAL INTELLIGENT* (AI) UNTUK DESA: PENGEMBANGAN KELAS ALAM BERBASIS TEKNOLOGI INFORMASI DAN KOMUNIKASI (TIK) DI DESA WISATA

UTILIZATION OF ARTIFICIAL INTELLIGENT (AI) FOR VILLAGE: THE DEVELOPMENT OF NATURE CLASS BASED ON TECHNOLOGY OF INFORMATION AND COMMUNICATION (ICT) IN TOURISM VILLAGES

ABSTRAK

Artikel ini bertujuan untuk melihat pemanfaatan TIK dalam suatu program kelas alam di desa wisata melalui teknologi *Artificial Intelligent (AI)* atau kecerdasan buatan untuk melihat keterlibatan interaksi masyarakat dengan penciptaan teknologi yang tepat guna. Proyek ini merupakan penelitian dan pengabdian masyarakat yang berbasis multidisiplin untuk mengembangkan desa wisata di Indonesia. Artikel ini juga bertujuan untuk melihat praktik suatu teknologi pada interaksi sosial antara penduduk, pemaknaan mereka pada potensi sekitar untuk dikaitkan dengan teknologi, serta proses alih teknologinya. Melalui *focus group discussion*, implementasi teknologi, dan observasi, proyek penelitian multidisiplin ini berusaha untuk menjawab secara rinci kapan, siapa, bagaimana, dan mengapa teknologi *artificial intelligent* ini bisa diterapkan dalam konteks desa wisata sebagai *lesson learned.* Implikasi dari penelitian ini adalah untuk memperlihatkan kompleksitas pada interrelasi aspek yakni komunikasi, alam, manusia, dan teknologi.

Kata kunci: *artificial intelligent, AI, kecerdasan buatan, interaksi, desa wisata, teknologi informasi dan komunikasi (TIK)*

ABSTRACT

This article aims to look at the use of ICT in a nature class program in a tourist village through Artificial Intelligent (AI) technology to see the involvement of community interactions with the creation of appropriate technology. This project is multidisciplinary-based research and community service to develop tourism villages in Indonesia. This article also aims to look at the practice of technology in social interactions between residents, their meaning in the surrounding potential to be associated with technology, as well as the process of technology transfer. Through focus group discussions, technology implementation, and observation, this multidisciplinary research project seeks to answer in detail when, who, how, and why this artificial intelligence technology can be applied in the context of tourism villages as lessons learned. The implication of this study is to show the complexity of the interrelationships of aspects, namely communication, nature, humans, and technology.

Keywords*: artificial intelligence, AI, artificial intelligence, interaction, tourist village, information, and communication technology (ICT)*

1. PENDAHULUAN

Desa dan desa wisata adalah sebuah tempat yang secara konseptual menjadi pembicaraan dan perdebatan di kalangan akademisi mengenai dinamika perubahan transformatif yang terjadi karena waktu dan situasi. Sebagai contoh, desa dahulu merupakan sebuah tempat yang terabaikan (Askwith, 2012), terbengkalai dari urusan pembangunan (Geertz, 1980), hingga terpinggirkan karena urusan prioritas negara (Adams, 2004). Kemudian terjadi pergeseran, lalu desa menjadi tempat bagi perkembangan agroindustri (Dahles, 2013) karena adanya kebutuhan produksi pangan dan kebutuhan produksi bahan alam. Kini, banyak desa menjadi situs pelestarian tradisi (Guo & Sun, 2016) termasuk nilai-nilai sejarah, budaya dan arsitektur; dan sumber daya alam (da Silva et al., 2016) yang dalam konteks pariwisata sering dikategorikan sebagai desa wisata.

Label yang kuno, terlupakan, dan terabaikan ini justru yang menjadi peluang bagi desa. Geertz dalam bukunya Negara (1980) berpendapat bahwa desa (dan rakyat desa atau *wong ndeso*) telah diabaikan oleh negara, membuat mereka terbelakang dan terisolasi. Namun, manfaat dari tindakan pengabaian oleh negara ini adalah bahwa desa telah mampu menyelamatkan dan mencatat seperti apa sebuah Nagari atau negara atau *civilization*, sebelum "pembangunan" terjadi (Geertz, 1980). Geertz berpendapat bahwa memeriksa desa dapat membuka peluang untuk menemukan pola perubahan melalui orang-orang yang diselamatkan atau dihindarkan dari kemajuan modern (1980). Dalam pengertian ini, desa menawarkan suasana yang mencerminkan realitas masa lalu berupa kegiatan sosial dan budaya, kebiasaan sehari-hari, bangunan kuno, dan pemanfaatan ruang tradisional yang terpelihara di wilayah tersebut (Yamashita, 2003).

Desa wisata sendiri memiliki konsep mendasar yang menggabungkan antara desa dan pariwisata sebagai sebuah industri dan wadah bagi berkembangnya suatu gerakan ekonomi masyarakat agraris. Desa wisata mengacu pada masyarakat yang telah melestarikan dan melindungi daerah pemukiman mereka, termasuk nilai-nilai sejarah, budaya dan arsitektur, sejak awal berdirinya (Guo & Sun, 2016). Di beberapa negara, konsep imaji masa lalu ini mengarah pada konsep seperti *furusato* di Jepang (Robertson, 1988; Siegenthaler, 2003; Valaskivi, 2013) atau *gucunluo* di China atau *countryside* di negara barat seperti USA (Roberts, Hall, & Morag, 2017). Peran khusus desa wisata ini juga untuk melestarikan alam, mempertahankan pertunjukan warisan (Crouch, 2016), dan sifat pedesaan yang indah (Halfacree, 2006). Mereka mempertahankan rasa tempat dan menawarkan pengalaman berdasarkan karakteristik pedesaan (Rye, 2006). Dengan demikian, kegiatan sehari-hari (Crouch, 2016), budaya yang dilembagakan (Gradén, 2016), kepentingan nasional, dan gerakan lokal (Robertson, 2016) semuanya membantu membentuk pembuatan situs warisan. Demikian pula, tiga faktor lain yakni wisatawan (Roberts, Hall, & Morag, 2017), sistem agro-pangan (da Silva et

al., 2016), serta media (Chueh & Lu, 2018) turut membantu melestarikan konstruksi ini, dari pedesaan, dan narasi pedesaan, atau dalam istilah barat disebut *country side*, atau imaji tanah pastoral.

Sementara itu, teknologi informasi dan komunikasi menjadi salah satu bagian penting pula dalam siklus pariwisata terutama terkait dengan teknologi dalam telepon seluler (Sari&Yalia, 2019). Aplikasi seluler mampu menciptakan diskusi akademik tentang koneksi, hubungan, interaksi, serta inklusivitas, maupun sebaliknya terputusnya koneksi, hubungan, interaksi manusia dengan sekitarnya serta ekslusivitas individu/grup (Molz, 2012; Harahap, 2018; Budiman, 2018). Penelitian ini ingin melihat bagaimana aplikasi yang dikembangkan dalam penelitian ini menyediakan "ruang" bagi orang untuk berinteraksi (Budiman, 2018) dan membangun kembali lanskap alam di dalam konteks desa wisata dan desa yang memiliki teknologi (Dhahir, 2017). Dengan demikian, penelitian saat ini berkontribusi untuk menginterogasi nuansa dalam studi teknologi informasi dan komunikasi (Budiman, 2018) melalui aplikasi seluler melalui hubungan yang terjalin dari praktik sehari-hari wisatawan, penduduk setempat, dan aktivitas mereka (Harahap, 2018).

Secara spesifik, penelitian ini ingin melihat salah satu dari teknologi informasi dan komunikasi yang berupa *artificial intelligent* (AI) atau kecerdasan buatan yang diinjeksi dalam aplikasi seluler bagi desa wisata. Teknologi *AI* ini termasuk cukup baru tetapi saat ini dikembangkan secara masif. Tetapi, di Indonesia sendiri belum banyak pengembangan *AI* pada desa wisata dan kemanfaatannya bagi masyarakat desa. Oleh sebab itu, penelitian ini menawarkan suatu kebaruan dalam tiga hal yakni: (1) penelitian ini akan meneliti teknologi informasi dan komunikasi pada desa wisata menggunakan aplikasi seluler yang dibuat sendiri oleh para penelitinya tetapi terjadi aksi partisipatif dimana warga desa sendiri yang menentukan konstruksi proses produksi dan konsumsi pada suatu tempat wisata. (2) Penelitian ini juga menawarkan investigasi pada unsur *artificial intelligent* atau kecerdasan buatan dalam konteks desa wisata. (3) Penelitian ini akan melihat unsur interaksi antara manusia dengan teknologi dalam konteks desa wisata yang memiliki narasi dekat dengan alam, tradisional, dan sekaligus masih memiliki budaya agraris yang kuat.

2. TINJAUAN PUSTAKA

2.1. Teknologi dan interaksi sosial

Perkembangan teknologi memunculkan terjadinya perubahan dalam interaksi sosial dan berbagai bidang kehidupan manusia. Teknologi komunikasi dan informasi membantu manusia dalam mempermudah interaksi jarak jauh dan juga interaksi sosial yang berjarak dalam kurun waktu dan tempat yang berbeda secara cepat, tepat, dan efisien. Perkembangan teknologi informasi dan komunikasi membantu dalam interaksi manusia ketika interaksi antar manusia harus berjarak seperti

implikasi dari adanya pandemi covid 19 yang terjadi sejak tahun 2019.

Interaksi sosial yang dimediasi dengan teknologi komunikasi dan informasi memunculkan model kehidupan yang disebut dengan *cyberspace* , dimana fungsi alam menurut Pilliang (2011) bisa diambil alih melalui pengganti teknologinya, disebut dengan kehidupan artifisial (*artificial life*). Berbagai ruang sosial di kehidupan nyata dapat diciptakan substitusinya di dalam dunia informasi digital melalui bentuknya yang artifisial yaitu yang disebut dengan simulasi sosial (*social simulation*).

Simulasi merupakan simulakrum dalam bentuknya yang khusus (Baudrillard, 1999). Selanjutnya Baudrillard menjelaskan bahwa simulasi adalah kelanjutan dari tahap simulakra itu sendiri. Simulakra bentuknya seperti menduplikasi atau mengkopi sebagai modelnya. Sementara itu, realitas tidak memliki eksistensinya di era simulasi ini. Realitas melebur dalam citra model-model reproduksi yang tidak mungkin lagi menemukan referensi nyata, melakukan adanya pembedaan antara citra dan kenyataan, tanda dan ide, yang campur aduk (Medhy, 2012). Pengembangan Teknologi Artificial Intelligence untuk *image recognitian* merupakan bentuk simulasi untuk menduplikasi atau mengkopi realitas alam yang kemudian bisa dilihat melalui smart phone.

2.2. Teknologi *image recognition* menggunakan *Artificial Intelligent*

Teknologi *image recognition* yang dipakai untuk program ini adalah *Convolutional Neural Network* (CNN). Teknologi ini masuk dalam kategori *deep learning* yang sudah dipakai dalam berbagai aspek pengolahan data *non-structural* seperti pada gambar, video maupun suara (Suherman et al., 2021). Penggunaan teknologi CNN ini akan jauh lebih ringan ketika proses klasifikasinya berlangsung dibandingkan saat proses pembelajarannya. Untuk meningkatkan kecepatan eksekusi proses pembelajarannya, sistem akan memanfaatkan teknologi Tensorflow dan Keras dari bahasa pemrograman Phyton (Suherman et al., 2021). Agar teknologi ini mampu belajar dengan baik maka diperlukan banyak foto sebagai bahan untuk pembelajaran atau feed bagi CNN.

CNN saat ini banyak dipakai dalam pengenalan dengan cara mengklasifikasikan obyek citra bahkan dalam bentuk *multi-class* dan menghasilkan performa yang menjanjikan (Mehmood et al.., 2020; Xie et al., 2020). Bahkan penerapannya dapat digunakan untuk mengklasifikasikan obyek gambar dalam bentuk gambar detail atau mikrokopik, seperti dalam penerapan dalam mendeteksi matriks makanan (Liu et al., 2021).

Teknologi *image recognition* menggunakan *Artifical Intelligent* diintegrasikan dengan *desain apps* Dewi Tinalah. Peserta kelas alam dapat melakukan foto pada benda alam dan secara otomatis, informasi akan muncul pada *apps* Dewi Tinalah. Teknologi akan

membaca data foto benda alam (batu, burung, atau flora) tersebut, dan mengintegrasikan informasinya dengan aplikasi yang telah dibuat. Dengan demikian, peserta Kelas Alam dapat melaksanakan wisata edukasi dengan belajar secara mandiri untuk mengeksplorasi alam Dewi Tinalah.

3. Pertanyaan Penelitian

Penelitian ini hendak melakukan tiga tujuan yakni meninventarisasi potensi desa untuk dapat merumuskan teknologi yang tepat, mengimplementasikan teknologi, dan mencatat *lesson learned* dari prosesnya. Oleh sebab itu, riset ini menarik sebab menawarkan beberapa hal yang baru yakni:

1. Riset ini mencoba untuk bereksplorasi dengan teknologi informasi dan komunikasi yakni menggunakan *artificial intelligent*
2. Riset ini sekaligus menjadi sebuah paradox karena menempatkan AI pada konteks desa yang cenderung jauh dari teknologi
3. Riset ini tidak hanya mencari jawaban atas suatu pertanyaan riset tetapi sekaligus menawarkan solusi berupa penciptaan teknologi yang dapat menunjang paket wisata dan mendokumentasikan potensi desa.
4. Artikel ini sendiri, menjelaskan proses kreatif hingga pelaksanaan dan catatan penting seputar kapan, siapa, bagaimana, dan mengapa teknologi AI bisa diterapkan di desa dan mampu membawa keterlibatan masyarakat.

Melihat dari signifikansi yang ditawarkan pada riset ini, maka pertanyaan yang ingin digali dan dicatat dalam proses penelitian ini adalah:

1. Bagaimana warga menginventarisasi potensi desa untuk dapat masuk dalam aplikasi teknologi?
2. Bagaimana keterlibatan warga dalam proses pembuatan teknologi AI untuk desa ini?
3. Apa *lesson learned* yang didapat selama rangkaian prosesnya terkait dengan kapan, siapa, bagaimana, dan mengapa teknologi AI bisa diterapkan di desa wisata?

4. Metodologi

4.1. Jenis Penelitian

Penelitian ini menggunakan tradisi studi fenomenologis. Creswell menyebutkan bahwa: *"Where as a biography reports the life of a single individual, a phenomenological study describes the meaning of the live experiences for several individuals about a concept or the phenomenon"* (Creswell, 1998:51). Dengan demikian, studi dengan pendekatan fenomenologis berupaya untuk menjelaskan makna pengalaman hidup sejumlah orang tentang suatu konsep atau gejala, termasuk di dalamnya konsep diri atau pandangan hidup mereka sendiri. Dalam

hal ini, potensi desa menjadi sebuah makna yang dialami oleh warga dan menjadi fenomena dalam kehidupan mereka sehari-hari. Desa wisata sendiri memiliki potensi obyek dan pengalaman wisata yang bersumber dari kehidupan agrikultur yang dialami dan dilakukan oleh warga desa. Menurut Moleong (1999), fenomenologi tidak berasumsi bahwa peneliti mengetahui arti sesuatu bagi orang-orang yang sedang diteliti oleh mereka. Inkuiri fenomenologis memulai dengan diam.

Dalam proses studi fenomenologi ini peneliti ingin berusaha untuk masuk ke dalam dunia konseptual para subjek yang ditelitinya sedemikian rupa sehingga mereka mengerti apa dan bagaimana suatu pengertian yang dikembangkan oleh mereka di sekitar peristiwa dalam kehidupan sehari-hari. Hal ini sesuai dengan pengalaman untuk menjabarkan potensi desa dan pendapat warga apabila dilihat dari keterlibatan mereka dalam teknologi aplikasi itu sendiri. Warga desa wisata Tinalah, terutama yang terlibat dalam proyek ini memiliki familiaritas pada penggunaan gadget dan aplikasi lainnya. Fenomenologi menjadikan pengalaman hidup yang sesungguhnya sebagai data dasar dari realita sebuah potensi desa dan interaksi warga pada teknologi.

4.2. Lokasi Penelitian

Desa Wisata Tinalah di Samigaluh Kulon Progo Yogyakarta adalah salah satu tempat wisata yang berada di Desa Purwoharjo, Kecamatan Samigaluh, Kabupaten Kulon Progo, Daerah Istimewa Yogyakarta, Indonesia (Rahajeng, 2015). Secara khusus alamat lokasi Pokdarwis di Jalan Persandian km 5, Sendang Sari, Purwoharjo, Samigaluh, Kabupaten Kulon Progo, Daerah Istimewa Yogyakarta (Rizki, 2020). Ini memungkinkan jarak perjalanan dari Universitas Atma Jaya Yogyakarta ke Dewi Tinalah hanya berkisar kurang dari dua jam saja dengan mobil.

Secara geografis desa wisata Tinalah terletak di sekitar kawasan pegunungan menorah. Terbelah oleh sungai Tinalah, Dewi Tinalah memiliki total 14 dusun yang terlibat dalam kawasan destinasi Dewi Tinalah yakni (Puyang, Taman, Plarangan, Tukharjo, Bangunrejo, Dukuh, Kedungrong, Duwet, Junut, Pagutan, Besole, Sendangrejo, Kalinongko, Sendangmulyo) (Rizki, 2020). Kawasan Dewi Tinalah memiliki berbagai jenis potensi alam yakni pegunungan, persawahan, perkebunan, dan wilayah sungai. Hal ini yang kemudian dimanfaatkan oleh *Pokdarwis* Dewi Tinalah.

Dari sisi kependudukan, Dewi Tinalah masuk dalam Pedesaan Purwoharjo. Desa ini dihuni oleh 1088 keluarga dengan jumlah penduduk sekitar 3537 jiwa (Rizki, 2020). Mata pencaharian penduduknya adalah bertani, berdagang, berkebun, dan bertukang. Tingkat pendidikan di desa ini sebagian besar adalah lulusan Sekolah Dasar yakni 2915 orang, diikuti dengan lulusan SMP yakni 274 orang, SMA kurang lebih 250 orang dan beberapa yang lulus perguruan tinggi yakni 126 orang (Rizki, 2020). Sementara itu, masih banyak masyarakat yang hidup di bawah garis kemiskinan di desa tersebut misalnya dilihat dari masih

banyak yang memiliki rumah belum layak huni (berlantai tanah), berpenghasilan kurang dari Rp 5.000 per hari, dan makan kurang dari tiga kali. Pariwisata menjadi salah satu cara untuk mendapatkan penghasilan tambahan yang cukup signifikan jika mendapatkan tamu-tamu untuk *camping* atau *outbound*. Tetapi selama pandemi, pariwisata ditutup sehingga otomatis tidak ada pendapatan tambahan.

Secara historis, pendirian Dewi Tinalah dan *Pokdarwis* didasari dari keinginan warga lokal untuk memanfaatkan sisi alam dan sejarahnya. Kawasan Dewi Tinalah yakni Dusun Duwet, Dukuh, dan Suwelo sebenarnya merupakan zona perjalanan lima tahun sejarah Perang Jawa yang mana Pangeran Diponegoro sering bergerilya di kawasan ini. Sementara pada jaman kemerdekaan, Museum Sandi di desa tersebut menjadi saksi bagi perjuangan pahlawan yang melacak kode, informasi, dan komunikasi untuk melawan penjajahan.

4.3. Teknik Pengumpulan Data

4.3.1. Focus Group Discussion

Focus Group Discussion menurut Walliman (2006) merupakan jenis pengumpulan data dengan cara melakukan wawancara secara kelompok, yang berkonsentrasi secara mendalam pada tema atau topik tertentu dengan unsur interaksi. Kelompok yang diundang untuk melakukan FGD terdiri dari orang-orang yang memiliki pengalaman atau pengetahuan tertentu tentang subjek penelitian, atau mereka yang memiliki minat tertentu di dalamnya.

Gambar 1. Pelaksanaan FGD di Desa Wisata Tinalah
Sumber: Dok. Peneliti, 2021

Penelitian di Desa Wisata Tinalah mengundang tokoh-tokoh pengelola Desa Wisata Tinalah yaitu terdiri dari pengurus, pemandu, dan pemasaran. Selain jumlah ideal untuk FGD maksimal adalah 10 0rang, juga karena kondisi masa pandemi covid 19 sehingga pertemuan *offline* (tatap muka) dibatasi jumlahnya dan dengan protokol kesehatan yang ketat.

Gambar 2. Diskusi Warga untuk mencari potensi di Desa Wisata Tinalah untuk pembuatan aplikasi teknologi berbasis *Artificial Intelligent*
Sumber: Dok. Peneliti, 2021

FGD dilakukan selama 3 kali pertemuan, dimana pertemuan pertama, membahas tentang kebutuhan terkait pelatihan-pelatihan yang akan diadakan; pertemuan kedua membahas tentang kurkulum kelas alam, dan pertemuan ketiga membahas tentang penulisan

feature. FGD menghasilkan kurikulum kelas alam dan tulisan anggota kelompok tentang cerita alam di sekitar mereka, seperti capung, pohon-pohonan, binatang, bebatuan, destinasi wisata di Dewi Tinalah akan memperkaya kemampuan penduduk dalam mengeksplore kekayaan dan menuliskannya dalam suatu cerita yang menarik. Hasil FGD selanjutnya akan membantu penyusunan aplikasi *image recognition*.

Gambar 3. Tim Peneliti menjelaskan aplikasi teknologi pada rencana program Kelas Alam Desa Wisata Tinalah
Sumber: Dok. Peneliti, 2021

4.3.2. Observasi

Observasi menurut Walliman (2006) merupakan metode pengumpulan data untuk merekam kondisi, peristiwa, dan aktivitas melalui melihat daripada bertanya. Sebagai suatu kegiatan, observasi tentu saja diperlukan dalam banyak situasi penelitian, misalnya mengamati hasil eksperimen, perilaku model bahkan mengamati reaksi orang terhadap pertanyaan dalam wawancara.

Kegiatan observasi dipergunakan dalam penelitian ini untuk merekam sifat atau keadaan suatu objek atau peristiwa secara visual, misalnya dalam penelitian ini dengan mengobservasi secara langsung ke Desa Wisata Tinalah untuk mengamati jenis-jenis tanaman, bebatuan, dan binatang. Kemudian melakukan pemotretan dan analisis terkait hasil gambar yang diperoleh apakah sesuai dengan kondisi yang sesungguhnya. Walliman (2006) menyatakan bahwa cara observasi seperti ini disebut sebagai etnografi visual. Materi visual dapat menjadi sumber data untuk analisis, atau dapat digunakan sebagai pemicu reaksi orang yang diwawancarai. Observasi dapat digunakan untuk merekam data kualitatif.

4.4. Implementasi Teknologi

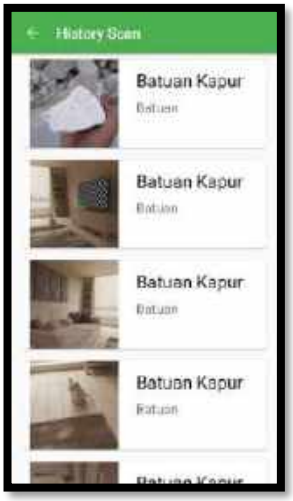
Jaringan syaraf tiruan merupakan basis teknologi yang digunakan untuk pengenalan obyek obyek pembelajaran pada desa wisata tinalah. Lebih lanjut, algoritma Convolution Neural Network dengan arsitektur LeNet digunakan karena memiliki kemampuan rekognisi yang tinggi (Suherman et al., 2021). Algoritma ini dijalankan menggunakan Bahasa pemrograman python, yang kemudian diintegrasikan ke aplikasi android melalui web service flask (Ilmawan, 2018). Algoritma dibangung dengan menggunakan bantuan library *tensorflow* untuk meningkatkan kemampuan kecepatan belajar.

Secara garis besar algoritma ini dibagi menjadi dua fase yakni fase belajar dan fase rekognisi atau sering juga disebut fase evaluasi. Sistem akan belajar dari gambar gambar dari obyek obyek yang ada di desa wisata tinalah yang dipilih. Pemilihan obyek yang akan

direkognisi ini berdasarkan nilai historis terhadap masyarakat desa wisata tinalah, obyek yang mampu meningkatkan dinamika selama proses pembelajaran alam dilakukan, dan tentunya obyek yang mampu membantu meningkatkan nilai paket paket wisata pada desa wisata tinalah.

Gambar 4. Fase Belajar pada Aplikasi Desa Wisata Tinalah
Sumber: Dok Pribadi peneliti, 2021

Fase kedua adalah fase evaluasi atau fase rekognisi. Pada fase ini sistem akan memberikan pengetahuan yang diperoleh dari fase pembelajaran ke pada aplikasi android melalui webservice flask. Proses evaluasi ini dalam konteks pembelajaran alam ini di wujudkan dalam bentuk gamifikasi. Semakin banyak obyek rekognisi yang diperoleh maka peserta akan mendapat poin lebih tinggi.



Gambar 5. Fase rekognisi pada Aplikasi Desa Wisata Tinalah
Sumber: Dok. Peneliti, 2021

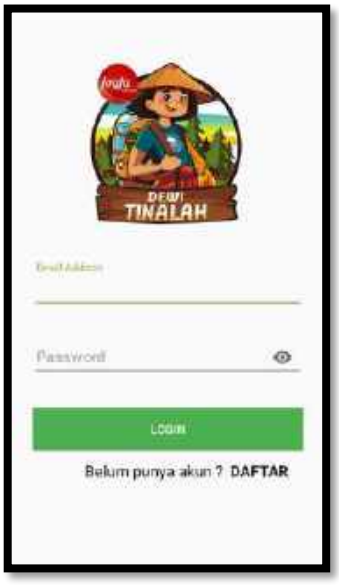
Proses gamifikasi ini bertujuan untuk memberikan pembelajaran mengenai obyek terpilih dari aplikasi tentang kearifan lokal masyarakat yang ada terkait obyek tersebut. Selain itu gamifikasi ini berusaha untuk menarik konsumen atau peserta untuk mengambil keseluruhan paket Desa Wisata Tinalah dengan membuka seluruh obyek rekognisi. Hal ini diwujudkan dengan tersebarnya seluruh obyek rekognisi di seluruh destinasi Desa Wisata Tinalah.

Aplikasi yang dikembangkan saat ini masih memiliki kekurangan pada ruang lingkup perangkat yang baru bisa pada smartphone android. Selain itu aplikasi ini belum mampu membedakan objek acak atau objek yang ditentukan, karena menggunakan konsep klasifikasi. Pada konsep klasifikasi setiap obyek yang diambil harus dikelompokkan pada kelas kelas yang telah ditentukan, sehingga jika terdapat obyek diluar kelas

yang dimiliki akan di baca tetap sebagai salah satu obyek rekognisi.

4.5. Kelas Alam Desa Wisata Tinalah

Melalui rapat bersama, Pokdarwis Dewi Tinalah berinisiatif untuk dapat membuka kembali paket di desanya terutama dengan mengembangkan pasar sekolah yang ingin belajar Ilmu Pengetahuan Alam (IPA) secara langsung di alam. Program ini adalah edukasi alam berbasis teknologi. Misalnya dengan pengamatan bebatuan, flora, dan burung yang ada di sekitar desa tetapi bisa mengintegrasikan pengamatan dan edukasi tersebut dengan teknologi. Oleh sebab itu, Desa Wisata Tinalah sudah mengembangkan Apps Dewi Tinalah yang dapat didownload di *google apps store*. Ini adalah sebuah inovasi desa yang dilakukan oleh pemuda-pemudi yang tergabung dalam



Pokdarwis di sana.

Dari hasil diskusi dengan warga sekitar, Dewi Tinalah berharap agar *apps* yang mereka buat secara sederhana bisa dikombinasikan dengan acara *outbound* yang kerap diselenggarakan di desa tersebut. Dewi Tinalah membutuhkan mahasiswa dari perguruan tinggi dari berbagai bidang yakni bidang ilmu sosial, ilmu komunikasi, dan ilmu teknologi informasi untuk secara multidisiplin dapat meng-upgrade apps tersebut dan menyatukannya dengan edukasi alam. *Design thinking* untuk membuat informasi Apps menjadi menarik dan mengemasnya menjadi games dimana ada kompetisi, tantangan, hingga kolaborasi tim serta menunjang kelas alam sangat diperlukan.

Sementara itu dengan kondisi COVID-19, Desa wisata Tinalah berharap dapat membuka kembali paket di desanya terutama dengan mengembangkan pasar sekolah yang ingin belajar Ilmu Pengetahuan Alam (IPA) secara langsung di alam. Misalnya dengan pengamatan bebatuan, flora, dan burung yang ada di sekitar desa. Oleh sebab itu, Desa Wisata Tinalah sudah mengembangkan Apps Dewi Tinalah yang dapat didownload di *google apps store*. Ini adalah sebuah inovasi desa yang dilakukan oleh pemuda yang tergabung dalam Pokdarwis di sana. Tetapi, Dewi Tinalah tetap membutuhkan ahli dari perguruan tinggi yakni bidang ilmu sosial, ilmu komunikasi, dan ilmu teknologi informasi untuk dapat meng-upgrade apps tersebut sehingga dapat menunjang kelas alam.

Gambar 6. Tampilan Pendaftaran Aplikasi Desa Wisata Tinalah
Sumber: Dok. Peneliti, 2021

Setelah melalui diskusi dengan Pokdarwis Desa Wisata Tinalah, dipilihlah teknologi *image recognition* yang menggunakan *Artifical Intelligent* untuk diintegrasikan dengan *desain apps* Dewi Tinalah. Melalui teknologi ini, peserta kelas alam dapat melakukan foto pada benda alam dan secara otomatis, informasi akan muncul pada *apps* Dewi Tinalah. Teknologi akan membaca data foto benda alam (batu, burung, atau flora) tersebut, dan mengintegrasikan informasinya dengan aplikasi yang telah dibuat. Untuk dapat menunjang teknologi ini, diperlukan Sumber daya manusia yang dapat melakukan pengambilan foto (pelatihan fotografi), menulis konten (penulisan naskah feature), dan penggunaan aplikasi dan kurikulum kelas alam (pelatihan penggunaan apps dan desain kurikulum).

5. Hasil Penelitian

5.1. *Pemetaan Potensi Desa*

Objek Desa Wisata Tinalah di Samigaluh Kulon Progo Yogyakarta adalah daerah yang menjadikan sektor wisata sebagai andalannya, beragam potensi dan jenis wisata. Sebutan Dewi (Desa Wita) Tinalah ini menjadikan keindahan alam yang ada di daerahnya sebagai andalan. Aliran sungai Tinalah menjadikan desa ini memiliki keindahan alam yang mempesona. Deretan bukit yang hijau, area persawahan, dan aliran sungai berbatu berpadu menjadi bentang alam yang sangat memanjakan mata. Ada juga potensi wisata alam berupa gua Sriti yang memiliki kedalaman sekitar 70 meter. Panggeh Widodo, selaku Ketua Desa Wisata Tinalah, menjelaskan bahwa berbekal potensi yang ada pada tahun 2013 masyarakat Tinalah merintis desa wisata.

Sejumlah fasilitas telah disediakan pengelola, mulai dari dua buah area camping ground, dua buah pendopo, kamar mandi, permainan outbond, musala, hingga tenda. Biasanya wisatawan yang datang ke Dewi Tinalah adalah rombongan baik mahasiswa, pelajar, ataupun rombongan instansi. Ada beragam kegiatan yang disiapkan bagi para pengunjung, seperti susur sungai Tinalah, tracking bukit, outbond, dan beberapa kegiatan lainnya Letaknya berada di Kawasan Bukit Menoreh yang kaya akan keindahan alam dan budaya. Wilayah Dewi Tinalah dulunya pernah dijadikan tempat persembunyian Pangeran Diponegoro dan mengatur strategi perang. Di bukit Talun Miri, yang saat ini menjadi salah satu lokasi camping ground dulunya adalah tempat Pangeran Diponegoro berlatih berkuda. Ditempat ini juga terdapat museum sandi, yang dulu menajdi tempat penyerahan informasi dalam bentuk sandi pada masa perang gerilya Jenderal Sudirman.

Mitra kegiatan pengabdian ini adalah Kelompok Sadar Wisata (Pokdarwis) Dewi Tinalah. Kelompok Sadar Wisata (Pokdarwis) menurut Kementerian Pariwisata dan Ekonomi Kreatif merupakan kelembagaan di tingkat masyarakat yang anggotanya terdiri dari para pelaku kepariwisataan yang memiliki kepedulian dan tanggungjawab serta berperan sebagai penggerak dalam mendukung terciptanya iklim kondusif bagi tumbuh dan berkembangnya kepariwisataan dan memanfaatkannya bagi kesejahteraan

masyarakat sekitar. Fungsi Pokdarwis dalam kegiatan kepariwisataan menurut Kementerian Pariwisata dan Ekonomi Kreatif adalah sebagai: Pertama, penggerak Sadar Wisata dan Sapta Pesona di lingkungan wilayah di destinasi wisata; Kedua, sebagai mitra pemerintah dan pemerintah daerah (kabupaten atau kota) dalam upaya perwujudan dan pengembangan Sadar Wisata di daerah.

Dalam proses pemetaan potensi alam desa, peneliti melakukan beberapa rangkaian FGD untuk pengumpulan hasil.

Tabel 1. Deskripsi aktivitas pelaksanaan diskusi

Proses	Deskripsi aktivitas
FGD 1	Dimulai dengan penjelasan mengenai teknologi yang ingin dikembangan serta potensi pasar, diskusi ini melibatkan warga masyarakat, pemangku kebijakan, dan pengurus Pokdarwis. Peneliti bertanya dan melakukan *brainstorm* umum mengenai apa yang menjadi potensi alam dan budaya yang dapat masuk dalam teknologi.
FGD 2	Peneliti melakukan diskusi lebih intensif dengan pokdarwis yang melibatkan ketua, sekretaris, dan marketing. Diskusi ini untuk membahas harapan dan pemetaan dalam pemanfaatan paket kelas alam yang mengidentifikasi potensi lokal dan teknologi.
FGD 3	Peneliti melakukan diskusi dengan melakukan pemetaan yang lebih intensif dengan melihat paket-paket outbound apa saja yang sudah ada. Kemudian dilakukan diskusi mengenai paket kelas alam wisata apa yang secara spesifik dapat dibangun dari kelas alam ini.
FGD 4	Peserta melakukan diskusi mengenai materi spesifik yang berhubungan dengan kelas alam dan menulis deskripsi sederhana mengenai benda-benda alam yang teridentifikasi dapat masuk dalam teknologi.

Sumber: Peneliti, 2021

Melalui proses pemetaan ini terdapat setidak-tidaknya tiga zona alam yang akan dieksplorasi dalam teknologi. (1) Daerah persawahan dan perkemahan, (2) Daerah sungai Tinalah, (3) Daerah hutan area *trekking* ke Puncak Kleco. Melalui tiga zona ini, warga berdiskusi mengenai benda alam apa yang dapat masuk dalam teknologi, paket apa yang dapat dibuat, dan obyek pengamatan apa yang dapat dijadikan bahan untuk teknologi maupun yang bisa digunakan untuk penjelasan pemandu wisata.

Tabel 2. Inventarisasi jawaban dan pertanyaan untuk pemetaan potensi

Pertanyaan untuk pemetaan potensi	Inventarisasi jawaban
Benda alam apa informasinya dapat masuk dalam teknologi?	Warga melakukan diskusi, observasi pada obyek dilakukan, dan pengambilan gambar dilakukan. Benda itu antara lain batu karang, kelapa, padi, pisang, singkong, generator mikrohidro, dan lain-lain.

Paket apa yang dapat dibuat?	Warga melakukan diskusi, inventarisasi pada acara outbound dan aktivitas dilakukan, serta catatan tentang potensi cerita dilakukan. Paket itu antara lain paket partisipatif bertema "singkong," paket partisipatif bertema "kelapa," paket partisipatif "mikrohidro," paket partisipatif "sungai," paket partisipatif "nasi dan persawahan." Paket partisipatif yang dimaksud melibatkan aktivitas penjelasan, penggunaan teknologi dengan pengambilan gambar, hingga aktivitas misalnya membuat makanan ringan, memasak, bermain air, berkunjung ke rumah warga, hingga penanaman pohon.
Obyek pengamatan apa yang dapat dijadikan bahan untuk teknologi maupun yang bisa digunakan untuk penjelasan pemandu wisata?	Warga melakukan inventarisasi dan penceritaan mengenai obyek-obyek alam yang dapat masuk melalui teknologi, acara reflektif, maupun penjelasan pemandu wisata. Misalnya: stalagtit, stalagmite, padi, instalasi mikrohidro, embung, dan bebatuan sungai, ritual wiwitan, dan baritan.

Sumber: Peneliti, 2021

Melalui proses pemetaan ini, warga dilibatkan dan terlibat aktif dalam melakukan konstruksi terhadap tempat yang merupakan wilayah mereka sendiri. Warga desa juga terlibat aktif dalam hal produksi konten, paket, dan gambaran benda di sekitarnya yang bisa dimanfaatkan untuk paket, teknologi, aktivitas wisata, hingga penjelasan tur guide. Selain itu, warga juga terlibat aktif dalam konstruksi proses konsumsi atau *place consumption* dimana warga menentukan hal apa yang dapat dilihat, dinikmati, dipelajari, dan dipahami oleh orang luar mengenai desa mereka. Tindakan partisipatif ini akan mencegah eksotisisme atau aksi yang mana membuat desa menjadi obyek pasif dalam *place consumption* yang kerap terjadi. Desa menjadi tidak punya kekuatan untuk menolak materi apa yang bisa "ditonton," "dipertunjukkan," atau *gazing of others*.

5.2. Teknologi dan Masyarakat

Secara umum, masyarakat menerima usulan teknologi informasi dan komunikasi yang akan diaplikasikan di desa mereka. Beberapa hal yang muncul dalam catatan penelitian ini adalah bahwa usulan pengembangan kelas alam yang digagas oleh warga dapat didukung oleh teknologi ini dan

bahwa teknologi ingin mengembangkan apps yang memang sudah lebih dahulu dimiliki oleh warga. Poin *existing* ini menjadi penting sebab ini menentukan kepemilikan atas teknologi dan keinginan warga untuk terlibat, daripada semua usulan berasal dari peneliti atau pelaksana abdimas yang notabene adalah orang luar atau *outsider.*

> "Kami menyambut baik pembuatan teknologi ini karena ini dapat diintegrasikan dengan rencana kami mengenai kelas alam dan mengembangkan potensi di desa yang sudah ada"-Pernyataan A001

Selain itu, keterlibatan masyarakat dalam proses penciptaan teknologi juga memberikan dampak dari kemauan warga untuk berkomitmen menyelesaikan program maupun tugas yang diberikan. Masyarakat dilibatkan dalam berbagai proses diskusi untuk mengidentifikasi dan menginventarisasi potensi di desanya. Selain itu, masyarakat juga dilibatkan dalam proses memberikan makna dan narasi pada potensi benda maupun non benda yang ada di desanya. Proses memaknai dan membuat narasi baik lisan maupun tertulis ini merupakan bagian dari keterlibatan warga untuk ikut memproduksi tidak hanya konten tetapi alur pengalaman yang nantinya akan dirasakan oleh warga maupun pengunjung.

> "Ada banyak potensi di sini. Bisa cerita macam-macam. Ada cerita mengenai kelapa, ada cerita dan membuat singkong, ada cerita tentang mikrohidro, ada cerita tentang sungai tinalah, ada cerita soal batu juga bisa. Banyak yang bisa diceritakan untuk belajar adik-adik sekolah"-Pernyataan A002

Dalam proses pengambilan gambar, masyarakat dan terutama yang pernah berpengalaman sebagai *guide*, juga terlibat dalam menunjukkan benda-benda alam di sekitar desa wisata. Melalui pengalaman trekking, warga menceritakan obyek-obyek alam spesifik di sepanjang jalur *trekking* selama dua jam tersebut. Hal ini memberikan kesempatan pada warga untuk bisa membayangkan mengenai isi dan fungsi teknologinya. Selain itu, obyek-obyek yang ditemui secara langsung bisa memberikan wawasan tambahan bagi bahan konten untuk teknologi.

6. Pembahasan

Pembahasan ini akan membahas implikasi teoritis dan praktis dalam beberapa pertanyaan reflektif seputar *lesson learned* dalam pemanfaatan teknologi TIK berbasis AI dalam pengembangan program kelas alam di desa wisata. Pertanyaan itu antara lain mengenai kapan, siapa, bagaimana, dan mengapa teknologi AI ini bisa dan mungkin diterapkan di desa wisata secara inovatif tanpa menghilangkan interaksi dan keterlibatan masyarakat dalam pembuatan dan penggunaan teknologinya.

6.1. *Kapan Teknologi AI dalam TIK bisa diterapkan di desa wisata?*

Teknologi informasi dan komunikasi khususnya perangkat media seluler memiliki potensi untuk memberikan simulasi (*simulacrum)* ke

ruang publik yang membentuk praktik sosial dan spasial yang berlangsung secara simultan (Humpherys, 2007) di desa wisata. Potensi dalam muncul dalam perangkat aplikasi untuk media seluler adalah dapat memperkuat keterkaitan tempat dan mobilitas serta pengembangan produksi dan konsumsi tempat (*place production and consumption).*

Desa wisata dalam hubungannya dengan TIK seharusnya bisa menjadi produsen sekaligus konsumen konten media tersebut (Groote & Haarsten, 2016; Reijnders, 2016). Dengan demikian, proses produksi dan konsumsi ini tidak hanya melibatkan komoditas tempat, tetapi juga narasi sejarah dan warisannya (Foster et al., 2017; Groote & Haarsten, 2016). *Artificial intelligent* dalam aplikasi desa wisata Tinalah ini merupakan bentuk implementasi teknologi informasi dan komunikasi untuk mengembangkan sebuah desa wisata. Teknologi AI banyak dianggap sebagai pengganti pekerjaan manusia. Anggapan bahwa teknologi mampu membuat manusia mengalami kerugian dan terpinggirkan banyak muncul sebab kemampuan teknologi yang bisa melebihi manusia. Tetapi, apabila *AI* dipergunakan untuk keuntungan manusia, teknologi justru dapat memberikan keuntungan, memberdayakan, dan mengedukasi masyarakat. Dalam proses penelitian ini, penerapan AI menggunakan konsep *human centered empowerment* dimana pemberdayaan berpusat pada manusia di sekitarnya. Ini berarti bahwa teknologi hanya sebagai alat atau instrumen komunikasi untuk memfasilitasi manusia dan hanya demi kebaikan manusia di sekitarnya.

Aplikasi teknologi informasi dan komunikasi seperti AI sangat memerlukan keterlibatan masyarakat atau *pro human*. Masyarakat terlibat dalam proses produksi tempat, konsumsinya, dan narasinya. Hal ini juga memberikan implikasi pada isu ownership atau kepemilikan dalam pengelolaan suatu tempat. Masyarakat yang terlibat dalam proses ini menggunakan sumber daya untuk melestarikan nilai-nilai budaya (Beel et al., 2017), menarik wisatawan (Edelheim, 2015), meningkatkan pengeluaran wisatawan (Luscombe, Walby, & Piché, 2018), dan memperkuat lokasi (dirasakan/diproyeksikan) "identitas budaya" (McDowell, 2016). Dengan demikian, media – baik offline maupun online – memainkan peran penting dalam membentuk representasi tempat (Groote & Haarsten, 2016), berpartisipasi dalam membangun makna komunikasi pada suatu tempat wisata (De Groot, 2016). Aplikasi seluler berfungsi untuk membentuk representasi tempat melalui konsep koneksi, mobilitas sosial, dan kedekatan virtual dalam ranah siklus pariwisata.

6.2. *Siapa yang bisa menerapkan AI untuk kebutuhan TIK desa wisata?*

Manusia, tempat, dan teknologi memiliki relasi yang menarik sebab teknologi dapat memicu proses mobilitas yang terjadi pada suatu tempat. Mobilitas adalah konsep yang sangat menonjol untuk memahami pariwisata dan teknologi seluler, ruang fisik dan

virtual, pengalaman di tempat dan online (Molz, 2012). Melalui mobilitas teknologi mobile, pariwisata menjadi sebuah konsep yang menghubungkan, menghubungkan kembali, dan memutuskan tempat (Bauman, 2003).

Manusia dalam hal ini perlu memahami potensi teknologi dalam membentuk hubungan sosial, serta kesenjangan sosial, yang tampaknya hadir dalam aspek eksklusif dan inklusif dari dunia fisik dan virtual ini (Urry, 2007). Praktisi pariwisata, akademisi, industri pariwisata, konsultan melalui teknologi informasi dan teknologi yang dimediasi dengan *Artificial Intelligent* akan mampu bergerak melampaui kehadiran fisik hingga dapat meningkatkan potensi wisata di suatu tempat, interaksi online maupun offline, dan identitas suatu tempat (Molz, 2012).

6.3. *Bagaimana menerapkan AI di Desa Wisata untuk kebutuhan TIK?*

Studi ini menemukan bahwa untuk menerapkan AI di desa wisata untuk kebutuhan teknologi informasi dan komunikasi diperlukan proses identifikasi yang melibatkan warga di desa wisata. Proses keterlibatan ini dapat melalui proses pengumpulan materi dalam proses pengaturan paket wisata maupun narasi. Studi ini menemukan bahwa setidaknya ada tiga hal mengenai desa wisata yang diidentifikasi sebagai hal yang dapat diangkat dalam teknologi yakni– budaya misalnya arsitektur rumah tradisional, ritual, dan benda bersejarah, aktivitas masyarakat lokal, dan alam sekitarnya. Materi nyata seperti ini penting dalam menjual tempat pedesaan di media seluler populer, serta imajinasi untuk mengkonstruksi *place making* desa wisata (Wang & Sandner, 2019; Oreglia, 2015; Carnegie, 2010).

Gaya hidup yang dekat dengan alam, menelusuri alam, dan menggunakan teknologi dapat menjadi bagian dalam pembuatan teknologi informasi dan komunikasi ini. Sebagaimana dipahami dalam benak konsumen mengenai desa wisata yakni mereproduksi imajinasi dan stereotip dominan tentang tempat-tempat pedesaan, pedesaan dan desa-desa (Milbourne, 1997).

6.4. *Mengapa menerapkan AI di Desa Wisata?*

Penelitian ini juga menemukan alasan mengapa AI bisa dan dapat diterapkan di desa wisata. Penggambaran desa wisata sebagai ruang pedesaan berimplikasi pada duplikasi lanskap. Duplikasi lanskap adalah proses dimana suatu tempat terduplikasi dalam bentuk gambar atau video atau realitas virtual yang menggunakan teknologi (Halfacree, 2003; Milbourne, 1997). Tentu, ini akan berimplikasi pada cara melihat dan cara berinteraksi dari tempat ini secara berbeda. Tetapi, teknologi ini dikembangkan justru dengan mengandalkan interaksi dan tidak dapat dilakukan oleh wisatawan tanpa bantuan penduduk sekitar. Hal ini menyebabkan teknologi menjadi alat bantu terjadinya interaksi sosial yang dimediasi oleh aplikasi seluler (Couldry & Hepp, 2018; Vásquez, 2012; Carter, 2016). Masyarakat termediasi ini

mengandalkan pengalaman antarmuka para pengguna (Couldry & Hepp, 2018). Selain itu, produsen dan konsumen juga mengikuti batasan, pengelolaan konten, dan pengalaman pengguna dari masuk hingga keluar, hingga proses membaca dan menulis ulasan. Wisatawan tidak hanya mengalami aplikasi, tetapi juga dalam menceritakan dan akhirnya mengalami tempat itu sendiri (Vásquez, 2012; Carter, 2016). Narasi yang melingkupi desa wisata kemudian dihasilkan juga melalui foto dan cerita pengalaman dan aktivitas. Akhirnya, desa wisata ini melalui cara aplikasi seluler dan proses AI yang mekanis dan sistematis menghasilkan narasi-narasi ini melalui fitur-fiturnya sendiri.

Teknologi AI menciptakan fasilitas interaksi baru bagi wisatawan yang berkunjung di Dewi Tinalah karena penerapan protokol kesehatan yang harus dijaga ketat selama pandemi covid 19. Gamifikasi menggunakan mobile phone menjadi media pembelajaran alam yang aman bagi wisatawan dengan interaksi yang berjarak antar wisatan. Teknologi memiliki fungsi "extension", dimana gamifikasi ini akan terintegrasi dengan kehidupan wisatawan sebagai pengguna dan penduduk yang menjadi subjek yang mengembangkannya. Penduduk sebagai subjek pengembang gamifikasi akan berinteraksi dengan teknologi tersebut secara terus menerus sehingga bisa menjadi bagian dari kehidupan mereka.

Gamifikasi melalui teknologi AI yang dikombinasikan dengan kegiatan alam lainnya yang memungkinkan wisatawan masih tetap bisa berinteraksi dengan wisatawan lain, penduduk, dan alam meminimalisir ketergantungannya. Wisatawan tidak akan terjebak kedalam realitas tiruan (hiperialitas) dan membentuk kehidupannya karena realitas yang riil (sesungguhnya) dihadirkan melalui interaksi dan permainan lainnya yang mempertemukan dengan orang lain meskipun tetap dengan protokol kesehatan.

7. Simpulan dan Keterbatasan

Pandemi covid 19 mengharuskan pelaksanaan penelitian dan pengabdian pada masyarakat dilakukan dengan menggunakan protokol kesehatan yang ketat untuk meminimalisir resiko terpapar covid 19. Oleh karena itu, metode pengumpulan data yang inovatif perlu dikembangkan bersama masyarakat. Masyarakat diajak memikirkan cara menggali masalah sampai dengan solusi atas permasalahan yang dihadapi dengan menggunakan metode pengumpulan data yang inovatif seperti melalui zoom meeting, atau menggunakan media sosial yang lainnya.

Saran untuk penelitian selanjutnya adalah menganalisis bagaimana implikasi dari pemanfaatan teknologi kelas alam tersebut dipergunakan dalam membangun kurikulum kelas alam. Hasil dari pemakaian apps tentu saja akan membantu dalam pembangunan pariwisata yang berkelanjutan pada waktu -waktu yang akan datang.

Ucapan Terima Kasih
Ucapan terima kasih kepada Kemenristek DIKTI atas hibah yang diberikan tahun 2021. Ucapan terima kasih kepada LPPM UAJY dan LPPM UKRIM serta tidak lupa, mitra desa kami: Desa Wisata Tinalah, Kulon Progo, pokdarwis setempat, dan semua pihak yang membantu kami.

DAFTAR PUSTAKA

Adams, K. M. (2004). Locating global legacies in Tana Toraja, Indonesia. Current Issues in Tourism, 7(4–5), 433–435.

Askwith, R. (2012). *The lost village: In search of a forgotten rural England*. Random House.

Baudrillard, J. (1999). *Simulacra and simulation (Translated by Sheila Faria Glaser)*. Ann Arbor: The University of Michigan Press

Bauman, Z. (2003). *A sociological theory of postmodernity* (pp. 215-232). Routledge.

Beel, et al. (2017). Cultural resilience: The production of rural community heritage, digital archives and the role of volunteers. *Journal of rural studies*, *54*, 459-468.

Budiman, B. (2018). Akses Dan Penggunaan Teknologi Informasi Dan Komunikasi Pada Rumah Tangga Dan Individu. *Jurnal PIKOM (Penelitian Komunikasi dan Pembangunan)*, *15*(1), 1-16.

Carnegie, M. (2010). Living with difference in rural Indonesia: What can be learned for national and regional political agendas?. *Journal of Southeast Asian Studies*, *41*(3), 449-481.

Carter, P. L. (2016). Where are the enslaved?: TripAdvisor and the narrative landscapes of southern plantation museums. *Journal of Heritage Tourism*, *11*(3), 235-249.

Chueh, H. C., & Lu, Y. H. (2018). My dream life in a rural world: A nonfiction media representation of rural idyll in Taiwan. *Journal of Rural Studies*, *59*, 132-141.

Couldry, N., & Hepp, A. (2018). *The mediated construction of reality*. John Wiley & Sons.

Creswell, J. (1998). *Qualitative Inquiry and Research Design: Choosing Among Five Traditions*. USA: Sage Publication Inc

Crouch, D. (2016). The perpetual performance and emergence of heritage. In *Culture, heritage and representation* (pp. 75-90). Routledge.

da Silva, et al. (2016). The countryside is worth a thousand words–Portuguese representations on rural areas. *Journal of Rural Studies*, *44*, 77-88

Dahles, H. (2013). *Tourism, heritage and national culture in Java: Dilemmas of a local community*. Routledge.

De Groot, J. (2016). *Consuming history: Historians and heritage in contemporary popular culture*. Routledge.

Dhahir, D. F. (2018). Pemanfaatan Program Desa Broadband Terpadu oleh Masyarakat Desa Lutharato Integrated Broadband

Village Program Utilization by Lutharato Villagers. *Jurnal Pikom (Penelitian Komunikasi dan Pembangunan)*, *19*(2).

Edelheim, J. R. (2015). *Tourist Attractions*. Channel View Publications.

Foster, et al. (2017). The strategic use of historical narratives: A theoretical framework. *Business History*, *59*(8), 1176-1200.

Geertz, C. (1980). *Negara*. Princeton University Press.

Gradén, L., & Aronsson, P. (2016). *Performing Nordic heritage: Everyday practices and institutional culture*. Routledge.

Groote, P., & Haartsen, T. (2016). *The communication of heritage: Creating place identities* (pp. 181-194). Routledge.

Guo, Z., & Sun, L. (2016). The planning, development and management of tourism: The case of Dangjia, an ancient village in China. *Tourism Management*, *56*, 52-62.

Halfacree, K. (2006). From dropping out to leading on? British counter-cultural back-to-the-land in a changing rurality. *Progress in Human Geography*, *30*(3), 309-336.

Harahap, A. R. (2018). Efektivitas Pemanfaatan Mobile Pusat Layanan Internet Kecamatan di Kabupaten Langkat, Sumatera Utara. *Jurnal PIKOM (Penelitian Komunikasi dan Pembangunan)*, *17*(1), 17-30.

Humphreys, L. (2007). Mobile sociality and spatial practice: a qualitative field study of new social networking technologies. Retrieved from: http://www.asc.upenn.edu/usr/lhumphreys/Humphreys_Dissertation.pdf

Ilmawan, L. B. (2018). Membangun Web Crawler Berbasis Web Service Untuk Data Crawling Pada Website Google Play Store. *ILKOM Jurnal Ilmiah*, *10*(2), 215-224.

Liu, Y., Pu, H. and Sun, D.W., 2021. Efficient extraction of deep image features using convolutional neural network (CNN) for applications in detecting and analysing complex food matrices. *Trends in Food Science & Technology*.

Luscombe, A., Walby, K., & Piché, J. (2018). Making punishment memorialization pay? Marketing, networks, and souvenirs at small penal history museums in Canada. *Journal of Hospitality & Tourism Research*, *42*(3), 343-364.

McDowell, S. (2016). *Heritage, memory and identity* (pp. 37-53). Routledge.

Medhy, A. H. (2012). *Menggugat Modernisme Mengenali Rentang Pemikiran Postmodern Jean Baudrillard.* Yogyakarta: Jalasutra

Mehmood, A., Maqsood, M., Bashir, M. and Shuyuan, Y., 2020. A deep siamese convolution neural network for multi-class classification of alzheimer

disease. *Brain sciences*, *10*(2), p.84.

Milbourne, P. (Ed.). (1997). *Revealing Rural" Others": Representation, power, and identity in the British countryside*. A&C Black.

Moleong, L. (1999). *Metode Penelitian Kualitatif, Penerbit.* PT. *Remaja Rosdakarya-Bandung*.

Molz, R., & Ratiu, C. (2012). Logics of local actors and global agents: divergent values, divergent world views. *Critical perspectives on international business*.

Oreglia, E. (2015). The "Sent-Down" Internet: using information and communication technologies in rural China. Chinese Journal of Communication. 8. 1-6. 10.1080/17544750.2015.991369.

Piliang, Y. (2012). Masyarakat informasi dan digital: Teknologi informasi dan perubahan sosial. *Jurnal Sosioteknologi* 11.27 : 143-155.

Rahajeng. (2015). Tentang Dewi Tinalah. Retrieved from https://www.dewitinalah.com/p/desa-wisata-tinalah-merupakan-desa.html

Reijnders, S. (2016). *Places of the imagination: Media, tourism, culture*. Routledge.

Rizki. (2020). Desa Wisata Tinalah. Retrieved from https://jadesta.com/desa/23409

Roberts, L., Hall, D., & Morag, M. (2017). *New directions in rural tourism*. Routledge.

Robertson, I. J. (2016). *Heritage from below: Class, social protest and resistance* (pp. 143-158). Routledge.

Robertson, J. (1988). Furusato Japan: The culture and politics of nostalgia. *International Journal of Politics, Culture, and Society*, 494-518.

Rye, J. F. (2006). Rural youths' images of the rural. *Journal of Rural Studies*, *22*(4), 409-421.

Sari, D., & Yalia, M. (2020). Implementasi Kebijakan Pemanfaatan Teknologi Informasi Komunikasi Untuk Pengembangan Kepariwisataan di Kota Cirebon. *Jurnal PIKOM (Penelitian Komunikasi dan Pembangunan)*, *20*(1), 13-28.

Siegenthaler, P. (2003). Creation Myths for the preservation of Tsumago post-town. In *Planning Forum* (Vol. 9, pp. 29-45).

Suherman, et al. (2021). KLASIFIKASI DAUN TEH GAMBUNG VARIETAS ASSAMICA MENGGUNAKAN CONVOLUTIONAL NEURAL NETWORK DENGAN ARSITEKTUR LENET-5. *Journal of Electrical and System Control Engineering*, *4*(2), 63-71.

Urry, J. (2016). *Mobilities: new perspectives on transport and society*. Routledge.

Valaskivi, K. (2013, December). A brand new future? Cool Japan and the social imaginary of the branded nation. *Japan Forum*, *25*(4), 485–504.

Vásquez, C. (2012). Narrativity and involvement in online consumer

reviews: The case of TripAdvisor. *Narrative Inquiry, 22*(1), 105-121.

Walliman, N. (2006). *Social Research Method*. SAGE Publications Ltd. London.

Wang, Y., & Sandner, J. (2019). Like a "Frog in a well"? An ethnographic study of Chinese rural women's social media practices through the WeChat platform. *Chinese Journal of Communication*, *12*(3), 324-339.

Xie, W., Ma, G., Zhao, F., Liu, H. and Zhang, L., 2020. PolSAR image classification via a novel semi-supervised recurrent complex-valued convolution neural network. *Neurocomputing*, *388*, pp.255-268.

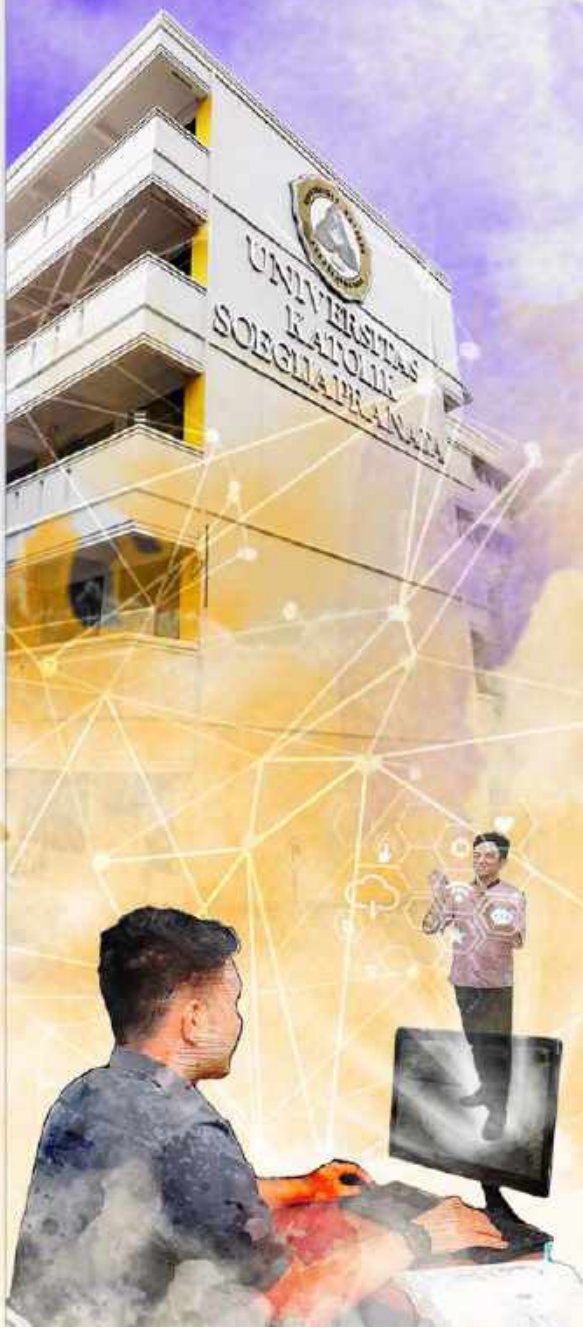
Yamashita, S. (2003). *Bali and beyond: Explorations in the anthropology of tourism* (Vol. 2). Berghahn Books.

PROGRAM BOOK

16 eLearning Forum Asia 2021

Augmenting the Virtual Environment:

Technology | Innovation | Humanity



Soegijapranata Catholic University

CONTENTS

RECTOR'S WELCOMING SPEECH

The Honorable President of eLearning Forum Asia,

Distinguished keynote speakers,

Distinguished presenters, guests, and participants,

Very good morning from SCU campus, Semarang

It is an honor for me to welcome you to the eLFA 2021 international Conference hosted by Soegijapranata Catholic University in collaboration with eLFAsia and the United Board of Christian Higher Education in Asia.

The theme of the conference on **"Augmenting the Virtual Environment: Technology – Innovation – Humanity** is in line with the work theme of our university, "Inflamare Humanitate". The advancement of technology, and the current innovations should not neglect humanity. The theme is also relevant with the current condition in which technology has been a powerful tool to improve human's quality in all aspects of life.

This forum will allow educators and technologists to share virtual experiences, teaching innovations, and other enlightening ideas in teaching and learning process. From the committee I heard that 550 participants from 15 countries will join this two-day conference. I believe the ideas shared by all presenters will significantly contribute to all disciplines especially for the improvement of teaching and learning quality.

I congratulate the committee who have organized this event. I wish you all a fruitful conference.

Thank you.

Dr. Ferdinan Hindiarto

Rector of Soegijapranata Catholic University
Indonesia

WORDS OF WELCOME

Welcome to eLFA2021!

On behalf of the eLearning Forum Asia, I am pleased to welcome everyone from around the world to our annual flagship event. For our 16th year, we are delighted to have Soegijapranata Catholic University as the host. Eventhough most of us are not on-site due to the pandemic, the technology that we have emphasized since our establishment of the Forum is currently playing the big part to virtually bring us together. This is truly reflected by the theme; "Augmenting the Virtual Environment: Technology - Innovation - Humanity".

World-renown speakers from around the globe are invited to our conference. Their perspectives and wisdoms are to be shared and discussed in the contexts that are relevant to our evolving nature of education. Furthermore, exchanges of idea from participants are going to bring us up to speed in this converging world. My personal respect and thanks goes out to all of you.

Finally, I would like to also thank SCU for hosting this year's event. While this is our first time in Indonesia, I truly believe this will not be our last.

Thank you everyone for your presence and participation at eLFA2021!

Patrachart Komolkiti, PhD

The Chair of eLFA2021

WELCOME REMARKS

Distinguished guests,

Dr. Patrachart Komolkiti, the President of eLearningForum Asia

Kevin Henderson, the Director of Digital Content and Programming, United Board

Dr. Ferdinand Hindiarto, the Rector of Soegijapranata Catholic University,

Distinguished invited speakers, Prof. Dr. Budi Widianarko, Dr. Albert Chau, Dr. Aaron Loh, Prof. Dr. Ridwan Sanjaya,

Conference presenters and participants,

Very warm greetings from SCU Campus, Semarang, Indonesia

On behalf of the organizing committee, we welcome you to eLFA 2021 Conference **"Augmenting the Virtual Environment: Technology – Innovation – Humanity".** We are honored to host this conference with our partners, eLearning Forum Asia and the United Board of Christian Higher Education in Asia.

This year's theme provides a reflective space for educators and technologists to take stock of the rapid advancement of technological and educational movement and to consider the challenges and opportunities to students and institutions of learning in the future.

We are thrilled to see the enthusiasm of all presenters and participants coming from all over the globe for this conference. We received 166 conference abstracts, 44 eLFA award proposals, and 550 participants from 15 countries have registered for this conference. There will be 149 parallel presentations of the accepted abstracts during this two-day conference. I believe all the topics in those sessions will give enlightenment and benefits for each of us.

I would also extend my gratitude to all the keynote, plenary, and panel discussion speakers for their willingness to share their expertise, experiences, and thoughts in this conference. The committee is also thankful to sponsors and all parties which have been helping us in making this conference happen.

To all the committee members, my appreciation and thanks for all the hard work in the last 10 months. Organizing this conference is indeed a valuable experience.

Finally, I wish you all a fruitful conference. May all the glory be to the Lord. Thank you.

Dr. Heny Hartono

The Chair of eLFA2021 Organizing Committee

PROGRAM SCHEDULE

Day One – 30 November 2021	
Jakarta Time (UTC+7)	Details
09:00-09:25	Opening Ceremony Welcoming Speeches by Rector Soegijapranata Catholic University Greetings from Dr. Patrachart KOMOLKITI Director of Learning Innovation Center Chulalongkorn University, Thailand Chair of eLFAsia Dr. Heny HARTONO Chair of eLFA2021 Organizing Committee - Keynote, Plenary Speakers, Panel Speakers, and Invited Guests-Photo Session
09:25-09:30	*Break*
09:30-10:00	Keynote Session I Title: Digital Ethics: Navigating Disruption in Higher Education Kevin HENDERSON Director of Digital Content and Programming United Board

<table>
<tr><td>10:00-10:05</td><td colspan="5">Video Presentation by Symplicity</td></tr>
<tr><td>10:05-10:10</td><td colspan="5">Break</td></tr>
<tr><td>10:10-10:40</td><td colspan="5">Plenary Session I

Title: Ethical Considerations towards Technology Contribution in an Era of a Rapidly Changing Society: the Responsibilities of Higher Education

Dr. Aaron LOH
Director for Universities Collaboration
Assumption University of Thailand</td></tr>
<tr><td>10:40-10:45</td><td colspan="5">Break</td></tr>
<tr><td>10:45-11:15</td><td colspan="5">Sponsor Session

Platinum Sponsor – SYMPLICITY

Title: Connecting Students And Industry
Presenter: Mark Pink, Sales Direction APAC, Symplicity</td></tr>
<tr><td>11:10-11:15</td><td colspan="5">Break</td></tr>
<tr><td rowspan="5">11:15-12:15</td><td colspan="5">Parallel Sessions-1
(Oral Presentations)</td></tr>
<tr><td>Room 1</td><td>Room 2</td><td>Room 3</td><td>Room 4</td><td>Room 5</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Room 6</td><td>Room 7</td><td>Room 8</td><td>Room 9</td><td>Room 10</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>12:15-12:20</td><td colspan="5">Break</td></tr>
<tr><td rowspan="5">12:20-13:20</td><td colspan="5">Parallel Sessions-2
(Oral Presentations)</td></tr>
<tr><td>Room 1</td><td>Room 2</td><td>Room 3</td><td>Room 4</td><td>Room 5</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Room 6</td><td>Room 7</td><td>Room 8</td><td>Room 9</td><td>Room 10</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>13:20-13:25</td><td colspan="5">Break</td></tr>
</table>

13:25-13:55	Plenary Session II Title: HE Crossroads: Threats and Opportunities Dr. Patrachart KOMOLKITI Director of Learning Innovation Center Chulalongkorn University, Thailand
13:55-14:00	*Break*
14:00-15:00	Panel Discussion I Topic: Leadership in Technology Adoption ~Panel Members~ Aning AYUCITRA, ST., M.Sc., Ph.D. Widya Mandala University, Indonesia Sushardjanti FELASARI, ST., M.Sc.CAED., Ph.D. Atmajaya University, Indonesia Angelia Melani ADRIAN, Ph.D De La Salle Catholic University, Indonesia Cecilia T. MURNIATI, Ph.D Soegijapranata Catholic University, Indonesia

Day Two – 1 December 2021

Jakarta Time (UTC+7)	Details				
08:30-09:00	Keynote Session II Title: Digital Transformation in Learning and Teaching: Opportunities and Challenges Professor Albert CHAU Vice-President (Teaching and Learning) of Hong Kong Baptist University Hong Kong Baptist University				
09:00-09:05	*Break*				
09:05-10:05	Parallel Sessions-3 (Oral Presentations)				
	Room 1	Room 2	Room 3	Room 4	Room 5
	Room 6	Room 7	Room 8	Room 9	Room 10
10:05-10:10	*Break*				
10:10-11:10	Parallel Sessions-4 (Oral Presentations)				
	Room 1	Room 2	Room 3	Room 4	Room 5
	Room 1	Room 2	Room 3	Room 4	Room 5
11:10-11:15	*Break*				
11:15-12:15	Panel Discussion II Topic: Hybrid Learning: Challenges and Support ~Panel Members— Dr. Dave E. MARCIAL Silliman University, Philippines Dr. Yudha THIANTO Trinity Christian College, U.S.A Tri Basuki JOEWONO, Ph.D Parahyangan University Dr. Heny HARTONO Soegijapranata Catholic University, Indonesia Dr. Min-Yu LI Dean of Global Engagement, Associate Prof of International Business Chang Jung Christian University, Taiwan				

<table>
<tr><td>12:15-12:20</td><td colspan="5">Break</td></tr>
<tr><td rowspan="5">12:20-13:20</td><td colspan="5">Parallel Sessions-5
(Oral Presentations)</td></tr>
<tr><td>Room 1</td><td>Room 2</td><td>Room 3</td><td>Room 4</td><td>Room 5</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Room 6</td><td>Room 7</td><td>Room 8</td><td>Room 9</td><td>Room 10</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>13:20-13:50</td><td colspan="5">Plenary Session III

Title: Modest Augmented Reality Technology for Education

Professor Ridwan SANJAYA
Professor of Information System
Faculty of Computer Science
Soegijapranata Catholic University</td></tr>
<tr><td>13:50-13:55</td><td colspan="5">Break</td></tr>
<tr><td>13:55-14:25</td><td colspan="5">Keynote Session III

Title: Preserving “The Teacher Within” in Virtual Learning Environment

Professor Budi WIDIANARKO
Professor of Environmental Toxicology
Faculty of Agricultural Technology
Soegijapranata Catholic University</td></tr>
<tr><td>14:25-14:30</td><td colspan="5">Break</td></tr>
<tr><td>14:30-15:00</td><td colspan="5">eLFA2021 Award Presentation</td></tr>
<tr><td>15:00-15:30</td><td colspan="5">Announcement of 2022 eLFA Host
&
Closing Ceremony</td></tr>
<tr><td colspan="6">End of Conference Day Two</td></tr>
</table>

LIST OF PARALLEL SESSION

Day One-30 November 2021 (Jakarta Time, UTC+7)

Parallel Session 1

Room 1 | Session Theme: Online Learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
11:15-12:15	30 November 2021 (Day 1)			
11:15-11:35		1	Michael Adarkwah	Title: A Strategic Approach to Onsite learning in the Era of SARS-Cov-2 Author(s): Michael Adarkwah
11:35-11:55		81	Cypher Au-Yeung	Title: Out-of-class Activities: Impact, Facilitators, and Barriers Authors: Kevin Chan and Cypher Au-Yeung
11:55-12:15		11	Ved Pal Singh	Title: An Experience of Online Teaching in Legal Education: Glimpses from India Author(s): Ved Pal Singh

Room 2 | Session Theme: Online Learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
11:15-12:15	30 November 2021 (Day 1)			
11:15-11:35		12	Christine Cunningham Michelle Striepe Wei Zhang	Title: Zooming into a Chinese University to Teach about Education Leadership from Australia: What could possibly go wrong? Author(s): Christine Cunningham, Michelle Striepe, and Wei Zhang

11:35-11:55		18	Kit Ying Rebecca Lee	Title: How Can We Engage and Motivate Students in Learning Biochemical Pathways? Author(s): Kit Ying Rebecca Lee, Yuen-King Ng, Hang Mee Yeung, Yat Nam Bernard Ng, and Minghui Chen
11:55-12:15		22	Sujitra Sockana-than	Title: Effective VARK Model Among Academician and Student Classroom Engagement: A case study in American Degree Transfer Program, Sunway University Author(s): Sujitra Sockanathan and Devandran Apparasamy

Room 3 | Session Theme: Online Learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
11:15-12:15	30 November 2021 (Day 1)			
11:15-11:35		24	Yin Ni Annie Ng	Title: Students' Perception of Different Learning Activities in Online Synchronize Lesson Author(s): Yin Ni Annie Ng
11:35-11:55		32	Ernesto Jr. Collo	Title: Towards Creating a Conducive Remote Learning Milieu: A Case Study of Development Communication Graduate Students' Reflective Accounts in the Time of Pandemic Author(s): Ernesto Jr. Collo
11:55-12:15		74	Junyu Chen, Wai Kei Kong, Minkoo Kim, Joonoh Seo, Hung-Lin Chi and Michael C.H. Yam	Title: 360-Degree Panoramic Virtual Site Visit for Construction Technology Education Authors: Junyu Chen, Wai Kei Kong, Minkoo Kim, Joonoh Seo, Hung-Lin Chi and Michael C.H. Yam Angelika Riyandari

Room 4 | Session Theme: Adaptive e-Learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
11:15-12:15	30 November 2021 (Day 1)			
11:15-11:35		10	Thanh Thuy Pham	Title: Utilizing Textbooks in Online Language Classrooms: A Combination of Synchronous and Asynchronous Learning Author(s): Thanh Thuy Pham
11:35-11:55		14	John Christian Espinola Phill Andrew De Leon	Title: Learning Foreign Language Using Mobile Applications in Enhancing Communication Fluency Among Young Professionals Author(s): John Christian Espinola and Phill Andrew De Leon
11:55-12:15		20	Emma H Zhang	Title: Globalizing the Classroom through Virtual Exchange Author(s): Emma H Zhang

Room 5 | Session Theme: Adaptive e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
11:15-12:15	30 November 2021 (Day 1)			
11:15-11:35		23	Kathleen Ashley Pantollano Arnee Dengal Ma. Kareysha Claire Mancera	Title: Experiences of Aged Teachers in New Normal Learning Author(s): Kathleen Ashley Pantollano, Arnee Dengal, Ma. Kareysha, Claire Mancera, Areen Joy Estera, and Jeovanny Marticion

11:35-11:55		26	John Clemence Pinlac Noel Cruz Caryn Paredes-Santillan	Title: Resiliency of the Architects in the Academe: A Qualitative Focus on the Virtual Architectural Design Studio in the Philippines Author(s): John Clemence Pinlac, Noel Cruz, and Caryn Paredes-Santillan
11:55-12:15		137	Shafreen Banu Mohamed Aslam Antony Julian	Title: Adaptive E-Learning -A Comparative Study Author(s): Shafreen Banu, Mohamed Aslam, and Antony Julian

Room 6 | Session Theme: Assessment of e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
11:15-12:15	30 November 2021 (Day 1)			
11:15-11:35		6	Ben Chester Cheong	Title: Teaching Law Online to Adult Learners in a Pandemic-A Singapore Experience Author(s): Ben Chester Cheong
11:35-11:55		77	Dave Gatrell	Title: Using Video-based Formative Assessment to Facilitate Skill-based Learning in the Time of COVID Author(s): Dave Gatrell, Kai Pan Mark, Kevin Chan, Cypher Au-Yeung, and Ka Yee Leung
11:55-12:15		25	Heny Hartono	Title: Students' Voices in Online Learning Assessment Author(s): Heny Hartono

Room 7 | Session Theme: Assessment of e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
11:15-12:15	30 November 2021 (Day 1)			
11:15-11:35		27	Dr. Varbi Roy Dr. Aniruddha Chatterjee	Title: Educator's Perspective on Teaching-Learning Process during COVID-19 Pandemic in Higher Education Institutes of West Bengal Author(s): Dr. Varbi Roy and Dr. Aniruddha Chatterjee
11:35-11:55		31	John Blake Gordon Bubou Ibebietei Offor	Title: Assessment of Students' E-Learning Readiness at Yenagoa Study Centre, National Open University of Nigeria Author(s): Gordon Bubou, Ibebietei Offor, and Job Gabriel
11:55-12:15		42	Jorim Joel Gregorio	Title: Effective of Online Teaching Approach to the Learning Domains of Nursing Students Author(s): Jorim Joel Gregorio, Ma. Lou Ester Gutierrez, Alyssa Nicole Jainga, Marielle Jover, Jouraine Aine Marie Jamelo, Lharyza Jimenez, Jelma Crystel Implica, Salex Alibogha, and Rossini Gayerex-Jovero

Room 8 | Session Theme: Learning oriented devices and networks

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
11:15-12:15	30 November 2021 (Day 1)			
11:15-11:35		9	Albertus Satriyo Bayuaji Zefanya Devendra P.N. Vittalis Ayu	Title: A Prototype of Wireless Portable Learning Management System to Support E-learning in Remote Area Author(s): Albertus Satriyo Bayuaji, Zefanya Devendra P.N., and Vittalis Ayu

11:35-11:55		29	Manilyn Templo	Title: Facebook Classroom as Alternative Learning Management System for Remote Learning Author(s): Manilyn Templo, and Jeovanny Marticion
11:55-12:15		38	Desideria Cempaka Wijaya Murti	Title: Digitalizing Rural Village: Adopting Deep Learning Technology and Community Empowerment through Nature Tour Classes in Kulon Progo, Indonesia Author(s): Desideria Cempaka Wijaya Murti, Victoria Sundari Handoko, and Antonius Bima Murti Wijaya

Room 9 | Session Theme: Curriculum & Syllabus Design

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
11:15-12:15	30 November 2021 (Day 1)			
11:15-11:35		7	Hui-Kuei Alice Hsieh	Title: Will Vocabulary Breakthrough Games Help Learners with Lower English Proficiency? Author(s): Hui-Kuei Alice Hsieh
11:35-11:55		64	Dawei Xu	Title: IMMEX-Ten years of Introduction and Digestion Author(s): Dawei Xu and Ren Henry
11:55-12:15		21	Leland Joseph Dela Cruz	Title: Organizing Canvas for Effective Online Learning Author(s): Leland Joseph Dela Cruz

Room 10 | Session Theme: (Augmented) Virtual Reality

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
11:15-12:15	30 November 2021 (Day 1)			
11:15-11:35		13	Ramesh Chander Sharma	Title: Designing Virtual Reality Experiences in Education Author(s): Ramesh Chander Sharma
11:35-11:55		46	Ting-En Wu	Title: Trends of Technique Training with VR Technology: Investigating from Public Information of Government Author(s): You-Bin Ke, Ting-En Wu, Chia-Hung Lai, and Su-Hsien Huang
11:55-12:15		50	Jayden Ang	Title: Using Augmented Reality to Enhance Learning Experience in a Chemistry Laboratory Author(s): Jayden Ang, Shao Shi, and Wai Ming Kong

Parallel Session 2

Room 1 | Session Theme: Online Learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	30 November 2021 (Day 1)			
12:20-12:40		33	Tippawan Siritientong	Title: Students' Reflection on Sandwich-like Online Teaching Methods in the Nutrition Class Author(s): Tippawan Siritientong
12:40-13:00		34	Xuzhe Wang	Title: Applying Design Thinking to Build an Engaging Online Course Author(s): Xuzhe Wang

13:00-13:20		52	Dave Gatrell	Title: Using Learning Analytics to Measure Student Engagement and Learning Outcomes in 'Virtual Tutorials' Author(s): Dave Gatrell , Chun Sang Chan, and Albert Chan

Room 2 | Session Theme: Online Learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	30 November 2021 (Day 1)			
12:20-12:40		55	Voltaire Mistades	Title: Social and Emotional Learning in STEM Author(s): Voltaire Mistades
12:40-13:00		56	Agnes Ng	Title: e-escape Rooms-Do Students Really Find Them Engaging and Effective? Author(s): Agnes Ng
13:00-13:20		60	John Paul Sumanting	Title: Predictors of Academic Performance in Online Medical-Surgical Nursing Class among Student Nurses in a Private University Author(s): John Paul Sumanting, Emira Janelle Siva, Therese Marie Taton, Jann Messiahs Trabasas, Chrisxanne Velez, Jerard Yabut, and Melba Sale

Room 3 | Session Theme: Online Learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	30 November 2021 (Day 1)			

12:20-12:40		61	Christel Dawn Limsiaco Jade Alexandra Leong Jaehazle Magbanua Colleen Kate Licera Bruce Raymond Juele Kryst Ian Macuja Andrea Jean Magallon	Title: Barriers and Levels of Motivation in Online Learning of Student Nurses in a Private University Author(s): Christel DawnLimsiaco, Jade Alexandra Leong, Jaehazle Magbanua, Colleen Kate Licera, Bruce Raymond Juele, Kryst Ian Macuja, Andrea Jean Magallon, and Rosana Grace Belo-Delariarte
12:40-13:00		111	Chee Leung Mak	Title: Borderless Lab 365: A student-centered learning science platform to enhance STEM education Author(s): Wang Fai Cheng, Ka Lai Wong, Ming Tak Sze, Siu Hong Choy, Kwok Lung Jim, Chi Wah Leung and Chee Leung Mak
13:00-13:20		86	Pear Ferreira	Title: The Acceptance of Online Inverted Classroom Model and Peer-assisted Learning among Ophthalmology Graduate Students Author(s): Pear Pongsachareonnont Ferreira , Disorn Suwajanakorn, Parima Hirunwiwatkul, Wijak Kongwattananon, Anita Manassakorn, Kittisak Kulvichit, and Wasee Tulvatana

Room 4 | Session Theme: Adaptive e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	30 November 2021 (Day 1)			
12:20-12:40		35	Grace Tagapan Trisha Angelica Cabrera	Title: Lived Experiences of Subanen Learners in Remote Learning Author(s): Grace Tagapan, Argea Joy Galleposo, and Trisha Angelica Cabrera

12:40-13:00		45	Siby Samuel	Title: Integrating Adaptive and Intelligent Practices for an Active e-Learning Environment Author(s): Siby Samuel and Mary Raymer
13:00-13:20		48	Dr. Stella Mary R. Jayalakshmi Kaviya J. Nijaritha	Title: Progressing towards an Effective Online Learning Environment Building Positive Attitude among Students of Higher Education Author(s): Stella Mary Fmm, Jayalakshmi, and Kaviya Nijaritha

Room 5 | Session Theme: Adaptive e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	30 November 2021 (Day 1)			
12:20-12:40		152	Arne Barcelo	Title: Designing a Back-to-School Hybrid-Flexible mode of learning in the Philippines: A Systems Thinking Approach Author(s): Arne Barcelo, Mille Andrei De Leon, and Jan Noffe Rollon
12:40-13:00		54	Vincent Leung	Title: Incentivize students in hybrid class mode by flipped classroom approach Author(s): Vincent Leung
13:00-13:20		58	Amy Lee	Title: From the Body Offline to the Learning Online: Exploring Ways to Employ eLearning for Drama in Education Author(s): Amy Lee

Room 6 | Session Theme: Assessment of e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	30 November 2021 (Day 1)			
12:20-12:40		49	Tasya Errufana Ruben Carmelo Yustian Elsa Mutiara Heny Hartono	Title: Teachers' Perspectives towards E-learning Assessment: A Study at Public and Private Schools in Semarang Author(s): Tasya Errufana, Ruben Carmelo Yustian, Elsa Mutiara, and Heny Hartono
12:40-13:00		40	Hao Wei Hsu Cecilia Banag-Moran Alyssa Marie Lola	Title: Students' Perception on Remote Laboratory Instruction in Evolutionary Biology: A Qualitative-method Approach Author(s): Hao Wei Hsu, Cecilia Banag-Moran, Sam Dominic Binag, Niño Andree Louis Caguimbal, Nikki Heherson Dagamac, Yñigo Luis Del Prado, Alyssa Marie Lola, Crissa Ann Lilagan, Russel Evan Venturina, and Maria Isabella Escobar
13:00-13:20		80	Dr. Kevin Chan	Title: Effect of a single-session out-of-class learning activity on learning skill attributes – A quasi-experimental study Authors: Kevin Chan and Cypher Au-Yeung

Room 7 | Session Theme: Assessment of e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	30 November 2021 (Day 1)			

12:20-12:40		8	Elisabeth Rukmini	Title: The Validity and Reliability of the Online Cooperative Learning Attitude Scales in the Indonesian Language Author(s): Elisabeth Rukmini, Arya Nugraha, Hanna Angelina, and Dara Christianty
12:40-13:00		57	Huma Akram	Title: E-Learning Platforms and Students' Online Learning Satisfaction: The Moderation Role of Computer Self-Efficacy Author(s): Huma Akram
13:00-13:20		69	Fedor Duzhin	Title: Integration of AI- and human-generated feedback to improve short essay writing Author(s): Fedor Duzhin and Konstantin Pervushin

Room 8 | Session Theme: Learning oriented devices and networks

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	30 November 2021 (Day 1)			
12:20-12:40		79	Pio Angelo Yoro	Title: Use of Electronic Health Records: Knowledge and Competency Skills among Staff Nurses in a Private Hospital in Iloilo City Author(s): Pio Angelo Yoro, Joanna Trizzea Socobos, Joyce Anne Teo, Ericka Tubongbanua, Laureen Villalobos, Nathaniel Tacluyan, and Betty Polido
12:40-13:00		125	Inti Englishtina	Title: Using Social Media to Improve Speaking Skill in Public Speaking Class Author(s): Inti Englishtina
13:00-13:20				

Room 9 | Session Theme: Curriculum & Syllabus Design

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	30 November 2021 (Day 1)			
12:20-12:40		65	Min Chen	Title: Use IMMEX assistance to realize student-centered teaching practice Author(s): Min Chen and Ren Henry
12:40-13:00		164	Dr. Rameesha Kalra Dr. Kiran Vazirani	Title: Curriculum Design for Hybrid Learning mode in Higher Education with reference to the Indian National Education Policy- 2020 Author(s): Dr. Rameesha Kalra and Dr. Kiran Vazirani
13:00-13:20		116	Donald Manlapaz	Title: Evaluation of Physical Therapy bridging program during Covid-19: from online to limited face-to-face learning Author(s): Donald Manlapaz, Anne Marie Aseron and Fe Therese Chavez

Room 10 | Session Theme: (Augmented) Virtual Reality

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	30 November 2021 (Day 1)			
12:20-12:40		92	Dave Marcial Dave Montemayor Joy Dy	Title: Gamifying Whole Person Education: The Development of a Mobile Application with Augmented Reality Author(s): Dave Marcial, Dave Montemayor, and Joy Dy

12:40-13:00		94	Florence Mei Kuen Tang	Title: Collaboration with Secondary Schools for A Virtual Reality Gamification: Students' Perceptions in Learning Biology for STEM Education Author(s): Florence M.K. Tang, Christine K.Y. Yu, Olivia M.Y. Ngan, Roy K.L. Chan, Peter H.F. Ng, Daniel K.T. Fung, and T.C. Chan
13:00-13:20				

Day Two-1 December 2021 (Jakarta Time, UTC+7)

Parallel Session 3

Room 1 | Session Theme: Online Learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
09:05-10:05	1 December 2021 (Day 2)			
09:05-09:25		87	Novita Al Ihyak Dieni	Title: Online Learning: Students' Perception and Students' Learning Success Author(s): Novita Al Ihyak Dieni
09:25-09:45		98	Bao Zhen Tan Yee Zher Sheng	Title: Transition to Fully Online Learning Due to COVID-19: The Adult Learners' Perspectives Author(s): Bao Zhen Tan and Yee Zher Sheng
09:45-10:05		105	Rika Saraswati	Title: Roots Program in Indonesia: Transferring the Module of Knowledge and Activities from Offline to Online during Pandemic Covid-19 Author(s): Rika Saraswati

Room 2 | Session Theme: Online Learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
09:05-10:05	1 December 2021 (Day 2)			
09:05-09:25		106	Jackson Kong	Title: Learning Creative Design online with a flipped classroom approach Author(s): Jackson Kong, Ka Lai Wong, Ming Tak Sze, Siu Hong Choy, Kwok Lung Jim, Chi Wah Leung, and Chee Leung Mak

09:25-09-45		115	Edmond W.M. Lam Daniel W.M. Chan	Title: Effects of Instructional Strategies on Enhancing Student Learning Author(s): Edmond W.M. Lam and Daniel W.M. Chan
09-45-10:05		165	Victoria Kristina Ananingsih	Title: Online Laboratory Work for Herbal Processing Author(s): Victoria Kristina Ananingsih

Room 3 | Session Theme: Adaptive e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
09:05-10:05	1 December 2021 (Day 2)			
09:05-09:25		89	T. Durga Devi	Title: Projecting the Impact of Integrated Service-Learning Projects on History Graduates of Lady Doak College through Online Learning Approach Author(s): T. Durga Devi, B. Aashika, and N. Kavipriya
09:25-09-45		103	Wasee Tulvatana	Title: Tele-EyePathology: Lessons learned and Survey of the learners' experiences Author(s): Wasee Tulvatana and VannakornPruksakorn
09-45-10:05		51	Lenny Setyowati	Title: Diffusion Innovation in Online Learning and Practical Studies in Event Organizer Management Course during the Covid-19 Pandemic Author(s): Lenny Setyowati

Room 4 | Session Theme: Adaptive e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
09:05-10:05	1 December 2021 (Day 2)			
09:05-09:25		122	Sok Mui Lim	Title: Use of Gamified Platform to Improve Freshmen's Unreflective Approach to Learning Author(s): Sok Mui Lim, Oran Devilly, Xiao Feng, Kenan Kok, and Chek Tien Tan
09:25-09:45		127	Gregorius Pramudita Witaradya	Title: Using Discord as a Platform for Team-based Work in Online Learning Author(s): Gregorius Pramudita Witaradya
09:45-10:05		129	Toong Tjiek Liauw	Title: Mendadak Daring: Challenges and Opportunities in Transitioning Teaching and Learning into Online Environment Author(s): Toong Tjiek Liauw

Room 5 | Session Theme: Assessment of e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
09:05-10:05	1 December 2021 (Day 2)			
09:05-09:25		70	Vincent Leung Kai Pan Mark Hazel Lee	Title: How to Reduce the Dilemma in Students' Peer Appraisal Author(s): Vincent Leung, Kai Pan Mark, and Hazel Lee
09:25-09:45		91	Rosita Herawati	Title: Teachers' Language Competence Segmentation using K-means Algorithm Author(s): Rosita Herawati, Heny Hartono, and Cecilia Titiek Murniati

09-45-10:05		53	Dave Gatrell	Title: A second pair of eyes: Remediating formative assessment in a clinical optometry module using a video annotation tool Author(s): Dave Gatrell

Room 6 | Session Theme: Learning-oriented Technologies

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
09:05-10:05	1 December 2021 (Day 2)			
09:05-09:25		68	Fedor Duzhin	Title: Text Analytics on WhatsApp Chats Author(s): Fedor Duzhin and Joo-Seng Tan
09:25-09-45		112	Georgina Kusano	Title: Cooperative Learning in Physical Education through the Use of Fitness Apps Author(s): Georgina Kusano
09-45-10:05		140	Kamolrat Intaratat	Title: "STOU-ODL to Serve the Demanding SDG's Cross Cutting Issues in Thailand under the Digital Technology & COVID-19 Pandemic Disruption" Author(s): Kamolrat Intaratat

Room 7 | Session Theme: Learning-oriented Technologies

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
09:05-10:05	1 December 2021 (Day 2)			
09:05-09:25		17	Tracy Jose	Title: Obsidian: The Future of Note-making Author(s): Tracy Jose
09:25-09-45		109	Kai Lai Wong Siu Hong Choy	Title: Laboratory-in-your-pocket: A Real-time Hand-on Experimental Platform based on Arduino-smartphone Author(s): Kai Lai Wong, Wang Fai Cheng, Kwok Lung Jim, Chi Wah Leung, Chee Leung Mak, and Siu Hong Choy
09-45-10:05		88	Dongkun Han	Title: An Intelligent Cloud Teacher for Unmanned Robotic Online Laboratory Author(s): Dongkun Han and Martin Yun-Yee Leung

Room 8 | Session Theme: Curriculum & Syllabus Design

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
09:05-10:05	1 December 2021 (Day 2)			
09:05-09:25		66	Haisheng Wang	Title: Use The IMMEX Information Environment to Develop the Cultivation and Exploration of the Mathematical Problem-solving Ability in Middle School Author(s): Haisheng Wang and Ren Henry

09:25-09:45		121	Archimedes David Guerra	Title: International Case Studies for Promoting Intercultural Competence and Social Responsibility in University Students Author(s): Archimedes David Guerra
09:45-10:05				

Room 9 | Session Theme: (Augmented) Virtual Reality

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
09:05-10:05	1 December 2021 (Day 2)			
09:05-09:25		95	Adam Fingrut	Title: Virtual Reality (VR) for Immersive 3-D eLearning, Making, and Communications in Architecture Author(s): Adam Fingrut and Hillary Ng
09:25-09:45		143	Mohd Faeiz Pauzi	Title: An Application of Immersive Augmented Reality Technology for Clinical Skill Training in Medical Education Author(s): Mohd Faeiz Pauzi and Siti Norazlina Juhari
09:45-10:05		145	Rudi Santoso Chow Ervi Liusman	Title: Implementing Crisis Resilience Pedagogy (CRP) in Mortgage and Real Estate Education: Case Study of Online Video Library and Virtual Reality (VR) based Education in Hong Kong and Indonesia Author(s): Rudi Santoso Chow, Ervi Liusman, and Oktovianus Pudjianto

Room 10 | Session Theme: Tools and Platforms

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
09:05-10:05	1 December 2021 (Day 2)			
09:05-09:25		28	Supakarn Chamni	Title: Online Office for the Graduate Studies Author(s): Supakarn Chamni and Duangjai Taweepa
09:25-09-45		36	Rikarda Ratih Saptaastuti	Title: The Effectiveness of Using E-learning for Information Literacy Author(s): Rikarda Ratih Saptaastuti
09-45-10:05		67	Heru Astikasari Setya Murti	Title: Using the ADDIE model to Develop Critical Thinking Serious Game for Reducing Misconceptions in Psychology Author(s): Heru Astikasari Setya Murti, Thomas Dicky Hastjarjo and Ridi Ferdiana

Parallel Session 4

Room 1 | Session Theme: Online Learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
10:10-11:10	1 December 2021 (Day 2)			
10:10-10:30		117	Yuli Christiana Yoedo Mustofa Ali	Title: A Case Study: The COVID-19 Pandemic Challenge for Motivating Teacher Candidates to Improve their English Knowledge and Skills Author(s): Yuli Christiana Yoedo

10:30-10:50		128	Steffie Mega Mahardhika	Title: Students' Response Toward Teaching Online in English Reading Class Author(s): Steffie Mega Mahardhika
10:50-11:10		134	Maheswaran Muniandy	Title: A Qualitative Analysis on Students' Perspectives Towards Online Learning Author(s): Maheswaran Muniandy

Room 2 | Session Theme: Online Learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
10:10-11:10	1 December 2021 (Day 2)			
10:10-10:30		138	Paulus Widiatmoko Ignatius Endarto	Title: Pre-Service English Teachers' Readiness for Online Instruction and Anxiety amidst Covid-19 Pandemic Author(s): Paulus Widiatmoko and Ignatius Endarto
10:30-10:50		142	Shafreen Banu Mohamed Aslam Antony Julian	Title: Online Learning -An Education in Covid-19 Author(s): Shafreen Banu, Mohamed Aslam, and Antony Julian
10:50-11:10		144	Emilia Aydawati	Title: Peer Review in Online Academic Writing Class from the Students 'Perspective Author(s): Emilia Aydawati

Room 3 | Session Theme: Adaptive e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
10:10-11:10	1 December 2021 (Day 2)			
10:10-10:30		131	Grace Gayathri Ramakarsinin	Title: Online Learning: The Impact of Listicle Writing Guide on Low Proficient Students' Ability In Writing Corresponding Essays Author(s): Grace Gayathri Ramakarsinin and Grace Vishalini Ramakarsinin
10:30-10:50		132	Ridhotama Shanti Darsih Ottemoesoe	Title: The effects of teaching skills on teaching performance in Petra Christian University (PCU): Did the Covid-19 pandemic make a difference? Author(s): Ridhotama Shanti Darsih Ottemoesoe, Yohanes Sondang Kunto, and Liauw Toong Tjiek
10:50-11:10		136	Angelika Riyandari	Title: Students' Evaluation on the Use of Google Jamboard in the Online Learning Author(s): Angelika Riyandari

Room 4 | Session Theme: Adaptive e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
10:10-11:10	1 December 2021 (Day 2)			
10:10-10:30		30	Wong Gary	Title: Low-fidelity Buyer Seller Housing Simulations Can Encourage Authentic Learning Experiences Author(s): Wong Gary, Wong Paulina, and Daniel Shen

10:30-10:50		139	Kenny Sely Heny Hartono	Title: A Study on Students' Perception of Social Media to Learn English as a Foreign Language Author(s): Kenny Sely, Cecilia Murniati, Heny Hartono
10:50-11:10				

Room 5 | Session Theme: Assessment of e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
10:10-11:10	1 December 2021 (Day 2)			
10:10-10:30		101	Agus Cahyo Nugroho	Title: Evaluation of Acceptance of Block Programming Technology for Multidisciplinary New Students at Unika Soegijapranata Author(s): Agus Cahyo Nugroho
10:30-10:50		102	Pauli Lai Julia Chen Vicky Man	Title: Development of an AI-assisted Platform to address Learning and Assessment Needs of Virtual Presentations in English for Chinese students Author(s): Pauli Lai, Julia Chen, and Vicky Man
10:50-11:10				

Room 6 | Session Theme: Learning-oriented Technologies

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
10:10-11:10	1 December 2021 (Day 2)			
10:10-10:30		147	Bernadus Rukiyanto	Title: Developing eLearning Resources in Religious Education Department, Sanata Dharma University, Indonesia Author(s): Bernadus Rukiyanto
10:30-10:50		120	Kai Pan Mark Rodney Wai-Chu Karmen Zheng Charles W.H. Woo	Title: Face to Face or Online? Student-led Approach in Driving Acceptance and Sustainability of Hybrid Teaching Author(s): Kai Pan Mark, Rodney Wai-Chu, Karmen Zheng, and Charles W.H. Woo
10:50-11:10				

Room 7 | Session Theme: Curriculum & Syllabus Design

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
10:10-11:10	1 December 2021 (Day 2)			
10:10-10:30		126	Louie Dasas	Title: Commonplace of Curriculum Design in the Next Normal: Insights from Philippine Pandemic Classrooms Author(s): Louie Dasas
10:30-10:50		135	Cherine Tan	Title: Project Based Learning and Transdisciplinary Approach as Pedagogies for Innovative and Enterprise Education to Develop 21st Century Skills Author(s): Cherine Tan and Foon Yee Lee

10:50-11:10		73	Martin Lau Theresa Kwong	Title: Promoting Flipped Learning in Hong Kong's Secondary Schools through a Joint-institutional Project Author(s): Martin Lau and Theresa Kwong

Room 8 | Session Theme: Tools and Platforms

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
10:10-11:10	1 December 2021 (Day 2)			
10:10-10:30		76	Hazelene Grace De Asis	Title: Lived Experiences of Doctors Utilizing Telemedicine for Patient Care in a Private Hospital in Iloilo City Author(s): Hazelene Grace De Asis, Christienne Gabrielle Capague, Veronica Blancaflor, Celyn Capate, Jan Gabriel Delos Santos, Carl John Degala, and Betty Polido
10:30-10:50		114	Arman Santos Maria Ana Quimbo	Title: Development and Validation of Scouts' MATHventures: A Mobile Application Screening Tool for Dyscalculic Tendencies Author(s): Arman Santos and Maria Ana Quimbo
10:50-11:10		47	Elfrida Oktaviani	Title: Teachers' Challenges and Strategies of Teaching Speaking in Virtual Classrooms Author(s): Elfrida Oktaviani, Cecilia Titiek Murniati and Heny Hartono

Room 9 | Session Theme: Digital Ethics

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
10:10-11:10	1 December 2021 (Day 2)			
10:10-10:30		37	Mita Yesyca	Title: The Construction of Virtual Public Space in the Gamespace Author(s): Mita Yesyca
10:30-10:50		59	Jacqueline Kareem Arathi Venkatesh Abhaya Gurumurthy	Title: Transition from offline to digital learning: Negotiating attitudes and challenges among higher education students Author(s): Jacqueline Kareem, Arathi Venkatesh, and Abhaya N.B.
10:50-11:10		123	Cecilia Murniati	Title: A study of college students' perception and practice of digital citizenship Author(s): Cecilia Murniati, Heny Hartono, Angelika Riyandari, Rikarda Ratih Saptaastuti and Andre Kurniawan

Room 10 | Session Theme: Digital Ethics

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
10:10-11:10	1 December 2021 (Day 2)			
10:10-10:30		153	Dave Marcial Jan Cynth Palama	Title: Why Should Students Take Screen Breaks? Lessons Learned in Shifting from Face-to-face to Fully Online Distance Learning Author(s): Dave Marcial, Jan Cynth Palama, and Aurielle Lisa Maypa

10:30-10:50		163	Mary Jayanthi Michael	Title: Being and Becoming a Digital Mentor- An Explorative Study towards Building Digital Citizenship Author(s): Mary Jayanthi Michael and Merlin Depsy Nithiya
10:50-11:10				

Parallel Session 5

Room 1 | Session Theme: Online Learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	1 December 2021 (Day 2)			
13:20-13:40		148	R. Annie Karunya Bagyam	Title: Peer-Teaching as a Strategy to Augment Synergic Learning Author(s): R. Annie Karunya Bagyam
13:40-13:00		157	Yuliana Tacoh	Title: Developing "deep listening" Spiritual Pedagogy in Online Learning Author(s): Yuliana Tacoh
13:00-13:20				

Room 2 | Session Theme: Online Learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	1 December 2021 (Day 2)			
13:20-13:40		156	Alfie Q. Arcelo	Title: Online Communication Synchrony: Preference among First Timers in Online Distance Learning Author(s): Dave E. Marcial, Alfie Q. Arcelo, and Fredlie P. Bucog

13:40-13:00		158	Augustina Sulastri	Title: Successful factors of online learning during pandemic Covid-19: Lessons' learned from Indonesia students' experiences Author(s): Augustina Sulastri
13:00-13:20		160	Joko S. Prayudha	Title: Students' Attitudes towards the Use of Animated Video in Online Learning Author(s): Joko S. Prayudha

Room 3 | Session Theme: Online Learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	1 December 2021 (Day 2)			
13:20-13:40		78	Qiu Ping Lim Sylvia Chong Jizhi Li	Title: Online learning, the new teaching and learning norm Author(s): Qiu Ping Lim, Sylvia Chong and Jizhi Li
13:40-13:00		166	Vincentia Ananda Arum Permatasari	Title: Utilization of Video as a Communication Tool in School Reputation Management Activities during the Covid-19 Pandemic Period in Semarang Author(s): Vincentia Ananda Arum Permatasari and Rotumiar Pasaribu
13:00-13:20		99	Bao Zhen Tan Zan Chen	Title: Moving Adult Learning and Higher Education Online Due to COVID-19: Challenges and Opportunities Author(s): Bao Zhen Tan and Zan Chen

Room 4 | Session Theme: Adaptive e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors

12:20-13:20	1 December 2021 (Day 2)			
13:20-13:40		146	Theresia Dwi Hastuti	Title: Adaptive Learning Environments Model for Innovative Educational Author(s): Theresia Dwi Hastuti
13:40-13:00		119	Ng Li Shan	Title: Using Chatbots to Support Asynchronous Online Learning Author(s): Ng Li Shan and Grace Pheang
13:00-13:20		161	Anita Angelina Wibawa	Title: A Qualitative Study on Self-Directed Learning among Adult English Learners Author(s): Anita Angelina Wibawa and Cecilia Titiek Murniati

Room 5 | Session Theme: Assessment of e-learning

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	1 December 2021 (Day 2)			
13:20-13:40		110	Chonilo Saldon	Title: Validating Students' Learning in Pre-Calculus through Virtual Oral Assessment Author(s): Chonilo Saldon
13:40-13:00		133	Shane Alexander Laong	Title: (Re)Designing Meaningful Online Learning Opportunities Author(s): Shane Alexander Laong
13:00-13:20		155	Ronnie Shroff	Title: Measuring Intrinsic and Extrinsic Motivation in a Digital Game-based Learning Context Author(s): Fridolin Ting and Ronnie Shroff

Room 6 | Session Theme: Learning-oriented Technologies

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	1 December 2021 (Day 2)			
13:20-13:40		108	Kwok Lung Jim	Title: AP Sensor: A Physics Experimental App for Flipped Classroom Author(s): Ka Lai Wong, Wang Fai Cheng, Siu Hong Choy, Chi Wah Leung, Chee Leung Mak, and Kwok Lung Jim
13:40-13:00		96	Florence Mei Kuen Tang	Title: Studio-based Learning Approach for Dissection in Anatomy Education to Medical Training: Student Perspectives Author(s): Mei Kuen Tang, Kevin Tl Ho, Sam Hk Poon, Josephine Ws Lau, Y Leung, Austin Lh Chau, Tk So, Yc Fung, Cy Lee and L Yung
13:00-13:20		162	Muhammad Alif R Abdullah Sanimah Hussin	Title: Utilizing Karaoke Videos in Learning Japanese Vocabulary Among Malaysian University Students Author(s): Muhammad Alif R Abdullah and Sanimah Hussin

Room 7 | Session Theme: Tools and Platforms

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	1 December 2021 (Day 2)			
13:20-13:40		141	Arman Santos Maria Ana Quimbo	Title: Assessing Dyscalculic Tendencies Among Children through a Mobile Application Screening Tool Author(s): Arman Santos and Maria Ana Quimbo
13:40-13:00		154	Arne Barcelo	Title: The Application of IT Infrastructure Library (ITIL) Framework in the Academe-Industry Partnership Model in Developing the Immersion and Engagements System of University of Santo Tomas (UST) College of Information and Computing Sciences (CICS) Author(s): Arne Barcelo, Juan Miguel C. Burayag, Mary Joy M. Polinada, Djorge Kristin R. Salgado, and Ivan Joseph U. Salgado
13:00-13:20		124	Vincent Ng	Title: Diversity at Schools Project - Student Learning Analytics Author(s): Vincent Ng, Boris Chan, and Daniel Lai

Room 8 | Session Theme: Social Games

Presentation Time (Jakarta Time, UTC+7)	Day	Paper ID	Presenter(s)	Presentation Title & Authors
12:20-13:20	1 December 2021 (Day 2)			
13:20-13:40		44	Yin Ni, Annie Ng Liang Lin Gia Wen Sim Qian Qian Tng Zi Xuan Tay Pei Pei Tng	Title: Using a Career Card Game to learn about technical and soft skills required for occupations related to the Diploma in Food Science & Nutrition Author(s): Liang Lin, Pei Pei Tng, Qian Qian Tng, Zi Xuan Tay, Gia Wen Sim, Rou Shen Liew, Jayden Ang and Annie Ng
13:40-13:00		100	Chin Yin Hue	Title: The Development of Music-Based Working Memory Mobile Application Author(s): Chin Yin Hue, Aini Marina Ma'Rof, Lip Meng Soo, and Hillary Ng
13:00-13:20		72	Martin Lau Theresa Kwong	Title: A Gamified Approach to Improving Students' Online Collaborative Skills and Broadening their Awareness of Sustainable Development Author(s): Martin Lau and Theresa Kwong

ABSTRACTS

Keynote Session I

Digital Ethics: Navigating Disruption in Higher Education

Kevin Henderson

Director of Digital Content and Programming
United Board

Business, Ethical and Legal Considerations towards Technological Contribution in an Era of a Rapidly Changing Society: The Responsibilities of Higher Education

Aaron Loh, PhD
M.R.Nanyasopark Swasdiwat, LLM

Assumption University of Thailand

ABSTRACT

During the last 18 months, almost all our attention globally, has been diverted towards the effects of Covid-19 pandemic on our life as well as its impact towards our global economy. Just prior to that, for a decade or so earlier, especially in developed and developing nations, a-buzz was growing louder by the day, about the emergence of technology. This is especially true in the areas of artificial intelligence such as those working in tandem during information gathering and using 'Apps', and 'platform' for online actives and our leisure time on social media during the pandemic. These technologies are busily and often unsuspiciously seeping and impinging into a growing aspect of all our lives. Historically, technologies were invented, experimented and finally implemented with the sole intention of making our lives on planet earth easier, more comfortable and with better quality in all areas of our living. Unfortunately, built into these emerging technologies, and hence coming along with them, intentionally or unintentionally, are also extraneous material/matters that has significant effects on the users of the technology.

Traditionally, technological changes in society happen gradually with few even notice their presence until they become ubiquitous. Sadly, this is not going to be the case for the present situation with the emerging technologies we will be confronted with attributable to the speed and the proliferation during their arrival upon us recovering from the pandemic.

The present authors with their combined working and teaching experience exceeding half a century, in their respective field of specialization, through this presentation and discussion, strives to attempt in bringing to the attention of a bigger audience, the urgency of the matter at hand; especially to the professionals and students who are involved with higher education

HE Crossroads: Threats and Opportunities

Patrachart Komolkiti, PhD

Director, Learning Innovation Center
Acting Director, Office of Academic Affairs
Chulalongkorn University
Bangkok 10330, Thailand

ABSTRACT

Digital disruption has been impactful in all industries, including education. The current pandemic has also been a strong catalyst for the digital transformation. Now, as the situation gradually returning to normalcy, discussions are circling whether we should return to the regular classrooms as if nothing happened. We find ourselves at the crossroads and we must carefully balance with the ever-changing nature of our learners, with the risk of becoming obsolete.

Digital Transformation in Learning and Teaching: Opportunities and Challenges

Albert Chau

Vice-President (Teaching and Learning)
Hong Kong Baptist University

ABSTRACT

Recent developments in digital technologies have caused major disruptive changes to many aspects of life. Educators have to carefully consider how our education should better prepare our students for a rapidly changing world full of uncertainties. Students will need to self-learn and work in multi-cultural teams to address global problems that confront the whole of humankind. Administrators need to explore how digital technologies may improve students' campus experience, optimize processes and enhance efficiency, and upgrade the use of data to inform policy formulation and decision making. In this presentation, the implications of digital technologies and the related challenges in three major areas of higher education will be discussed:

I. Under the curriculum, educators consider how course design and intended learning outcomes should be revised. Increased adoption of experiential learning activities and group work also call for a stronger need for authentic assessment, continuous feedback to students and documenting students' achievements in generic skills which are readily quantifiable.

II. To improve the support to students, institutions have used digital systems for student life cycle management, starting with admissions, course enrolment, academic advising to alumni engagement. These digital systems also aim at incorporation of best practices for process optimization and improvement of user experience.

III. As part of the accountability system, institutions are expected to demonstrate the impact of their work. As a result, data collection and presentation to demonstrate the fulfillment of key performance indicators (KPI) have become vital for attracting funding as well as good partners, staff and students. The data should also be used to close the quality cycle to ensure institutions are following evidenced-based practices.

Modest Augmented Reality Technology for Education

Professor Ridwan SANJAYA

Professor of Information System, Faculty of Computer Science
Soegijapranata Catholic University

ABSTRACT

During the pandemic, it was not easy to transfer skills and knowledge to students, especially when it came to laboratory practice skills. The bottleneck in lecturers delivering skills and knowledge has been caused our expectations of students' abilities to be lower than before the pandemic. Of course, this problem will be faced with real conditions in the field of work that require a level of skills that has been a common standard. Augmented Reality is generally known as sophisticated technology and should be created by people with computer skills or programming backgrounds. However, modest Augmented Reality actually could be made using several tools that already exist on the internet. By using the existing multimedia, the lecturer could produce an interesting way of delivering learning content to the students. This presentation explores the utilization of several tools on the internet in making modest Augmented Reality technology for education and scenarios that can be developed to attract the student interests in learning content and create a new experience for students.

Keywords: augmented reality, delivering learning content, modest augmented reality, students new experience, tools utilization

Preserving "The Teacher Within" in Virtual Learning Environment

Budi Widianarko

Soegijapranata Catholic University (SCU), Semarang – Indonesia

ABSTRACT

Digital disruption in education has been profoundly accelerated during the Covid-19 pandemic. In the worst situation, Covid-19 cancelled almost all physical classrooms and substituted them by virtual classrooms. In that situation, instead of interacting with the students in three dimensional classrooms, teachers can only see the students in two-dimensional graphical forms appeared on their computer screens. The sudden transition from physical to virtual learning environment has raised many issues both at the teachers and students sides. The issues have typically been centered on the technology unpreparedness and adaptation. Actually, there is an important issue which tends to be overlooked and demands a serious attention, i.e. the wholeness of teacher's presence. Covid-19 pandemic has "helped" the education sector to swiftly improve its digital learning environment, notably the teacher's mastery of the technology. However, the notion of good teaching cannot be neglected in the learning process. In virtual learning environment, technology is, of course, an important determining factor. However, the presence of teacher as a whole person - comprised of scholarship, pedagogy and personality - is also another crucial factor. The teacher intrinsic quality, namely all traits that constitute a good teacher, needs to be preserve in the virtual learning environment. This presentation discusses the challenges face by teacher to present as a whole person in virtual learning environment. In this respect, the ultimate challenge is to make sure how the spirit of "the teacher within" can radiate into each student's individual space as the substitute for physical classroom. In the post-pandemic scenario, this discussion will be of highly relevance since digital learning will surely occupy a prominent niche in the education practices.

Keywords: "*teacher within*", *virtual learning, transition*

Day One-30 November 2021

Parallel Session 1 | Room 1 | Session Theme: Online Learning

Paper ID 1

A Strategic Approach to Onsite Learning in the Era of SARS-Cov-2

Michael Agyemang Adarkwah, PhD(c)

(Southwest University, China)
Email: adarkwahmichael1@gmail.com
ORCID: 0000-0001-8201-8965
Telephone: (+86) 15923226920
Faculty of Education, Southwest University, No. 2 Tiansheng Road, Beibei District, Chongqing, 400715, P. R. China

ABSTRACT

The COVID-19 pandemic disrupted all forms of social life, including the education sector. As part of the efforts to keep the virus at bay, onsite instruction was suspended in 188 countries across the globe, jeopardizing the educational goals of over 91% of the world's student population. Online learning emerged as an ultimate solution to the disruption caused by the COVID-19 pandemic. The main challenge of most developing countries, especially in Sub-Saharan Africa, is to ensure effective online learning across all levels of education. The lack of funds, infrastructure, effective e-learning systems, ICT gadgets, and other challenges hindered the online learning in most developing countries from achieving its intended goal. With the realization that the COVID-19 may not die out soon and the prospect of a vaccine, Ghana, like many countries, resumed onsite instruction in early 2021. The study employed a phenomenological approach through personal interviews to explore the experiences of 20 tertiary students who were the first batch of students to be part of the temporal resumption of tertiary education in Ghana. From the analysis, it was observed that universities educated their staff and students on COVID-19. Nonetheless, there were contextual challenges with; the provision of personal protective equipment (PPEs), engagement in digital learning, parent-teacher collaboration, psychological health service, and course completion. The study discusses school preparedness plan of universities for resumption and draws from literature to outlines 10 strategic ways to reopen schools.

Keywords: Online learning; Onsite learning; COVID-19; Distance Education; Ghana Education.

Paper ID 81

Out-of-Class Activities: Impact, Facilitators, and Barriers

Kevin CHAN[1*], Cypher H. Au-Yeung[2]

[1, 2]The Hong Kong Polytechnic University, Hong Kong SAR
*Corresponding author

ABSTRACT

Purpose/Background

A substantial portion of face-to-face class sessions had to be replaced by remote teaching during the times of pandemic. Out-of-class activities usage has grown along the rapidly adopted e-learning pedagogy. Language instructors were found to have increased usage of e-learning tools such as

Google Classroom and WhatsApp. Social media and learning applications were utilized to distribute learning materials. The purpose of this study was to identify objectives, impacts, facilitators, barriers of out-of-class learning activities from both teachers' and students' perspective.

Methods

In this qualitative study, two focus group interviews were held with teachers (n=5) and students (n=6) who have experiences in out-of-class learning activities to discuss the activities in their perspectives. Themes related to implementation of out-of-class learning intervention were discussed and analyzed, including learning objectives, successes and failures, effectiveness, perceived support, enjoyment, preference over alternative learning activities, metacognitive attributes, and synergy with different fields of knowledge.

Results

Teachers utilized out-of-class activities aiming to enhance interactions between students when face-to-face sessions were unavailable, promote peer learning, and to achieve better learning outcome in class materials, research ability, self-directed learning, and teamwork. They also reported that technical and pedagogical support from the university played an essential role in the implementation. Students interview revealed that out-of-class learning activities may promote understanding to class materials, practical skills gaining, enhancing autonomous learning, facilitating peer learning and interaction, increase enjoyment, and provide an experience that could not be earned in traditional classrooms. All students believed that it would be beneficial if all courses would incorporate partial implementation of out-of-class learning activities in the syllabus. While some types of out-of-class activities were not supervised face-to-face, they relied on students' motivation and self-regulated learning towards positive learning outcomes. Informative briefing and debriefing sessions are considered keys to a successful implementation. Sufficient learning resources, such as laboratory timeslots availability, are also essential for fruitful out-of-class activities.

Discussion and conclusions

Effectiveness of out-of-class learning interventions appears to be contingent upon students' motivation and ability towards self-regulated learning. For instructors implementing out-of-class learning interventions in their courses, ensuring sufficient resources for students and communicating with different sources of support prior to the activity would facilitate positive learning results.

Keywords: out-of-class learning; qualitative; experiential learning; active learning; self-regulated learning

Paper ID 11

An Experience of Online Teaching in Legal Education: Glimpses from India

Dr. Ved Pal Singh Deswal

Faculty of Law
Maharshi Dayanand University Rohtak (Haryana)
E- Mail : vpdeswal@gmail.com, Mobile No: +91-946690134

ABSTRACT

Today in the time of Pandemic Covid-19, the entire society has been suffering on account of various problems such as Corona, health and education. The Corona has shaken the world to its core. In India also all the educational institutions were locked down on 22 March 2020 resulting into a breakdown on education system throughout the territory of the nation. As said "Where there is a will; there is a way", Covid-19 has prompted experts to rethink that traditional mode of teaching cannot take place now. For this safety of the individual and others coming into contact the class room teaching was suspended and Digital Learning came into existence, which proved that the entire territory of mother earth has become a global village. It was proved by our students sitting at Kenya, Afghanistan and some other parts of the world who are attending the classes. It proved application of technology as a tool of globlisation.

Objective of the Paper:

- To examine the infrastructure/ facilities of digital equipments available with Educational Institutions and Students.
- To undergo a trainee programme for the use of digital platforms.
- To assess the potential of teachers to convert their lectures in digitalization form.
- To identify the hurdles and roadblocks in the path towards digital in legal education as well as legal profession.

Some of the benefits of Digital learning:

- "Whenever, wherever" means digital learning has no physical boundaries.
- It has more learning engagement expertise relatively than the traditional studying.
- It is time saving and a safety mechanism at least during this covid period.

Challenges before Digitalization:

Digital learning is also having its restrictions and challenges. The conduct of examination is full of challenges. It's a system of honesty, but some students get into unfair means of cheating and write their papers because there is no eye watch on them. We need to go for MOOT courses in Law subjects to strengthen the knowledge of budding lawyers so that they can use of these skills during live proceedings of the cases in the court of law. As a teacher of Law, I would like to urge the students to follow digital learning as a tool of globalization in legal education.

Paper ID 12

Zooming into a Chinese university to teach about educational leadership from Australia: what could possibly go wrong?

Christine CUNNINGHAM, Michelle STRIEPE and Wei ZHANG*

Edith Cowan University School of Education
2 Bradford Street, Mt Lawley WA 6050 AUSTRALIA

ABSTRACT

Transnational Education (TNE) refers to the process where an educational institution or organisation in one country makes their programs or educational services available in another country, thus enabling students in the host country [in this case China] to earn a foreign qualification [in this case from Australia] without leaving their home country (Healey & Michael, 2015; Bannier, 2016; He & Wilkins, 2017). The continuing Australian travel bans to China, as a result of the COVID-19 virus, forced all transnational tertiary teaching partnerships to move online in 2020 and continuing in 2021. This included a joint Edith Cowan University and Zhejiang Normal University's Master of Educational Leadership course, which had to be reshaped abruptly so that the course could be beamed online from Australia into China for the 16th cohort class of 60 Chinese postgraduate students.

The first goal of the Covid-19 transnational transition was to move learning from face-to-face instruction to online platforms (e.g. Zoom and Microsoft Teams) and ensure it was compatible and functional with Internet access into mainland China. Then the course materials and teaching strategies had to be reconsidered to meet the general challenges associated with on-line delivery (Yen, Lo, Lee & Enriquez, 2018) whilst at the same time, addressing the unique challenges of streaming Internet-enabled e-lessons inside

China's Great Firewall. Finally, as ECU is an English as Medium of Instruction (EMI) university (Dearden, 2014; Tsou and Kao, 2017) and as such our academics are English speaking to an audience of Mandarin speaking EFL learners, we had to be mindful of how to offer bilingual learning effectively from afar.

Our presentation will focus on analysing our planning, creating, translating and recording of appropriate bilingual teaching material and learning strategies. We analyse our successes and failures, mindful of the distinct circumstances we faced, through the adoption of Shearer, Aldemir, Hitchcock, Resig, Driver & Kohler's (2020) theoretical framework based on distance education theory. We chose this theory because it moves "beyond the replication of the face-to-face experience" (Shearer et al., 2020, 36) and updates

Moore's (1989) ideals and imaginings of "an eclectic pedagogical approach for the future ideal online learning experience, which merges three pedagogical views: personalized/adaptive learning experience, transformative learning experience, and collaborative, constructive and connected learning experience (Shearer, 2020, 43).

Keywords: China; higher education; online learning; transnational teaching.

Paper ID 18

How Can We Engage And Motivate Students In Learning Biochemical Pathways?

Kit Ying Rebecca Lee, Yuen-King Ng, Hang Mee Yeung, Yat Nam Bernard Ng and Minghui Chen

ABSTRACT

Given the complex and abstract nature of biochemical pathways, the learning of metabolism is always a major challenge for students. Over the years, a number of teaching tools have been developed to aid students in learning metabolic pathways. Two major challenges that teachers may come across during the courseware development are (1) the low usage rate, and (2) whether the learning tool can motivate students in learning the subject. Traditionally, most teachers collect feedback from students by using the evaluation form, and track the courseware usage by obtaining the activity logs of the online e-learning platform such as Blackboard. In our studies, a few methods were used to engage and motivate students in learning biochemical pathways using the courseware Metabolism Metro.

The Metabolism Metro is a self-learning tool which aims to arouse students' interest in exploring human metabolic pathways. These pathways are grouped together and presented as railway lines in different "islands", including the Sweetieland (carbohydrate metabolism), the Powerland (oxidative phosphorylation), the Laminolegoland (amino acid metabolism), the AG City (nucleotide metabolism), and the Oi-volcano (lipid metabolism). This courseware includes both pre-class and post-class activities. In the pre-class module, students can learn abstract concepts through animations, narrations, videos, concept maps, and manga. Moreover, they can also gain an overall picture of metabolism by studying the connections of the "railway lines" in the metro map. In the post-class module, they can review their concepts by using the flash cards, and test their knowledge by playing the mini-games. Students can gain immediate feedback from the mini-games by earning the "coins" for answering the questions correctly.

In order to engage and motivate students in learning the subject, besides using the evaluation form for feedback collection, and track the courseware usage in Blackboard, the course teacher also (1) made announcement at the end of each class and asked the students to go through the pre-class activities of the next week, (2) guided the students to re-visit the animations during class in order to strengthen their concepts, (3) attracted the students to play the mini-games by inviting them to join a prize-winning competition. Among the 29 students, 21 (72%) of them had used the courseware, and 14 out of 21 students (67%) had completed and gained full marks in the mini-games. In general, there were satisfied with the courseware.

Keywords: Biochemical pathways, metabolism, biochemistry, micromodules, gamification

Paper ID 22

Effective VARK model among academician and student classroom engagement: A case study in American Degree Transfer Program, Sunway University.

Sujitra. S[1,*], Devandran. A[2]

[1,2]Sunway University, Bandar Sunway, Malaysia *Sujitra .S

ABSTRACT

Student in particular has various preference when it comes to learning and grasping of knowledge as it is also one of the main contributors for learning interest. However, by using the right model; could not only have the learning outcome achieved but also in producing active learners. An effective communication could relate well to the use of VARK model which consist of visual learning, aural learning, read write learning and lastly the kinesthetics learning. Each learning style has its unique way of igniting the suitable way of learning among students. Effective communication does not only help academicians to look into the best suited learning style for students but also ensuring a good classroom management. This study aims to investigate the impact of learning preference among students and best suited teaching style using VARK model by academicians in American Degree Transfer Program (ADTP). The department has a wide variety of major subjects where each of it is being taught using various VARK model. The study used qualitative research with simple random sampling. There were five (5) lecturers from various major's background from ADTP whom has been interviewed. The study found that learning style differs according to each module and subject. Further this study confirms that under the VARK model the visual mode is more popular among student as it's the millennial generation who prefers the digital technology compared to traditional classroom. However, respondents believed that face to face delivery of subject are definitely the best approach. Nevertheless, hands on activities and presentation does attract student engagement unlike textbook usage which only helps with further enhancement of a subject matter. Apart from acquiring skills and creating positive attitude, this study also creates unique learning environment that could ignite the sense of students to think further. As a conclusion, the study is important for academicians to know and understand their students in order to acknowledge the best suited learning style preferred by students. A comparison of learning style using the VARK model can be carried out between private and public varsity in future studies.

Keywords: visual learning; aural learning; read and write learning; kinesthetic learning

Paper ID **24**

Students' Perception of Different Learning Activities in Online Synchronize Lesson

Yin Ni Annie, NG*

Nanyang Polyethnic, Singapore

ABSTRACT

It has been a challenge for educators to engage and motivate students during the COVID-19 pandemic without face-to-face lessons. Nanyang Polytechnic adopted the strategy of recorded lectures coupled with face-to-face tutorials to manage the number of students in school. However, during the phase two heighten alert in May to June 2021, the tutorial sessions converted to synchronize online format to minimize unnecessary contact to fight the pandemic. The research was conducted in June 2021 to compare students' perception of three different learning activities e.g., collaborative mind-mapping (CMM), worksheet, and rose-thorn-bud (RTB), conducted in the synchronize online lesson after three different recorded lectures. A 32-item (30 quantitative and two qualitative) survey was administered to 76 students after the last online lesson to measure their perception of the three activities in the following area: usefulness, success, interest, care, and relatedness.

ANOVA was conducted to make pair-wise comparisons between students' perception of the three activities. The area of usefulness, success, interest, and relatedness showed a significant difference ($p<0.05$). Pair-T-test results from the various activities indicated that students perceived the worksheet as the most useful and successful activity. Whereas students felt most related with their peers when they were doing CMM. CMM ($M=6.45$, $SD=1.46$) is significantly more interesting than RTB ($M=5.46$, $SD=1.74$), $t(70)=4.57$, $p=0.00$).

The students expressed that doing the worksheet is tedious compare to the RTB and CMM, but doing the worksheet is still useful as the questions were from the past year's test paper. CMM enabled students to summarise the recorded lecture collaboratively via MIRO® platform. Doing the worksheet with the guidance from the tutor online helped students practiced for the test. Students experienced difficulties generating meaningful questions as a group for the RTB, but they still appreciated the insight obtained after the activity. Hence, there is no single activity that can solely recommend in the synchronized online lesson, the mix of the teaching activities is required to engage different types of learners for different topics.

Online Lessons; Active Learning; Learning Activities; Peer Learning

Paper ID **32**

Towards Creating a Conducive Remote Learning Milieu: A Case Study of Development Communication Graduate Students' Reflective Accounts in the Time of Pandemic

Ernesto Cordero Collo, Jr.

eccollo@up.edu.ph
College of Arts and Sciences, Don Mariano Marcos Memorial State University /
College of Development Communication,
University of the Philippines Los Baños, Philippines

ABSTRACT

This paper is a qualitative navigation of the reflective accounts of development communication (devcom) graduate students at the University of the Philippines–Los Baños (UPLB). Mead's symbolic interactionism guided my understanding of the participants' reflective evaluation based on a virtual roundtable that aimed at reinvigorating reflections. It also foregrounds devcom as a field of theory and practice in honour of the contributions of its pioneer and mother Professor Emeritus Nora C. Quebral. The credence of instrumental case study design (Stake, 1995), through the participants' reflective accounts derived via "distance turn-digital" methods (Luton, 2020), informed the direction of this research in addressing a paucity of literature that examines the experiences of graduate students on remote learning in the current milieu. Participants' stories were broadly themed as *learning struggles in the time of pandemic* which refer to *personal struggles* and *academic struggles* as categories. Under the same theme is an emergent category that collectively refers to *alternative opportunities* constituting two pivotal subcategories: *institutional support* and *online forms of communication support*. Organizing these three categories is a schema that looks at the learning struggles of the participants and their recommendatory course of action towards a conducive remote learning milieu. In navigating further, *online social support communication* and *recreational (dis)engagement for holistic well-being* have served as the participants' virtual and real coping strategies during the pandemic.

Keywords: Reflective accounts, remote learning, symbolic interactionism, learning struggles, alternative opportunities, coping, schema

Paper ID 74

360-Degree Panoramic Virtual Site Visit for Construction Technology Education

[1]Junyu CHEN, [2]Wai Kei KONG, [3]Minkoo KIM, [4]JoonOh SEO, [5]Hung-Lin CHI and [6]Michael C.H. YAM

[1]21065586R@connect.polyu.hk, [2]kong.wai-kei@polyu.edu.hk, [3]joekim@chungbuk.ac.kr, [4]joonoh.seo@polyu.edu.hk, [5]hunglin.chi@polyu.edu.hk, [6]michael.yam@polyu.edu.hk

Department of Building and Real Estate, Faculty of Construction and Environment, The Hong Kong Polytechnic University, Kowloon, Hong Kong SAR

ABSTRACT

In Construction Technology Education, construction site visits play an important role for undergraduate students to get familiar with the real construction environment, combine the textbook knowledge with practice and develop their competence to embrace the industry innovations and challenges. Real construction site visits face challenges in getting the access to proper construction sites and ensuring the safety of visitors. This study first utilizes 360-degree panoramas to develop a project-live e-platform with game elements to provide an immersive environment and present the approximate complexity of construction sites. Secondly, the study evaluates the effectiveness and the degree of satisfaction of the 360-degree panoramic virtual site visit in Construction Technology Education through the implementation in relevant courses at the Hong Kong Polytechnic University. The students' knowledge acquisition and technology acceptance as well as their opinions are collected and well measured. Finally, feedback as obtained from in-class quizzes and questionnaire surveys is analyzed. According to the responses, the comparative analysis of teaching methods is conducted to not only present the distinction of the proposed 360degree panoramic virtual construction site visit from the available lecture-based approaches but also elicit the future improvement in teaching aids for Construction Technology Education.

Keywords: Construction Technology Education; 360-degree panoramas; virtual site visit; e-platform; Hong Kong

Paper ID **10**

Utilizing Textbooks in Online Language Classrooms: A Combination of Synchronous and Asynchronous Learning

Thuy Pham

ABSTRACT

The widespread Covid-19 pandemic has led to the switch of teaching and learning from offline to online mode in most regions of the country. As a result, language teachers of textbook-based courses, or those who must follow a core book throughout the course, face the challenge of either digitizing the book or designing appropriate activities to utilize it effectively in the online settings. This requires a balanced and efficient combination of synchronous and asynchronous learning. While the former refers to "online or distance education that happens in real-time, often with a set class schedule" and with the presence of both teachers and learners, the latter involves students' independent learning and flexible access to materials outside class time. This approach is also known as one type of blended learning, and it often requires a certain range of online resources to be well-implemented. However, for teachers who have used textbooks as their primary source of teaching materials, the availability of such supplementary aids might be an issue of concern. Therefore, this presentation aims to address how synchronous and asynchronous activities can be conducted to maximize the use of textbooks. Specifically, it summarizes the advantages and disadvantages of each activity type, principles for selecting either synchronous or asynchronous learning to achieve particular objectives, and techniques to digitize or adjust textbook activities/ tasks for online teaching or self-study. One example of how an upper-intermediate English textbook has been adapted would also be given to facilitate understanding of the approach.

Keywords: textbook, online learning, synchronous, asynchronous

Paper ID **14**

Learning Foreign Language Using Mobile Application In Enhacing Communciation Fluency Among Young Professionals

De Leon, Phill Andrew J.
Sy, Maria Christina N.
Jimenez, Princess Khayle
Pelayo, Mikhaela Cassandra
Nacario, Princess Nica
Carino, Kendrel May
Reyes, Princess Nadine
Gamuac, Cyniza Jane
Student Researchers

Espinola, John Christian
Faculty Researcher/ Adviser

Lyceum of the Philippines University

ABSTRACT

The acquisition of learning different foreign languages plays a vital role in people's lives, as it is not only for entertainment and leisure purposes, but also it has become one of the main important edge in one's education and professions. This study aimed to measure how effective these mobile applications in terms of its Gamification, Ease of Use, and Learning Enhancing factors in learning foreign languages and its correlation to enhance one's communication fluency, specifically with their Pronunciation and Vocabulary factors. 400 Filipino Young Professional users with the ages of 20 to 35 years old were chosen to be the respondents of the said study. The instrumentation used was adapted from Schroeder (2016) and Gafni, et al. (2017) to gather the desired data. With the applications stated in this study, "Google Translate App" was that most used application with 56.75% of responses followed by Duolingo App with 42.5%, "HelloTalk App" of 41.25%, "Others" with 21.5%, "Memrise App" of 6%, and lastly, the "Busuu App" of 3.75%. A significant relationship between the Use of Mobile Application and Communication Fluency was found ($p<.000$) using ChiSquare. The Pronunciation and Vocabulary under Communication Fluency resulted to have a significant relationship with the Gamification, Ease of Use, and Learning Enhancing under Mobile Application variable ($p<.000$). Furthermore, Communication Fluency and Mobile Application resulted to have a Significant Positive Moderate High Correlation with each other (r-value=.617). These prove that the use of mobile application can effectively enhance the learners' communication fluency in learning foreign language.

Keywords: Mobile Applications, Communication Fluency, Young Professionals, Foreign Language

Paper ID **20**

Globalizing the Classroom through Virtual Exchange

Emma H. ZHANG

College of International Education, Hong Kong Baptist University, Hong Kong

ABSTRACT

The proliferation of virtual communication in tertiary institutions around the world has made it possible to connect learners across the globe through technology and offer cross-cultural perspective to populations with limited physical mobility. To improve students' cross-cultural effectiveness in the classroom setting, the project "Enhance cultural understanding through virtual exchange" was launched in June 2020. The project was designed to facilitate person-to-person online communication between learners from different cultural, linguistic, and geographic areas for an extended period. In the first phase, 30 American students and 19 Hong Kong students were brought together through asynchronous video messaging for 10 weeks. In the second phase, 120 American students, 76 Hong Kong students, and 29 English majors from India participated. These learners from three geographic regions and multiple linguistic and cultural backgrounds had opportunities to interact together online for a period of six weeks. The participants interacted with each other synchronously through Zoom and asynchronously through Flipgrid. They also shared learning resources with each other on Padlet. Participants from Hong Kong took the Intercultural Effectiveness Scale (IES) survey both before and after their virtual exchange to measure their improvements in intercultural communication. They were also invited to join focus group interviews to share details of their experiences. Initial findings indicate that virtual exchange successfully improves participants' overall intercultural effectiveness. The experience helps learners to be more open to different cultures and to be more confident in their language skills. Though virtual exchange is not effective in developing interpersonal relationships, it can offer advantages other overseas exchange programs do not offer. Virtual exchange provides wider and potentially more in-depth cultural exposure by connecting participants from multiple cultural backgrounds and providing a context for them to engage in research and discuss a range of social, cultural, and environmental issues.

Keywords: virtual exchange; collaborative online international learning (COIL); internationalization at home (IaH)

Paper ID **23**

Experiences of Aged Teachers in The New Normal Learning

[1]Arnee H. Dengal, [2]Ma. Kareysha Claire J. Mancera and
[3] Kathleen Ashley D. Pantollano

[1]arneedengal4@gmail.com, [2]kareyshamancera@gmail.com,
[3]pantollanokathleenashley@gmail.com
STEM, Senior High, Zamboanga del Norte National High School, Dapitan City, Philippines

ABSTRACT

With the sudden transition of traditional learning to online learning, teachers specifically the aged ones found themselves challenged with the changes of the new normal type of learning. The Department of Education innovate, made adjustments and changes in the teaching and learning process to ensure the safety of both learners and teachers. Hence, this study was conducted for the purpose of being able to enumerate the experiences amongst aged teachers in the new normal learning amidst pandemic. This study was anchored on Herzberg's Motivation Theory model or two-factor model by Frederick Herzberg. Qualitative methods are used in this study applying a narrative research design. A narrative method was used to conduct an online interview through messenger calls as a means to gather and provide as much information and relative evaluation. The questionnaire prepared by the researchers were based on the theoretical framework of the author. The questions focused on the perceptions of aged teachers in the new normal learning. There were ten (10) respondents who are secondary teachers aging from 50 years old and above with at least five years of teaching experience in areas of Dipolog and Dapitan City in Zamboanga del Norte, Zamboanga Peninsula, Region IX, Mindanao, Philippines. The study found out that the experiences of aged teachers in the new normal learning include the following: Adjustments, Health Prioritization, Work Dedication, Learning Issues, Developed Routines, and Support System. The findings revealed that aged teachers are struggling hard resulting them to cope up in response to the demands of new normal learning. Moreover, this study recommends the aged teachers to exercise a proactive approach in learning technology, find better ways to contact students, collaborate with co-teachers, develop strong attitudes towards learning and ask for online learning assistance. Learners must connect with teachers and parents as well as prioritizing school responsibilities by treating online classes like real classes to help lessen the burden of these aged educators. Further, strengthening schools' support for teachers enhancement skills towards technology integration, create professional development opportunities and recognize teachers' efforts amidst online learning.

Keywords: Aged teachers; education; experiences; online learning; pandemic

Paper ID **26**

Resiliency of the Architects in the Academe: A Qualitative Focus on the Virtual Architectural Design Studio in the Philippines

John Clemence Pinlac, Noel Cruz[1], Caryn Paredes-Santillan[1]

Instructor, College of Architecture, University of Santo Tomas, Manila, Philippines
Corresponding Author, jmpinlac@ust.edu.ph, Beato Angelico Building, University of Santo Tomas, España Blvd., Sampaloc, Manila, Philippines 1008

ABSTRACT

The widespread impact of COVID-19 greatly affects the deployment of higher education. In the Philippines, with the current physical restrictions, academic institutions have shifted to online learning. However, with limited technological resources compounded by one of the poorest internet connections in Southeast Asia, online learning is a constant challenge to educators. Even more so in Architectural Design, a studio culture in which creativity and mentorship are the main thrusts.

Current literature on online learning in the country currently focuses on general subjects. This paper seeks to define the ways in which the architecture studio culture adapted to the challenges of conducting education online. This research employs qualitative methods that focus on the online shift of educators handling architecture studios in the Philippines. In particular, it examines the resiliency and resourcefulness of educators as well as the tools and techniques used. The study hopes to produce a framework for the continued improvement of the online architectural studio that will benefit educators and students alike.

Keywords: resilience, human capital, virtual design studio, architecture education, Philippines

Paper ID **137**

Adaptive E-Learning – A Comparative Study

[1]Dr. A.K. Shafreen Banu, [2]S. Mohamed Aslam and [3]X. Antony Julian

[1]shafreenbanu@gmail.com , [2]assukutty2018@gmail.com , [3]julianx941@gmail.com

[1]Associate professor, Department of Information Technology, Bishop Heber College (Autonomous), Tiruchirappalli, Tamilnadu, India
[2, 3]Student (3rd B.Voc IT), Department of Information Technology, Bishop Heber College (Autonomous), Tiruchirappalli, Tamilnadu, India

ABSTRACT

Adaptive e-learning is currently a high exposure topic in education, research and development streams, it redefines the process of "one size fits all" and brings a whole new outlook to education that insists on changing away from building infrastructures and providing information via the internet and towards better learning and performance. The difficulty of enhancing learning and performance is primarily dependent on correctly understanding a learner's characteristics. Adapting to the new normal lifestyle is important, the most important part is that a child, teenager or a

youth adapting to the new normal. Everything in the world revolves around normality and adapting or fixing ourselves into the box is also considered normal in the contemporary. In other words, adaptive learning is a teaching method that adapts to the confidence as well as the understanding of each learner. In an adaptive learning path, learners may start with the same content, but based on their answers, the system will feed each user with relevant and unique content to master certain areas. Learning via the internet was considered to be taboo in the past but now, the whole educational system is dependent on e-learning. Parents, Teachers and even Students think that the exposure a student gets in offline is more efficient than what they receive online. To break this myth"Adaptive e-learning should be adapted".

Keywords: Master Chain areas, Building Infrastructure, Online, Education, Efficient

Paper ID **6**

Teaching Law Online to Adult Learners in a Pandemic – A Singapore Experience

Ben Chester Cheong

School of Law, Singapore University of Social Sciences,
463 Clementi Road, Singapore 599494

ABSTRACT

Purpose of the Article

COVID-19 has disrupted our way of life. As work from home became the modus vivendi, many of our working adult students grappled with the difficulty of managing work, familial distractions, and their law studies, from their homes. Students were suddenly thrust into social isolation as lockdown measures to curb the spread of COVID-19 were implemented. Notwithstanding these negative effects, the rise of technology has enabled legal education to continue to thrive in this challenging milieu. Without past experiences to draw from, it became important to find solutions quickly to adapt dynamically. As course leader and tutor for a number of law subjects, I found various methods to adapt quickly to deliver quality education to students as well as enhance student satisfaction in the process.

Methods

Use of Technology: I deployed a range of technology to teach, including the usage of (i) Nearpod where I hosted all my learning content for live teaching, (ii) Kahoot! for multiplayer games to assess learning outcomes, and (iii) Study.com videos to enhance the learning and assimilation process. The use of interactive multi-player games (on Kahoot! and Nearpod) facilitated real-time assessment and feedback of students' understanding of the course content.

Consistency in delivery of content: Due to work from home and minimised contact among colleagues, I prepared detailed teaching guides for the minor tutor (i.e. explanation for the slides as well as copious guidelines for the class discussion questions) for each of the study units. Each teaching guide was approximately 6,000-8,000 words and took me many hours to prepare.

COVID-19 preparedness: In light of COVID-19 and to facilitate online teaching on the Zoom platform, I also prepared extensive YouTube videos (including preparing the introductory video using an advanced video production software – Camtasia). Having the YouTube videos greatly reassured me that the Zoom sessions would not need to be a didactic lecture without compromising on teaching quality as students would have access to the full lectures separately. I could then use the Zoom sessions to focus on the recapping of concepts as well as on the application process through the use of class discussion questions.

Results

I am the course leader for the LAW303 Law of Business Organisations module. I taught it for the first time in Semester 2 of 2019 with 75 students across 3 tutorial (T) groups, where I received a very positive feedback with average teaching scores of 4.67, 4.77 and 4.89, for T01, T02 and T03,

respectively, for my electronic course evaluation (eCE) in 2019. This was the highest teaching score achieved by a law faculty member in Semester 2 of 2019. In addition, as course leader, the course itself received an eCE score of 4.58, which was the highest course evaluation score among all law school modules in Semester 2 of 2019.

I taught this module for the second time in Semester 2 of 2020. In my eCE 2020, I received a very positive feedback with average teaching scores of 4.73 for T01 and 4.71 for T02. In addition, as course leader, the course itself received an eCE score of 4.59. Under my leadership of the course, the course has consistently received very high eCE scores for two consecutive years.

Please see my published work on Post Pandemic University:
https://postpandemicuniversity.net/2020/12/05/teaching-law-in-a-lockdown/

Conclusions

Through sharing best practices in teaching law during the pandemic, I hope to stimulate discussion and contribute to the educational landscape. I am focussed on the holistic development of students and to improve the experiential learning process.

Keywords: *Teaching, Law, Online Learning, Pandemic*

Paper ID **77**

Using Video-Based Formative Assessment to Facilitate Skill-Based Learning in The Time of COVID

Dave GATRELL[1*], Kai Pan MARK[2], Kevin CHAN[3], Cypher H. AU-YEUNG[4] and Ka Yee LEUNG[5]

[1, 2, 3, 4, 5]The Hong Kong Polytechnic University, Hong Kong SAR
*Corresponding author

ABSTRACT

The COVID-19 pandemic has accelerated the transition from face-to-face to online and blended learning in the higher education sector. Whilst knowledge transmission has adapted seamlessly to remote lectures and the online distribution of materials, academics have experienced challenges in using online learning for skill acquisition and assessment, such as laboratory work and clinical procedures. Video-based formative assessment enables students to practise and record courserelevant skills without being limited by instructor and classroom or laboratory availability. Using video recordings and video annotation software, students can reflect upon their performance and make improvements in subsequent attempts. Prior to submission, students can share their practice with peers to receive time-stamped feedforward comments and gain further insight. The goal of this formative assessment is to ensure that students can develop relevant skills during a course, rather than being summatively assessed on a single performance and finishing the course without having mastered the correct skills or techniques. This paper describes an upcoming video-based formative assessment project involving courses in applied science, social science, optometry, and nursing.

To investigate the feasibility and effectiveness of video-based formative assessment in different disciplines, interventions related to learning with video will be implemented in a variety of subjects. Students will engage in video-based formative assessment tasks tailored to the learning outcomes of their courses. For example, optometry and nursing students may practise clinical skills, applied science students may report on experiments, while social science students may role-play scenarios prior to interacting with older adults on a field visit.

Interviews and qualitative surveys will be conducted with instructors and students to analyse the impact of the approach and video annotation tool on students' learning experience. Findings will be triangulated using 'trace data' from the video content management system and thematic analysis of in-video reflections and discussions. To further explore the impact of the intervention on reflective practice, self-regulated learning and peer learning, students will also complete a quantitative survey derived from the National Survey of Student Engagement and the Motivated Strategies for Learning Questionnaire.

The outcome of this project may shed light on the feasibility of replacing a portion of traditional inperson summative assessments with video-based formative assessment tasks. This could mitigate the negative impact of the reduction in face-to-face teaching hours during the pandemic. It should also identify the challenges involved in implementing the approach in different disciplines and help teachers develop strategies to overcome them.

Keywords: video; formative assessment; reflective practice; self-regulated learning; peer learning

Paper ID **25**

Students' Voices in Online Learning Assessment

Heny Hartono[1]

[1]Soegijapranata Catholic University, Indonesia

ABSTRACT

As one of the most essential components of a learning process, assessment is not only to measure learner's ability or teacher's success in teaching, but it also provides feedback on the learning process itself. In a normal learning cycle, assessment can be done in the class and take form of formative and summative assessment. Most of the informal assessment in the classroom can be grouped as formative assessment in which teachers give feedback to improve the learners' ability. Hence, the formative assessment is mainly focused on the ongoing development of learners' ability. Summative assessment is the one prepared by teachers to measure students' achievement at the end of the course. Amidst the Covid-19 pandemic which has made teachers use online platform for their classes, teachers still cannot neglect the role of assessment. Though both teachers and students strive to adjust themselves with the fully online classes, the assessment should be conducted along the classes. Through the Learning Management System, teachers conduct both synchronous and asynchronous assessment. This article presents the results of a qualitative study on how university students perceive online assessment. This study involved 20 university students from Indonesia, Taiwan, and the Philippines who participated in the open ended questionnaires and FGDs. The results of this study reveal that students more appreciate and believe in formative assessment than the summative assessment. Despite the ease of asynchronous assessment, students admit that synchronous assessment is more objective than the asynchronous assessment. The results of this study echo the students' voices on the online assessment that will be valuable for teachers and higher education institution in developing appropriate online assessment for their students.

Keywords: student, assessment, online learning

Paper ID **27**

Educator's Perspective on Teaching-Learning Process during COVID-19 Pandemic in Higher Education Institutes of West Bengal

Dr. Varbi Roy and Dr. Aniruddha Chatterjee

ABSTRACT

Purpose: To assess the impact of lockdown amidst COVID-19 on teaching learning process on undergraduate and postgraduate learners of various colleges and universities of West Bengal from the perspective of teachers. Method: An online survey was conducted from 1 September 2020 to 31 January 2021 to collect the information. A structural questionnaire link using 'Google form' was sent to teachers through WhatsApp and E-mail. A total of 448 teachers provided complete information regarding the survey. The objective of the study aimed to learn the effectiveness in online teaching learning during the pandemic. Result: This study suggests that e-learning and use of ICT tools has become effective during pandemic as it is the only available alternative to continue with the teaching learning process. However, the online mode cannot be an alternative or replacement of traditional mode of teaching. One cannot expect successful implementation of blended mode of learning in post pandemic times also without proper infrastructural set up and without gauging the capabilities and mindset of educators as well students. Conclusion: The current online teaching learning practice is viewed by the educators only as a successful means to resist complete shutdown of the learning process, however successful, the process especially the examination system is not without flaws. Future Recommendations: Up gradation of infrastructure, revision of curriculum and examination pattern, proper training of educators to equip them on online teaching are among some of the pre-requisites for enjoying full benefit of the online mode of learning.

Keywords: COVID-19 – Pandemic, E-learning, Higher education, ICT, West Bengal

Paper ID **31**

Assessment of Students' E-Learning Readiness at Yenagoa Study Centre, National Open University of Nigeria

Gordon M. BUBOU[1*], Ibebietei T. OFFOR[2] and Job C. GABRIEL[3]

[1]NACETEM South-South Office, National Centre for Technology Management, NDU, Nigeria
[2]Department of Science Education, Federal University Otuoke, Bayelsa State, Nigeria
[3]Department of Educational Foundations, National Open University of Nigeria, Abuja
*Corresponding author

ABSTRACT

The times we are in now requires that people stay at home for most parts of the world to avoid the highly contagious novel corona virus (COVID-19). That means learning in brick-and-mortar school buildings has become a challenge. For the education and training sector not to suffer total collapse, and to make up for the absence of face-to-face interactions in the classroom, the sector is now experiencing a rapid uptake of e-learning. E-learning offers platform for transmission instruction, interaction between learners and teachers online through the Internet. While e-learning as an educational innovation had been in existence for some decades, it only took a global pandemic to leapfrog it to become the new normal in the education arena. Furthermore, in a country like Nigeria where admission seekers far outnumber available spaces, educational innovations such as e-learning becomes imperative. However, integrating e-learning into learning institutions requires stakeholders to be ready for its adoption. One critical set of stakeholders are the learners because they are the ones at the center of the learning process. Thus, the purpose of the study was to assess the e-learning readiness of first- and second-year students of a Study Centre of the National Open University of Nigeria, the biggest university in the country, in terms of student enrollment. A descriptive quantitative survey design was adopted for the study. With a survey questionnaire, this study involved a sample of 476 students of the Yenagoa Study Centre of the National Open University of Nigeria. This paper investigated the e-learning readiness of 220 first- and second-year students of Study Centre that responded to questionnaire items. A t-test was also used to verify if significant differences in the e-learning readiness existed between the two classes of students. Findings revealed an e-learning readiness index of 57.08 out of a possible 100%. The results imply that the students were not fully ready to adopt the learning innovation. Statistically significant differences were also found between the two classes with first-year students possessing higher e-learning readiness scores. Given the results obtained, it suggests that the National Open University of Nigeria need to provide adequate training to students to prepare them for its e-learning systems.

Keywords: Online learning; E-learning readiness; Open and distance learning; Educational innovations; Instructional technology

Paper ID **42**

Effectiveness of Online Teaching Approach to the Learning Domains of Nursing Students in Iloilo City

Gregorio, Jorim Joel H., Gutierrez, Ma.Lou Ester R., Implica, Jelma Crystel C. Jainga, Alyssa Nicole L., Jamelo, Jouraine Aine Marie L., Jimenez, Lharyza B. Jover, Marielle C., Salex, Alibogha E., Jovero, Rossini G.

ABSTRACT

Online teaching has been one of the alternative approaches currently utilized by learning institutions to continue education through the COVID-19 pandemic while ensuring that they complied with the universal precautionary healthcare protocols. Thus, this study aimed to determine its effectiveness particularly on the learning domains of nursing students. A preexperimental, one-group pretest-posttest designwas utilized forthe cognitive domainand a descriptive design for the affective and psychomotor domain swhich were for supplementary information only because of certain limitations. About 40 students from the selected university were select edutilizing purposive sampling and were exposed to online instruction. A pretest on the cognitive domain was only given before conducting online teaching, and a post-test thereafter consisting of the affective, cognitive, and psychomotor domains. To avoid any threat to validity, one clinical instructor was utilized in the whole duration of the study to teach in the online class, proctor the tests, and check all the tests afterward. The effectiveness of online teaching was statistically tested using Paired T-test. A P-value of (0.005) which wasless than the level of significan ceset at 0.05 was obtained.Therefore, the null hypothesis: "There was no significant difference in the level of performance of Nursing students in intraoperative concepts in terms of the cognitive domain before and after online teaching" was rejected. Interpretation of results indicated that there was a significant difference in the level of performance of nursing students in intraoperative conceptsin terms of the cognitive domain as the mean score of the participants increased after being subjected to online teaching. The increase of the mean during the posttest was also accompanied by a decrease in the mean average deviation indicating that the score of the participants was more clustered to the mean. Also, in terms of the affective and psychomotor domains, the majority felt satisfied in their online class experience and performed excellently on their psychomotor return demonstration. Overall, the study concluded that the online teaching approach positively influenced the learning domains of the students.

Keywords: Learning domains, Affective function, Cognitive function, Psychomotor function, Online teaching approach

Paper ID **9**

A Prototype of Wireless Portable Learning Management System to Support E-learning in Remote Area

Albertus Satriyo Bayu Aji[1], Zevanya Devendra P.N[1] and Vittalis Ayu[1,*]

[1]Department of Informatics, Sanata Dharma University, Indonesia
*email: vittalis.ayu@usd.ac.id

ABSTRACT

E-learning has been an emerging trend in education in recent years. The Learning Management System (LMS) as the basic of e-learning need to be accessible anytime and anywhere with the support of good internet connectivity and allow the students to experience paperless-based learning. However, not all schools in Yogyakarta region has good internet connectivity, particularly in remote area such as elementary and middle schools in Panggang, Gunungkidul. This become a concern in those schools which do not have the support of stable internet connectivity and proper computer lab hence it cannot provide the e-learning environment as a classroom experience. Even though nowadays most of the students and teachers have smartphones, but without the support of stable internet connectivity, the connection to the remote server of the provided learning management system will be difficult to be accessed. Therefore, to overcome that aforementioned issue in e-learning, a portable learning management system based on Raspberry Pi is built. This enables students and teachers to use a local learning management system with short-range wireless connectivity (Wi-Fi) of their smartphone or laptop. This prototype can be used locally as a server without the support of internet connectivity thus still provide basic LMS functionality. In the implementation, Raspberry Pi B+ was used as the main server hardware, Mikrotik wireless router was also exploited to provide the wireless connectivity, and Moodlebox was installed on it as the LMS. In this portable system, teachers can upload their material and students can access it from their own smartphone/laptop locally. Moreover, the teachers can also give tasks to the student and students can do their assignments online (locally) with their smartphone/laptop. We have successfully implemented this prototype in our lab and the LMS (Moodle) can be accessed via WiFi simultaneously with 8 devices. However, still there are need of improvements to enable this prototype to serve more devices because when we implemented it using more than 8, there are still have some problems with the access speed to the portable LMS.

Keywords: learning management system, wireless connectivity, portable server, Raspberry Pi, Moodlebox

Paper ID **29**

Facebook Classroom as Alternative Learning Management System for Remote Learning

Manilyn E. Templo[1]
Jeovanny A. Marticion[2]

[1]Zamboanga del Norte National High School
[2]University of the Philippines - Cebu

ABSTRACT

Social media platforms became instrumental in the delivery of instruction during the pandemic. The features of Facebook and Messenger were very useful in providing immediate feedbacks to learner's outputs, monitoring the academic progress, sharing of accessible learning materials, repository of supplementary learning resources and interactive platforms for discussions and communication of for parents, learners and learning facilitators. Thus, the researchers sought to understand how the intervention coined as Facebook Classroom, a Facebook group platform, could help teachers in managing learning resources from various platforms, build interactions with other classmates and assist in their remote learning. The Facebook classroom was introduced to pool of teachers from building their classrooms, managing files, linking Google drives, updating their outputs, posting announcements, interacting through reaction buttons, creating polls and monitoring their presence in the virtual world. The levels of communication, ease of use, navigation and instructional use were measured using survey questionnaire. Analysis of responses from teachers and students were also conducted. Results revealed that the use of Facebook Classroom indicated how learners found the intervention easier to access files, communicate with their co-learners and teachers and manage their academic activities. Teachers, on the other hand, found the social media helpful as a learning management system. The experiences of teachers and learners revealed the advantages of social media as an LMS tool, how it helped them in teaching-learning process even with the remote set-up and opportunities to interact with teachers and learners in virtual classrooms. Although they are still hopeful of the implementation of face-to-face learning as it allows them to build human connections and meaningful learning. It is recommended to utilize Facebook classroom as alternative learning management system for remote education in public schools due to affordable access, general usage and friendly features.

Paper ID **38**

Digitalizing Rural Village: Adopting Deep Learning Technology and Community Empowerment through Nature Tour Classes in Kulon Progo, Indonesia

Desideria Cempaka Wijaya MURTI [1], Victoria Sundari HANDOKO[2, *] and Antonius Bima Murti WIJAYA[3]

[1, 2]Universitas Atma Jaya Yogyakarta, Indonesia
[3]Universitas Kristen Immanuel, Indonesia

ABSTRACT

Communication technology in artificial intelligent are emerging areas of academic inquiry that rely heavily on the applications of technology to gather data. Still limited research and community outreach program try explore more participatory actions in implementing artificial intelligent, and the potential of participatory research to generate knowledge. The purpose of this article focuses on the process, limitations, and benefits of this alternative approach, as discovered through a research project in Kulon Progo, Yogyakarta. In particular, the research project combined a community outreach program using three processes: (1) to develop and design the technology with local people, (2) to design the AI program according to the existing tourism packages, and (3) to examine how Desa Wisata Tinalah residents perceived, experienced, and responded to this technology. The researchers function as the sparing partners to the community and work hand in hand in the co-creation process of the technology. The research project also integrates image recognition technology using deep learning algorithm by targeting nature objects such as stones, animals, and plants that grow very specifically in the area. The technology will be able to recognize the images taken from the visitors' mobile phone, give information which was written by local people, and provide points or scores for gamification in the tour program provided by the local people.

Briefly, the research and community outreach uses focus group discussions method to generate discussions and knowledge to be built within the technology and the tour packages. FGD was conducted for more than six times (48 hours) involving 10 key persons of the village to discuss the ways technology of deep learning can be integrated within the tour packages such as outbound, trekking, river tubbing, and another experiential package. The FGD also functions to generate curriculum design of the package which mostly targeted for high school students, produce short articles to explain the objects, and create games or experiences that use the technology as an innovation program during the existing tour packages provided by the local people. The results show two aspects of learning. First, from the usability of the technological point of view such as the ways deep learning processes the images through learning phase and evaluation/recognition phase. Second, from the ways local people able to feel empowered through the involvement and the co-creation process of technology using local resources and their own potentials. The technology called "*Mbak Dewi*" driven from their icon of *Desa Wisata Tinalah* or *Dewi Tinalah* which is located in the rural slope of Menoreh Mountain of Kulon Progo. It also brings more ownership to the local people and to build innovation for the digitalization process of their village without leaving the human aspect. Evetually, with the technological innovation, the village able to sell the nature tour packages with unique selling proposition compare to other villages. Overall, this method offers a new approach to understanding the interactions between human communication and technology to create a more nuanced theory-building in communication and technology.

Keywords: artificial intelligent, community, tourism, village, deep learning, digitalizing, rural, empowerment, communication, Indonesia

Paper ID 7

Will Vocabulary Breakthrough Games Help Learners with Lower English Proficiency?

Hui-Kuei Alice Hsieh

ABSTRACT

Nowadays, young college students were mostly born in information era who have been exposed to video games since childhood. The traditional crawl-style recitation of words is very boring and ineffective for them. This research is a case-based action research, and the subjects are 121 lower English proficiency learners from an island Univeristy in Taiwan. Aiming at the problem of insufficient vocabulary when students pass the English graduation threshold, an online vocabulary breakthrough game is designed to stimulate students' motivation and interest in learning, and increase the vocabulary related to an international standardized test of English language proficiency. The results show that students' English vocabulary has greatly increased, and students' autonomy and efficiency in vocabulary learning through games have been significantly enhanced.

Keywords: action study, vocabulary breakthrough games, English vocabulary

Paper ID **64**

IMMEX- Ten years of introduction and digestion

Dawei Xu[1], and Hongyu Ren[2*]

[1]Shanghai Experimental School, Shanghai, PRC
[2]Shanghai Xile Information Technology Co., Ltd, Shanghai, PRC
*Corresponding author

ABSTRACT

Interactive Multimedia Exercises Platform (IMMEX), created by Dr. Ronald Stevens, a professor of medicine at UCLA in the United States, the relevant data provided by the system can reproduce the thinking process of students when solving problems. Therefore, to a certain level, it realizes the "black box" that opens the thinking process of students when solving problems. The Shanghai Experimental School introduced the system in October 2008, and kept on experimenting with daily education practice, which has lasted 12 years. This article uses a large amount of data to realistically reflect how an advanced technology has been digested, absorbed and innovatively applied in Shanghai Experimental School. In line with insisting on being student-centered, honing the team of teachers; continuous experimentation and in-depth research, we successfully established a School-based curriculum, starting from cultivating students' thinking habits, improving students' thinking quality, and significantly improving students in the change on problem-solving ability of the disciplines.

Keywords: Problem Solving; Thinking Habits and Thinking Quality; introduction and digestion;

Paper ID **21**

Organizing Canvas for Effective Online Learning

Leland Joseph R. Dela Cruz, Ph.D.

Ateneo de Manila University, Quezon City, Philippines

ABSTRACT

A number of principles and strategies can be adopted by instructors using Canvas to maximize learning in an online environment. These principles and strategies were derived from one year's experience of online instruction and survey feedback from students from two classes, anecdotal feedback from the university community about the online learning experience, and observations about the management of online classes as a parent of an incoming freshman. One of the main problems with online learning is that students struggle to take note of and process all their requirements across multiple courses. Instructors can help students focus on learning by stating all course requirements and expectations from students explicitly in the syllabus and on the learning management system from the very start. From observation, some course requirements are practically hidden in the learning management system. It also helps when various actions of the instructor are predictable such as when announcements are made and when recordings are posted. Over the course of the term, some changes may be inevitable and when such changes are made, it is important that students are explicitly informed of the changes through an announcement both in-class and on the learning management system. Other suggestions to make online learning effective are to use the Canvas calendar which will allow students to see their requirements across different subjects. It also helps when the titles of entries on Canvas start off with dates to help students pace their learning. It is also advisable to use the Syllabus Page as the Home Page on Canvas because this will include the course timeline at the bottom. It also helps to create one page which contains the hyperlinks for everything needed in the class including links to the relevant Canvas pages, readings and other resources, assessments, and these should all be arranged by dates. By organizing the learning management system and making everything explicit and predictable, students can concentrate on learning the course material.

Keywords: Online learning; Learning Management Systems; Course Design

Paper ID 13

Designing Virtual Reality Experiences in Education

Ramesh Chander Sharma

ABSTRACT

Pedagogy of student engagement embodies creativity, student autonomy, engagement, and metacognition. We have been working on developing a framework for transformed pedagogies by designing and creating virtual reality experiences for learners. These transformative learning experiences enable learners to learn creatively by exploring and experimenting; as active citizen by making choices, taking decisions, and solving problems; engaging intellectually by generating ideas; reflecting on their own learning, and by learning how to learn through metacognition. We created virtual immersive experiences for the students using real-world content (360-degree media), synthetic content (computer-generated), or a mix of these two. Our work involved creating virtual reality content for places of historical interest in New Delhi and other parts of India. Our work is a type of high-end virtual reality low-end extended reality. We are exploring the usability of this framework in different discipline areas within the framework of theory of cognitive fit and situated learning theory, which allow a greater degree of student engagement for life-enriching experiences.

Keywords: Virtual Reality, Pedagogy, Immersive Environment, MetaCognition, 360 degree media

Paper ID **46**

Trends of technique training with VR technology: investigating from public information of government

You-Bin KE[1], Ting-En WU[2], Chia-Hung LAI[1,3,*] and Shu-Hsien HUANG[4]

[1]Department of Sheet Metal, National Tainan Industrial High School, Tainan, Taiwan, R.O.C.
Department of Industrial Education and Technology, National Changhua University of Education, Changhua, Taiwan, R.O.C.
Department of Engineering Science, National ChengKung University, Tainan, Taiwan, R.O.C.
[3] Department of Information Management, National Chin-Yi University of Technology, Taichung, Taiwan, R.O.C.
*Corresponding author

ABSTRACT

With the progress of the times, virtual reality has gradually developed and matured, occupying a very important place in many fields. We have seen many top universities continue to develop in this field. The application of virtual reality involves education, medical treatment, rehabilitation, training, Internet of Things(IOT), etc. Common teaching strategies teach students in project based learning. Project based learning implemented that students have a complete structure for discussion production to analysis. Virtual reality has great potential in education, allowing students to simulate, without being disturbed by any time, place, or other factors. In order to cultivate educational talents who can use virtual reality as a special topic. The purpose of this research is to collect and analyze the development trend of virtual reality in the past three years, so as to enter this field as soon as possible. Using public information from the government as the basis of information to explore and understand trends of virtual reality. This research discussed in the following can be more innovative, and the results of the project are expected to determine the development trend and invest in the future research. The Ministry of Education in Taiwan actively develops virtual education and encourages cooperation among universities, professional schools, high schools and related institutions. Develop virtual reality or augmented reality teaching application teaching materials that meet the needs of primary and secondary school teaching. As needed, projects develop domestic self-made teaching materials, support classroom teaching applications, and train colleges and universities to develop talents. Then through the teaching and use of the curriculum, it helps to improve the understanding and learning effect. At the same time, it has a complete learning concept of high-level, high-interaction, and high-quality quality. The research indicated that the Ministry of Science and Technology and the Ministry of Education are actively developing virtual reality. In the past three years, 585 virtual reality developments have been subsidized, including 205 in 108 years, 206 in 109 years, and 174 in 110 years. Among the 585 grants, 19 grants exceeded NT$10 million. Among these 19 people, there are 1 in society, 2 in medical treatment, 16 in labor, and 2 in medical treatment. The number of competent departments is: 6 more in the Ministry of Science and Technology, 5 in the Technology Department of the Ministry of Economic Affairs, 4 in the Industrial Bureau of the Ministry of Economic Affairs, 2 in the Control Department, the Ministry of Health and Welfare, 1 Water Resources, Department of the Ministry of Economic Affairs and 1 Ministry of Economic Affairs. 1 case from the Ministry of Commerce.

Keywords: Trends, Virtual Reality, Public Information

Paper ID 50

Using Augmented Reality to Enhance Learning Experience in a Chemistry Laboratory

Jayden Ang, Shao Shi and Wai Ming Kong

ABSTRACT

Hands-on learning is a well-established model of learning in chemistry as it increases students' understanding of concepts taught and develops practical skills. To improve students' learning experience, pre-laboratory materials ranging from the traditional written experiment manual to more interactive materials such as videos are used. These materials improved students' understanding of the experimental procedures. Augmented Reality (AR) is an immersive technology where the physical and virtual worlds co-exist. User experience is enhanced by interacting with both real and digital objects, making learning interactive. Compared to virtual reality, AR retains the real-world environment to provide students with a more realistic experience. The clock reaction is commonly used in teaching laboratories to illustrate the concept of chemical kinetics. The experimental procedure is lengthy, and observations can be confusing for students conducting the experiment for the first time. To ensure students have a better understanding of the procedure, a mobile AR application was developed using three software (Unity, Blender and Vuforia). Markers, any form of a figure, are placed on the laboratory apparatus and water was used as a replacement for chemicals in the experiment. In this project, students used the AR application prior to performing the actual experiment. At the end of the session, a survey was implemented to understand their user and learning experiences while using the AR application. The survey items were divided into three variables which included interest, user-friendliness and usefulness. More than 90% of the students found the AR application interesting and useful while 86% of the responses indicated that the AR application was user-friendly. While using the AR application, some students feedback that the digital objects would flicker. This could be improved in the future by using non-marker technology or with a more defined marker. With the AR application, the instructor observed fewer mistakes leading to reattempting of the experiment were made. This reduced the additional time and resources required. Besides improving the learning experience, the AR application would allow virtual experiments to be conducted in non-laboratory settings. This is especially useful in times when learning is disrupted such as school closure leading to home-based learning.

Keywords: Augmented reality, Learning experience, Laboratory-based learning, Mobile learning

Day One-30 November 2021

Parallel Session 2 | Room 1 | Session Theme: Online Learning

Paper ID **33**

Students' Reflection on Sandwich-like Online Teaching Methods in the Nutrition Class

Tippawan Siritientong[1*]

[1]Department of Food and Pharmaceutical Chemistry, Faculty of Pharmaceutical Sciences, Chulalongkorn University, Bangkok 10330, Thailand
*Corresponding author, e-mail: tippawan.s@pharm.chula.ac.th

ABSTRACT

A nutrition class consists of basic contents and implementation in consumer or patient counseling for 3rd year pharmacy students. The objective of this study was to design the sandwich-like online teaching methods; including flipped classroom, think-pair-share of case-based learning and a short briefing, on this topic through zoom and Echo360 platform during the COVID-19 epidemics. Basic core contents about food and nutrition; providing all handouts and relevant documents were uploaded onto the online classroom as VDO clips in Echo360 for a week in advance. All students were informed to freely set their own learning time, learning speed, learning place with unlimited number of view cycles, then completed the exercise via google form. In the live 2-hour zoom meeting, the students were divided into small groups to discuss about the role carbohydrates, proteins, fats in health or disease, answer the questions in the case studies. Case studies were sequentially brought up to discuss among students in the whole class to share their opinions. At the end of the class, the instructor provided formative feedbacks and a short briefing about core conceptual knowledge. Student self-assessment, satisfaction, and reflection on the class were evaluated.

Eighty-seven 3rd year pharmacy students in pharmaceutical care program in the first semester of 2021 were enrolled. Almost all students (86/87) learned the online contents and completed the exercise in time. Of ten-point full score, average instructor's teaching score was 9.13±0.87. Students self-assessed recognition score was 8.88±0.95. Average satisfaction score in the teaching materials was 9.14±0.95. There were 3 students (3.45%) preferred the live lecture rather than VDO clip so that they could ask the question right away. Seven students (8.05%) suggested that they needed longer time for small group discussion. Sense of humor, regular speed, voice pitch, and emotion of the teacher were the important components to gain more learning engagement from the students. The relaxation of learning atmosphere would let the students voluntarily participated in the case discussion. Many students expressed that they broaden the content implementation from other peers during the group discussion. Students also suggested that this sandwich-like online teaching methods should be continuously applied on the other topics due to comfort learning atmosphere to share learning contents with friends.

Keywords: Flipped; case; brief lecture; reflection

Paper ID 34

Applying Design Thinking to Build an Engaging Online Course

Xuzhe Wang

ABSTRACT

These days, all the teaching and learning activities were forced to move to a remote environment, almost overnight, due to the COVID-19 outbreak. Instructors had to quickly accommodate mindset, transited courses into an online format, and got the appropriate knowledge of strategies, methods, and tools to make the experience effective for learners as well as satisfying for instructors. However, the overwhelming workload to the instructors and effort made sometimes did not receive sound feedback from the students. Complaints about the online delivered courses from students made our instructors struggle again with building an online course that can meet the students' needs to make them feel engaged. Design Thinking seems to provide a solution for the course builders or instructors. A design thinking curriculum immerses students and teachers (i.e., the designers) in real-world problem-solving. The journey begins with empathy work—an opportunity for understanding the needs and motivations of our students. And the designers then will use this data as a guide to work collaboratively to define a problem, brainstorm solutions, design a prototype, and test their product. The current presentation will look at the struggles that our students are facing in online learning and propose using technology and design thinking ideas together to create a quality online learning experience to ensure our students' success in online learning.

Keywords: Design Thinking, online teaching and learning, technology

Paper ID 52

Using Learning Analytics to Measure Student Engagement and Learning Outcomes in 'Virtual Tutorials'

Dave GATRELL[1,*], CHAN, Chun Sang[1] and Albert CHAN[1]

[1]The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong
*Corresponding author

ABSTRACT

Before the onset of COVID-19, researchers from the Educational Development Centre and teachers from three academic departments at Hong Kong PolyU designed an institutional project to explore the use of learning analytics for measuring student engagement and learning outcomes in 'virtual tutorials'. Virtual tutorials are sequences of learning activities that use a purposeful combination of synchronous and asynchronous online learning technologies, either outside of traditional face-to-face lectures or in place of them. As with conventional in-person tutorials, these virtual learning sequences can enable students to engage with course materials, interact with peers and teachers and reflect on their learning. Yet they may provide additional benefits: flexibility, immediate automated feedback and opportunities for repetition. Virtual tutorials can also help students access more varied multimedia resources, while discussion forums, interactive video software and videoconferencing platforms can facilitate novel forms of interaction between students, teachers and content (Bower et al., 2015; Garrison et al., 2000; Scagnoli et al., 2019).

One of the greatest challenges in virtual tutorials is ensuring that students are actively engaged and learning. To address this, the project uses learning analytics based on 'trace data' (Kovanovic et al., 2015) from the University's online platforms to provide teachers with reports on the frequency of different actions for students in each tutorial. This is combined with data from surveys, showing students' perceptions of each tutorial and the constituent learning activities, and teacher reflections on the design and delivery of each tutorial. This mixed-methods approach provides evidence of the impact of virtual tutorials on student learning and engagement and supports teachers in monitoring and managing learning and enhancing the quality of their teaching. Chi and Wylie's (2014) ICAP framework is also used to categorise individual activities and measure their impact on engagement.

This paper, drawn from the project, presents case studies of distinct approaches to virtual tutorial design. It highlights the value of using learning analytics, triangulated using findings from student surveys and teacher reflections, to evaluate the impact of virtual tutorial learning design on learning outcomes and student engagement.

Keywords: Learning analytics; virtual tutorials; asynchronous online learning; synchronous online learning

Paper ID 55

Social and Emotional Learning in STEM

Voltaire MISTADES[1]

[1]De La Salle University, Manila, Philippines
*voltaire.mistades@dlsu.edu.ph

ABSTRACT

The COVID-19 pandemic brought physical, mental, emotional, social, spiritual, and financial challenges to students and teachers. The presentation is anchored on the five core social and emotional learning (SEL) competencies — self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. In today's rapidly changing, complex, and diverse world, how do we equip our learners with the knowledge, skills, and attitudes that they need? Research has shown that the development of SEL competencies facilitate positive social behaviors, academic performance, and social relationships. Given the challenges that the COVID-19 pandemic has brought to our Science, Technology, Engineering, and Mathematics (STEM) classrooms, this presentation will offer insights that can contribute to helping teachers and students navigate through these challenging times.

Keywords: social and emotional learning; COVID-19 pandemic; STEM learning;

Paper ID 56

e-escape Rooms- do students really find them engaging and effective?

Agnes Ng

ABSTRACT

Purpose:
An action research presentation to share findings from a survey of first year students across 5 schools doing Effective Communication Skills at Nanyang Polytechnic, Singapore, after they have accessed an e-escape room e-learning package on the topic "Report Writing".

Method:
Firstly, an e-learning package styled along an escape room concept was done using Articulate Storyline. An online survey was then conducted to shed light on the following:

- If students find e-escape rooms engaging and effective
- The elements which students find engaging
- If students across different schools differ in their perceptions and expectations
- Any other insights

Results from 763 respondents from across 5 schools in Nanyang Polytechnic were analysed.

Conclusion:
Overall, more than 90% of those surveyed found the e-escape room engaging and effective in helping them understand the content.

Recommendations/Future directions:
Students do find e-escape room type of elearning refreshing and innovative, so it is worthwhile to include such concepts. Other learning points gleaned are i) pitching ii) variety and iii) novelty.

Keywords: e-escape room, digital escape room, online learning

Paper ID 60

Predictors of Academic Performance in Online Medical – Surgical Nursing Class Among Student Nurses in a Private University

**Sumanting, John Paul E., Siva, Emira Janelle M.,
Taton, Therese Marie P., Trabasas, Jann Messiahs S.,
Velez, Chrisxanne M., Yabut, Jerard D., Sale, Melba C.**

ABSTRACT

Online learning has become the student's new form of education as the Covid-19 pandemic rapidly spreads and disrupted the school's program. How to ensure the quality of online learning and the attainment of learning outcomes in institutions of higher education can be considered an enormous concern since teachers and students have already been used to face-to-face learning. Hence, this study sought to determine the predictors of academic performance in online Medical - Surgical Nursing class among Level 3 student nurses in a private university in Iloilo City.

This descriptive and predictive correlational study was participated in by 163 Level 3 student nurses chosen through stratified random sampling from the total population of 271 student nurses. Data were gathered using a researcher-made instrument. Descriptive data analysis was done using frequency distribution, percentages and mean. Inferential statistics used were

Pearson's Product-Moment Correlation Coefficient, Cramer's V, Phi coefficient, and Multiple Regression Analysis all set at .05 alpha.

The student nurses studying in a private university are predominantly 21 years old and below, female, residing at Iloilo Province, and belonging to upper middle-class family. These student nurses have received poor family support. Most of them have full internet accessibility and seldom experience power interruptions. They have an alternating attention span, a moderate study load, and an average level of academic performance in Medical-Surgical Nursing subject. Socio-demographic characteristics, family support, internet connectivity, attention span, and study load were found out to have no significance on the academic performance of student nurses. It revealed that among the six predictors: family income, family support, internet accessibility, power interruption, study load, and study habit, it is the study habit of respondents that significantly influence their academic performance in Medical-Surgical Nursing subject at .05 level as shown by the beta coefficient of .193 and p-value of .018. The beta coefficient showed that for every positive change in the study habit of respondents there is a corresponding increase of 19.3 percent in their academic performance in Medical-Surgical Nursing. Study habit is the strongest predictor of academic performance of student nurses in Medical - Surgical Nursing subject.

Keywords: Academic Performance, Family Support, Internet connectivity, Medical-Surgical Nursing, Online Class, Study Habit

Paper ID 61

Barriers and Levels of Motivation in Online Learning of Student Nurses in a Private University

**Limsiaco, Christel Dawn C., Juele, Bruce Raymond L,
Leong, Jade Alexandra G. Licera, Colleen Kate D.,
Macuja, Kryst Ian O., Magallon, Andrea Jean B.,
Magbanua, Jaehazle C., Delariarte, Rosana Grace B.**

ABSTRACT

The sudden shift to online learning, brought about by the COVID-19 pandemic, can be a big challenge to students who are used to being in a physical classroom. This study determined the barriers and level of motivation on online learning among student nurses in a private university in Iloilo City, Philippines.

This descriptive-correlational research was conducted among 283 students from all levels in the College of Nursing, chosen through stratified random sampling. Two researchermade instruments were used to gather data on barriers and motivations towards online learning. For descriptive analysis, frequency, percentages and means were used. Inferential analysis utilized Chi square test and Pearson's r, both set at .05 alpha. This research was approved by the University Ethics Review Committee.

Results showed that technological and psychological issues were considered as "barriers" while geographical and socioeconomic issues were "somewhat a barrier". Generally, student nurses appeared to be "highly" motivated towards online learning. They were highly motivated because for them, studying nursing is not waste of time, enrolling in this course is a privilege, they want to finish requirements before deadline, to participate during lectures, it is what their parents wanted, they want to show that they can perform tasks despite the circumstances and they want to achieve good grades to maintain scholarships. They were slightly motivated by reading activities. There was a negative and significant relationship between psychological barrier and the level of motivation in online learning among student nurses. This inverse relationship seemed to show that student nurses who are facing more psychological barriers are less motivated and those who experience less psychological barriers are more motivated towards online learning. No significant relationships existed between socioeconomic, technological, and geographical barriers and the levels of motivation in online learning among the student nurses.

Student nurses face barriers on online learning to certain degrees. Despite these barriers there are multiple intrinsic and extrinsic motivations, the reasons why student nurses are driven in online learning. This study showed that motivating students is not only about technological concerns. It also requires the maintaining communication and strong relationships as to manage the student nurses' motivation to learning and deal with the barriers related to online learning. Understanding barriers and motivations might help student nurses become more passionate and satisfied with their online learning activities.

KeyWords: On-line learning, Barriers to Online learning, Motivations to Online Learning COVID-19, Student Nurses

Paper ID 111

Borderless Lab 365: A Student-Centered Learning Science Platform to Enhance STEM Education

[1]Wang Fai CHENG, [1]Ka Lai WONG, [1]Ming Tak SZE, [1]Siu Hong CHOY, [1]Kwok Lung JIM, [1]Chi Wah LEUNG and [1]*Chee Leung MAK

*c.l.mak@polyu.edu.hk
[1]Department of Applied Physics, The Hong Kong Polytechnic University, Hong Kong SAR, China

ABSTRACT

Due to COVID-19 pandemic, distance learning is inevitable and technology is greatly incorporated in education. However, it is challenging for science educators as there are more physical and instrumental constraints in laboratory learning than usual. A real-time web-based remote laboratory platform with the aids of digital sensors, cameras and actuators provides more experimental opportunities for high school students anywhere/anytime breaking the limitations.

Current project is to develop and implement a real-time remote laboratory platform, namely Borderless Lab 365 (BL365) which is a systematic, centralized experimental platform covering various topics in Physics, Chemistry, and Biology. Selected experiments are either not normally installed in secondary schools, such as radioactive or those fail to yield satisfactory experimental results, for example, interference. Through the server, the remote experiment setups residing in the University receive commands from users and make responses. The users, in return, will control/monitor the experiment via live cameras, as well as retrieve data obtained by the sensors.

Interference is one of the well-received experiments. Parameters can be adjusted by users to observe the interference patterns formed by laser light passing through single, double or multiple slits; and the students examine the effect of the wavelength of light and slit width on the interference pattern. It stands out from virtual lab using computer simulations that the randomness, imperfections and errors arisen in real experiments can be investigated and experimental skills are needed. This hand-on experimental experience consolidates the scientific knowledge during classes.

101 participants aged between 13 and 19 from five secondary schools were invited to complete a user survey after performing interference experiment on BL365. Positive feedback was received. Students agreed that the platform was innovative. It helped them possess a better understanding in specific topics and encouraged them to learn new things. They were satisfied with the learning experience, which implied this BL365 platform is a potential learning tool for self-regulated learning.

Keywords: remote laboratory; STEM education; student-centered learning

Paper ID 86

The acceptance of online inverted classroom model and peer assisted learning among ophthalmology graduate students

[1,2]Pear F. Pongsachareonnont, MD, MPH*, [1,2]Disorn Suwajanakorn, MD, [2]Parima Hirunwiwatkul, MD, [1,2] Wijak Kongwattananon, MD, [1,3] Anita Manassakorn, MD, [1,2]Kittisak Kulvichit, MD, MSc, [2]Wasee Tulvatana, MD, MSc.

[1]Vitreoretinal Research Unit, Faculty of Medicine, Chulalongkorn University, Thailand
[2]Department of Ophthalmology, Faculty of Medicine, Chulalongkorn University and King Chulalongkorn Memorial Hospital, Thailand
[3]Glaucoma Research Unit, Faculty of Medicine, Chulalongkorn University, Thailand
*Corresponding author

ABSTRACT

Critical Appraisal required a wide range complexity skill, as well as the indeterminate character of contents. It is important for a critical appraisal classroom to emphasize the outcome that students can understand what they read in preference rather than to demonstrate only what is in articles. Moreover, along with the pandemic situation, a virtual classroom has become necessary worldwide, including in Chulalongkorn University as well. The aims of this study were to evaluate an acceptance and satisfaction among ophthalmology students and faculty members of an integrated online inverted classroom and peer assisted learning methods. The study started with multiple interventions to the classroom including transformation from face-to-face classroom to virtual class, integration of peer assisted learning classroom with participation of highly qualified experts, combining flipped classroom method and adding dialogic teaching by an incharge instructor. Class participants were asked to complete the surveys related to quality of class, acceptance of the remote teaching platform, attitude toward class environment and open end questions for quality improvement. The surveys were acquired at baseline (time0), half way of the course (time1) and after the completion of the course (time2) . The results showed 35% of participants prefer in-class study at time1 then the number dropped down to 17% at time2. Along with this, about 26% preferred to abandon the virtual class at time1 which declined to only 11% at time2. The class satisfaction rose up from 76% at time0 to 95% at time1. Also, less than 10% of participants enjoyed the class while the proportion increased to 58% after the class intervention. Interestingly, there was an 86 % reduction of the members who reported monotonous class discussion at time1 compared to time0, followed by an incline of this rate at time2. More than 85% of class members reflected the useful discussion content of a statistician class participation. In summary, our study demonstrated an increase of positive acceptance of virtual classroom in the course of time. The multidisciplinary audiences helped to enhance the practical class contents in this critical appraisal course. Furthermore, class activities should be modified after the students gain higher skills to maintain the delightful study environment.

Key words: Critical appraisal, peer assisted classroom, flipped classroom

Paper ID 35

Lived Experiences of Subanen Learners in Remote Learning

[1]Grace B. Tagapan, [2]Argea Joy E. Galleposo and [3]Trisha Angelica D. Cabrera

[1]gracetagapan7@gmail.com, [2]argeagalleposo17@gmailcom, and
[3]trishacabrera0402@gmail.com
Senior High School Department, Zamboanga del Norte National High School Faculty,
ZNNHS, Dipolog City, Philippines

ABSTRACT

Students in remote areas struggle to meet the obstacles posed by this new form of learning, which pushes their limits in order to meet the academic standards set by the educational system today. The goal of this study is to determine the adaptive strategy of students in rural communities in the presence of the COVID-19 pandemic. The study specifically sought the barriers and coping mechanism of the Subanen students. Case study design was used for this research and utilized quota sampling technique. During the data collection procedure, the researchers created a series of questions that served as a guide in conducting the semi-structured interview. The researchers were able to collect three (3) themes for the barriers in learning namely: Lack of technological devices, Absence of learning space at home, and Difficulties encountered with self-learning modules. And five (5) themes for Coping Mechanism namely:

Perseverance, Relaxation, Trust, Self-regulation, and Asking for social support. The findings conclude and revealed that students do better academically when they cope well with educational burdens and continue to overcome personal challenges. Despite the challenges that these students face, it is clear that when they have good coping skills, it improves their class attendance and persistence even when faced with setbacks or failure in general, and equip them with a stronger, more resilient self that leads to a much more positive learning experience. The researchers absolutely recommend students living in relatively remote places to use active and passive coping mechanisms to deal with academic and personal difficulties.

Key words: Subanen; Coping mechanism; remote learning; COVID-19; barriers

Paper ID 45

Integrating Adaptive and Intelligent practices for an active E-learning environment

Dr. Siby Samuel[1,*], Dr. Mary Raymer

[1]Department of Computer Science,St. Aloysius College (Autonomous), India [2]Department of English,St. Aloysius College (Autonomous), India
*Corresponding author

ABSTRACT

E-learning offers many benefits over traditional learning environments, namely remote learning with no constraints to place, distance and no constraints of time, self-time pace. Almost for decades, there were thousands of web-based courses and remote accessed educational applications; however, the problem is that most of these are nothing but a network of static hyper textual information. Among the learner fraternity, a large number of learners have different learning styles, coming from diverse backgrounds, and having different learning goals. Therefore, it is a challenge to create fit to all e-learning environments, improve learner engagement, upgrading to modern tech, and designing an e-learning curriculum for different levels of learners.

The purpose of this research presentation is to study and develop Web-based learning environments that are adaptive and intelligent; adaptive learning that will meet the diverse social and academic needs of students and an intelligent system that will design instructional activities based on the learners' behavior to provide an active learning environment.

Learners coming from diverse areas experience difficulties in understanding and in keeping with the pace of the class. So it is essential to advocate the use of personalization and also making the learning systems that dynamically assess and adapt to the student's knowledge and ability levels. To meet the needs of students with varying backgrounds and abilities is a challenge. We propose a Recommendation based system that can be employed within the education domain to support educational practices. This system will assist in gauging the students' knowledge level, individual characteristics (cognitive and learning styles), and their preferences (independent variable) and map with appropriate learning materials and methodologies and assessment (dependent variables) by integrating and adaptive and intelligent (machine learning) techniques in E-learning to support learner-centered active learning.

This system will help to predict the behavior and interests of the learners and accordingly the classroom curriculum can be developed to improve diverse students' learning efficiency. Further, this system can augment positive self-perceptions of the holistic development of the students towards education and to the wider community

An adaptive and intelligent recommender system can automate the understanding of the student diversity in a classroom, choosing an appropriate level of difficulty of the curriculum, selecting the methodology of teaching, the right mix of exercises, to predict and attain the outcome, and performance of the students. These conclusions can be represented in the graphical front end and provide status and feedback to the students.

The Adaptive online learning system can profit by anticipating the students' performance by understanding the differences in learning styles and abilities of the diverse students, thereby, avoiding the use of the "one style fits all" concept.

We would like to explore our paper in the future direction by making use of the factor of intelligence in the Recommendation system that can predict learners' unknown favorites so that it can provide recommendations beyond a simple search.

Keywords: adaptive, intelligent, recommender system, diversity, learning styles

Paper ID 48

Progressing towards an effective online learning environment building positive attitude among students of higher education

Dr. Sr. Stella Mary fmm[1], Lt (Dr.) Jayalakshmi[2], and Ms. Kaviya Nijaritha[3]

[1]stellamary@stellamairscollege.edu.in
[2]jayalakshmi@stellamariscollege.edu.in
[3]kaviyanijaritha@stellamariscollege.edu.in

Department of Economics, Stella Maris College (Autonomous),
17, Cathedral Road,Chennai, India.

ABSTRACT

The Covid 19 pandemic has transformed the entire system of education from being class room oriented to completely technology dependent. In India, online education's or learning platform's Compounded Annual Growth Rate has been estimated as USD 1.96 billion by KPMG (KLYNVELD PEAT MARWICK GOERDELER)**.**The educational institutions across the globe were shut down for several months and have been conducting online classes for their students due to various restrictions imposed by the government. The online system of education has imposed varied challenges on the educators and the students. While online learning is flexible, time-saving and facilitates use of technology with creativity, it is not free from draw backs. Accessibility, affordability, infrastructure and attitude of the students towards online system of education are primary challenges to digital learning.The primary objective of this study is to understand the students' perception towards online classes and identify their needs and challenges faced by them and their satisfaction with respect to various attributes of online learning.The study is based on the data obtained from the students of one of the predominant catholic minority institutions in the city of Chennai, India. Information about various aspects of online education have been collected from students of various departments of the institution through a structured google form questionnaire. The study also enumerates the usage of technology before and during the pandemic. A factor analysis has been carried out to classify the factors influencing students' satisfaction. An ordinal regression has been used to establish the relationship between students' attitude towards online learning, their perception, health effects and their level of satisfaction. The study also explores the association between several factors influencing the effectiveness of online learning. Based on the responses from the students, the study proposes some initiatives that could be implemented in the online learning environment for effective learning outcomes.

Key words: Online learning, Educational outcome, Students' satisfaction, Perception, Attitude, Challenges,Effective learning.

Paper ID 152

Designing a Back-to-School Hybrid-Flexible mode of learning in the Philippines: A Systems Thinking Approach

Arne Barcelo, Mille Andrei De Leon and Jan Noffe Rollon

University of Santo Tomas

ABSTRACT

The COVID-19 pandemic makes it difficult for educational institutions to strategize appropriate plans to improve and deliver quality education. The educational sector in the Philippines is facing a "learning crisis" after a year-long lockdown and the closure of schools. However, educators remain committed to ensuring that education thrives with the challenges hybrid-flexible setup or known as hyflex mode of learning brought by the COVID-19. The Back-to-School program of the Commission on Higher Education (CHED) prepares the Higher Education Institutions (HEIs) for hybrid mode classes during or after the COVID-19 Pandemic. The program allows HEIs to hold onsite classes for several universities in compliance with the CHED-DOH guidelines, however the current plan is still in silos, making it not effective enough to implement. Silo mentality exists in educational organizations in the country. Silos refer to the presence of barriers to communication and implementation, where different entities hide essential information from others for various reasons such as lack of understanding between the academic entities, lack of training, competition for resources among others. On the other hand, cultivating a Systems Thinking discipline creates clear and healthy communication, and being able to understand and solve a complex problem.

The purpose of this research was to explore the Systems Thinking approach in planning for Back-to-School-Hyflex-mode. Systems Thinking is a science or a principle to understand the relationship between the parts of the system. There are different interrelated parts in the Systems Thinking in Education which are (1) laws and regulations, (2) funding and funding policies, (3) schools and administrative offices, (4) teachers and staff, (5) books, computers, and instructional materials, and (6) students, parents, and communities. In a HyFlex mode, courses are delivered both in person and online at the same time by the same faculty member. Students can then choose for each and every class meeting whether to show up for class in person or to join it online, the classroom needs to be set up with, at minimum, a camera, videoconferencing capabilities and some way of interacting with the students at a distance. (Maloney and Kim, 2020)

Applying the Systems Thinking method in implementing the back-to-school program helps to understand how stakeholders, decisions, laws, regulations, and even underlying problems are connected. If problems or issues are not addressed, they repeat and grow more, causing unexpected consequences. Systems Thinking is a different kind of approach used in designing a comprehensive plan for back-to-school-hyflex programs.

Keywords: systems thinking; silos mentality; back-to-school; comprehensive plan; hybrid-flexibility mode

Paper ID 54

Incentivize Students in Hybrid Class Mode by Flipped Classroom Approach

Vincent, K.K. Leung[1]

[1]Department of Management and Marketing,
The Hong Kong Polytechnic University,
Hong Kong
* Vincent, K.K. Leung

ABSTRACT

Scant research on hybrid teaching is currently available for teaching university business students. This paper aims to add another perspective of conducting hybrid education for business students, to supplement extant research on hybrid teaching in engineering, linguistics, sports and technology, etc. The universities in Hong Kong decided from the beginning of the new semester in September 2021 to accept students coming back to the classroom or attending online, as some overseas students may still face difficulties in travelling. This teaching arrangement is known as the hybrid, which means that instructors will simultaneously deliver the learning and teaching face-to-face (f2f) in the classroom and online.

To enhance students' learning effectiveness, we posit that applying the flipped classroom practice will allow students who attended the hybrid class to be more engaged in discussion and learning activities. The purpose of the flipped approach is to free up more class time for discussion and interaction. It is a student-centred approach to let instructors and students conduct collaborative learning and incentivize more students to attend in person.

This research used a 13-week semester course in strategic management with around 150 undergraduate students as the sample. The instructor used video capturing software to prepare preclass videos of the course content with edited captions and uploaded them to the Learning Management System (LMS) several days before the class for students to review each week. During the hybrid class, the instructor will adopt action and experiential learning techniques such as competition, role play, scavenger hunt, make something and live case studies to make students act to learn. The online participants can join the activities with the help of e-learning tools and other classroom technologies. Likewise, the in-person participants can also interact with the online participants using the e-learning tools. The rationale of all the activities is to reinforce the concepts discussed in the pre-class videos and aim to facilitate students to learn deeper and developed a good impression about the applicability of the ideas. All hybrid lectures will be video-taped and uploaded to the LMS for students' reference.

Data were available from the LMS, such as the number of views of the pre-class video. The author observed the trends of class attendance and compared the ratio between online and in-person attendance. The author also collected feedback from students regularly as the artefact of their learning experience. The author made conclusions and further recommendations.

Keywords: hybrid teaching; flipped classroom; action learning; experiential learning; e-learning

Paper ID 58

From the Body Offline to the Learning Online: Exploring Ways to Employ eLearning for Drama in Education

Amy Lee

awslee@hkmu.edu.hk
School of Education and Languages, Hong Kong Metropolitan University,
Hong Kong SAR

ABSTRACT

As the world has been immersed in the pandemic conditions for almost two years, educators and learners have also gone through different stages of eLearning, despite possible differences in experience at the beginning of 2020. While the initial months were a period of exploration and also confusion, as we went along, both educators and learners had acquired new methods and new skills in interacting with one another without our usual face-to-face encounters. At this point of our forced online learning journey, many are still claiming that certain subject areas/skills have to be learned face-to-face, as there are no replacement modes. This presentation is not an attempt to answer the question of what can or cannot be taught using an entirely online approach, but instead to share some experience on what can be done using this mechanism. Looking back on these two years, what came out of these exploratory experiences is not just more e-Learning tools available, or more mature skills in maintaining a good rapport with our students with whom we no longer share the same physical space during these interactions. Most importantly, we have to go back to ask the core question of what we are trying to get our students to learn, while all these external factors and conditions are changing. In this presentation, I will reflect on an experience of co-curricular learning through using Playback Theatre, during the second half of 2020, when face-to-face teaching was not possible. It was an exciting experience of learning, not just for the learners, but for the educators too, because the theatre art has always been considered as the most physical and "present" medium. During the pandemic, we were obliged to seek alternative ways to do drama in education, and the results were encouraging, in terms of showing the value of the learning, and the possibilities to take us further.

Keywords: drama in education; doing drama via zoom; empathic listening; (emotional) presence; therapeutic experience

Paper ID 49

Teachers' Perspectives towards E-learning Assessment: A Study at Public and Private Schools in Semarang

[1]Tasya Errufana Azalea
[2]Ruben Carmelo Yustian Purba
[3]Elsa Mutiara Fiscarani
[4]Dr. Heny Hartono, S.S, M.Pd.

ABSTRACT

In this pandemic situation, teachers have to conduct assessment for the students virtually. Although e-learning assessment is quite challenging, assessment cannot be ignored because it is used to know the students' understanding towards the materials given and to measure the success of the teaching itself. The assessment helps teachers evaluate and improve their teaching. As the e-learning requires teachers to conduct online assessment, there must be some challenges faced by the teachers in preparing and conducting the online assessment. This research aims to find out how elementary school teachers in both public and private schools perceive the elearning assessment. These perceptions are considered based on some specific aspects such as their feelings in preparing and implementing their e-learning assessments, the obstacles and satisfactions to the results. Further, this study aims to see if teachers from public school teachers and private school teachers perceive the e-learning assessment differently. This research used mixed methods by which closed ended questionnaire, observation, and interview were used as the instruments. The findings of this research provide valuable input for the teachers and their schools in conducting e-learning assessment particularly in terms of objectivity, practicality, and effectiveness.

Keywords: Perceptions, e-learning assessment, teachers, public and private schools

Paper ID 40

Students' Perception on Remote Laboratory Instruction in Evolutionary Biology: A Qualitative-method Approach

Hao Wei C. Hsu[1,3*], Cecilia Banag-Moran[1,2], Sam Dominic A. Binag[1], Nino Andree Louis E. Caguimbal[1], Nikki Heherson A. Dagamac[1,2], Yñigo Luis C. Del Prado[1], Alyssa Marie A. Lola[1], Crissa Ann I. Lilagan[1], Russel Evan L. Venturina[1], Maria Isabella J. Escobar[1]

[1]Department of Biological Sciences, College of Science, University of Santo Tomas, España, Manila, Philippines 1015
[2]Research Center for the Natural and Applied Sciences, University of Santo Tomas, España, Manila, Philippines 1015
[3]Educational Technology Center, University of Santo Tomas, España, Manila, Philippines 1015
*Corresponding Author

ABSTRACT

Despite the challenges of the abrupt transition from traditional classroom setup into purely online teaching and learning, students and instructors have now successfully transitioned into this new mode of teaching and learning due to the prolonged ramifications of the COVID-19 pandemic worldwide. A constructively-aligned course plan grounded on sound instructional principles was designed specifically to target this new normal mode of teaching to help students meaningfully understand key concepts in evolutionary biology by utilizing software-based such as complete simulation platform and analysis software focusing on online teaching. Evolutionary Biology Laboratory is a 2-unit laboratory course offered to 2nd year B. Sc. Biology students of the University of Santo Tomas, which deals with learning concepts about the theory of evolution consisting of both traditional experiments and virtual simulations of various evolutionary concepts. The goal of this study is to assess the efficacy of developed online laboratory activities using the appropriate chosen software as a tool for distance teaching and learning based on the student experience. A total of 284 students from nine sections (seven Medical Biology, one Industrial Biology, and one Environmental Biology) were able to completely evaluate the four laboratory exercises provided to them during the 2nd term of the Academic year 2020-2021. The exit survey results revealed that the course plan provided clear learning objectives and the course teaching, learning, and assessment strategies were appropriately aligned and constructively-designed to fit the target learners. The amount of cognitive workload was deemed to be appropriate for the semester and it allowed the students to fully participate in the laboratory activities. Evolutionary Biology can be taught in an enriched virtual mode due to the availability of a wide selection of free online applications and real-world data related to the subject. The use of free open-educational resources software as an alternative tool for the laboratory allows the students to further understand and apprehend the concepts complementing what is taught in the lecture. Carefully designed and analytical-based online learning activities can enhance students' critical thinking and creativity skills in metadata analyses. This study can serve as a reference for future course design and development for laboratory subjects in fully online, blended, or HyFlex delivery modes of instructions.

Keywords: evolutionary biology; open-educational resources; teaching strategies; constructive alignment; fully online course design

Paper ID 80

Effect of a Single-Session Out-of-Class Learning Cctivity on Learning Skill Attributes – A Quasi-Experimental Study

Kevin CHAN[1*], Cypher H. Au-Yeung[2]

[1, 2]The Hong Kong Polytechnic University, Hong Kong SAR
*Corresponding author

ABSTRACT

Purpose / Background

While demands for out-of-class learning activities to supplement remote lectures has sprouted during the global pandemic, efficacy of learning out of classroom and class time warrant further investigation. Current evidence on this type of pedagogy revealed that students engaging in synchronous and asynchronous learning activities outside of classroom and class time may yield benefits in improving learning authenticity through experiential learning, enjoyment, and motivation in the learning process.

In the higher education context, this study aims to find out how out-of-class activities effect on students' learning skills related to self-regulated learning and positive learning experience with students from an introductory level psychology course in a Hong Kong SAR university.

Methods

With a quasi-experimental design, students in the intervention group (n=141) were assigned to participate in an out-of-class learning activity about personality measurement, while control group students (n=160) were instructed to prepared for the class with conventional learning activities including reading and assignment.

Effect of participation in out-of-class learning was assessed with a self-reported online survey, administered after the learning activity. Learning skills were measured with constructs from the Motivated Strategies for Learning Questionnaire and The National Survey of Student Engagement. The nonparametric Mann-Whitney U test was used to analyze the differences in medians for data did not conform to assumptions for parametric tests.

Results

Improvement in median of extrinsic goal motivation between control group (4.50) and experimental group (4.75) reached statistical significance, ($U = 13298.5$, $z = 2.688$, $p = .007$_. Difference in median was also found in self-efficacy for learning and performance between control group (4.33) and experimental group (4.67), $U = 12966.5$, $z = 2.240$, $p = .025$. The median difference in time and study environment management was found to be marginally significant between control group (4.63) and experimental group (4.75), $U = 12737.0$, $z = 1.937$, $p = .053$.

Discussion and conclusions

Study results demonstrated that a single session of out-of-class learning activity could facilitate students' motivation to obtain better grades, promote their confidence in learning and performance, and potentially improve their study habits and efficiency.

Recommendations / future directions

While the study showed promising effect on a single intervention on promoting students' motivation and confidence in learning, additional research is required to determine the effectiveness of out-of-class learning activities implemented in a larger scale.

Keywords: out-of-class learning; quantitative; experiential learning; active learning; self-regulated learning

Paper ID 8

The Validity and Reliability of the Online Cooperative Learning Attitude Scales in the Indonesian Language

Elisabeth Rukmini, Arya Nugraha, Hanna Angelina and Dara Christianty

ABSTRACT

Interactive online learning requires students' cooperation. Online cooperative learning focuses on learning activities on group cohesiveness to achieve the highest cognitive level. Students can improve their teamwork skills, problem-solving skills, social skills, self-confidence, academic success, and metacognition levels through online cooperative learning activities. The Online Cooperative Learning Attitude Scales (OCLAS) scale is a tool to measure students' attitudes towards online cooperative learning. Education in Indonesia uses Indonesian as the language of instruction. Therefore the adaptation of measurement tools such as OCLAS into the Indonesian language is crucial. This study aimed to adapt OCLAS into Indonesian by translating the original OCLAS into the Indonesian language and determining the instrument's validity and reliability. The OCLAS has three main components: positive interdependence, individual accountability, and group processing for equal individual contribution. The original version contained 17 statements with responses using a Likert scale of five and seven points. We validated the OCLAS using the item-correlation method. The reliability was measured using the Cronbach's Alpha method, which is useful for measuring internal consistency. The original OCLAS was translated into the Indonesian Language. A language center in a prominent university performed the verification of forward and backward translation of the Indonesian OCLAS. The Indonesian-OCLA was distributed to 59 students at a private university from the pharmacy and non-pharmacy study programs and 275 high school students. The validation results showed seven invalid items for pharmacy students, five invalid items for non-pharmacy students, and six invalid items for high school students. The Indonesian-OCLAS has Cronbach's Alpha reliability with a value of 0.711 for pharmacy students, 0.791 for non-pharmaceutical students, and 0.702 for high school students. This study showed that ten out of 17 statements had good validity, and they were reliable. Therefore, we recommended the usage of the Indonesian-OCLAS toward high school and college students.

Keywords: online learning, cooperative learning, attitude, collaboration, student-centered learning, measurement

Paper ID 57

E-Learning Platforms and Students' Online Learning Satisfaction: The Moderation Role of Computer Self-Efficacy

HUMA AKRAM

School of Education, Northeast Normal University
Changchun, China
E-mail: xium087@nenu.edu.cn

ABSTRACT

The Covid-19 Pandemic forced the global closure of numerous activities along with education and shifted traditional education to an online version via several e-learning platforms. All of the e-learning platforms are mainly grouped into two categories, i.e., synchronous and asynchronous. This transition was unplanned for all educational institutions, due to which teachers and students had to face several teaching/learning challenges. The substantive situation thus raises the importance of investigating the learning satisfaction of students in both synchronous and asynchronous learning environments. Since the direct relationship of computer self-efficacy and e-learning satisfaction has been investigated, but its moderation role is unknown. Thereby a quantitative study was designed to assess the e-learning satisfaction of students with the moderation effect of Computer Self-Efficacy by using social cognitive theory. Closed-ended questionnaires were employed for quantitative analysis, and 672 students were selected through simple random sampling from different universities in Karachi, Pakistan. The data were analyzed through various statistical tests, i.e., (mean, standard deviation and T-test, Anova and structural equation modeling approach. The Findings identified that students showed satisfactory e-learning satisfaction in all e-learning platforms. However, showed significantly higher satisfaction in the synchronous learning environment, and Computer Self-Efficacy significantly moderates the effect of all the determinants of social cognitive theory. The highest relationship of learning satisfaction of students was found with the Cognitive Features ($r= 0.90$, $p< 0.01$), while the least correlation was found with Technological Environment ($r= 0.71$, $p< 0.01$). Correspondingly, the study mainly suggests that the learning process should be facilitated with a blend of synchronous and asynchronous e-learning modes by providing adequate institutional support to optimize their learning satisfaction. Besides, educational authorities should organize training programs for students to raise their digital competencies. Regarding the teaching approach, teachers should employ activity-based teaching Strategies for keeping students involved in the learning process. Conclusively, the findings of the study present a detailed overview of students' e-learning satisfaction and employment of e-learning platforms in the time of the COVID-19, which also contribute significantly to enhancing e-learning satisfaction in the post-pandemic era in higher education. In addition, the study also proposes suggestions to the concerned educational bodies and policymakers for analyzing and strengthening the e-learning satisfaction of students for quality online education.

Keywords: Synchronous; asynchronous; e-learning satisfaction; covid-19 pandemic; computer self-Efficacy.

Paper ID 69

Integration of AI- and human-generated Feedback to Improve Short Essay Writing

Fedor Duzhin and Konstantin Pervushin

ABSTRACT

Learning in biology is essentially feedback-centred practice, with multilevel interactions between instructors and students, limited time resources, a significant number of students, and frequent disruptions induced by COVID-19 pandemics. Feedback on short essays aims to identify deficiencies in knowledge, ability to analyse the subject and constructively use knowledge and skills to reach new level of understanding. In practice, however, frequent lockdowns complicate the direct interaction between the instructor and students, reducing the quality of feedback provided. Limited time resources are often spent on correcting flaws at lower levels of students' understanding – grammar and plagiarism, subject concepts requested by the rubric, coherence of the text and compliance with scientific style.

We have experimented with including the Artificial Intelligence component into the student-instructor dyad. Our results promise to enhance the art of feedback and make it more meaningful for both students and the instructor. The new triad, Student-AI-Instructor, synthesizes the instructor's input, peer grading, and AI-aided assessment with the purpose of bringing formative feedback to a qualitatively new level. Specifically, the peers will help students to align their short essays to learning goals by letting them know immediately which concepts they missed, how to make their answers more focused and to the point. Further, peer grading generates a training dataset for AI and after students get feedback from peers on the first draft of their essays, they are supposed to re-write their essays and now AI will help them to improve further. It is only after students get basic things right, their short essay will be graded by the course instructor. The course instructor will then be able to shift the focus of formative feedback to new cognitive dimension and cater to higher values like insight, inspiration, future orientation and integration across entire domain of knowledge.

Although we are working on improving feedback in biology, our approach is scalable to other disciplines where feedback on short essays is a crucial instructional tool.

Keywords: peer learning, peer feedback, AI-aided feedback, essay writing, biology, natural language processing

Paper ID 79

Use of Electronic Health Records: Knowledge and Competency Skills Among Staff Nurses in a Private Hospital in Iloilo City

Yoro, Pio Angelo L., Socobos, Joanna Trizzea G.,
Tacluyan Nathaniel G., Teo, Joyce Anne D.,
Tubongbanua, Ericka S., Villalobos, Laureen J., Polido, Betty T.

ABSTRACT

Informatics is a core competency for nursing students recognized by several national organizations in healthcare and nursing education. Nurses must be able to use information and technology to communicate and manage knowledge in support of clinical decisions. The purpose of this study was to determine the competencies and knowledge of using electronic health record as well as determine whether there is a relationship between the variables. The researchers utilized the descriptive correlational design to identify relationships among variables. The participants of the study were the 138 staff nurses in a private hospital in Iloilo City, chosen through stratified random sampling. To gather the data, an adapted questionnaire on knowledge about electronic health record (EHR) and a revised 15-item questionnaire on competency skills in using EHR were utilized. A brief demographic tool in terms of age, sex and area of assignment accompanied these instruments. Data gathering was done through online survey (google form). Data was processed and analyzed using descriptive analysis and inferential analysis. For Descriptive analysis the researches used means, frequency counts and percentages and for inferential analysis, Chi- square and gamma was used. To find out the relationship among the variables, Chi- Square and Gamma were used. Cramer's V was employed to determine the relation of sex and area of assignment with knowledge and competency skills in using EHR. Significance value was generated for the significance of relationship between categorical variables set .05 alpha. Findings of the study revealed that the majority (68.0%) of staff nurses are highly competent in using electronic health record, less than one third (30.1%) of nurses were fairly competent in using the electronic health record and only two (1.9%) nurses were poorly competent. A majority, (88.3%) of the nurses had high level of knowledge on electronic health record while 11.7% percent had average level of knowledge about it. However, none of the nurses who had low level of knowledge about electronic health record. The majority of respondents in the study ages between 30-36 years old and are females. Mostly are assigned in special areas. The level of knowledge of staff nurses in using EHR is high and the staff nurses in the study are highly competent in using EHR. Area of assignment is the only variable that has substantial influence on the knowledge about electronic health record. As a result, staff nurses in the study regardless of their sex and age can have a high level of knowledge and be highly competent in using electronic health records. However, with regards to their area of assignment, a staff nurse can enhance their competency skills if, within their area, EHR is frequently used.

Keywords: Electronic health records, staff nurses, knowledge and competency skills

Paper ID 125

Using Social Media to Improve Speaking Skill in Public Speaking Class

Inti Englishtina[1]

17 Agustus 1947 Semarang University, Indonesia
inti-englishtina@untagsmg.ac.id

ABSTRACT

This paper aims to show how social media can give benefits in practicing and improving speaking skill in Public Speaking class. It also presents five lesson plans that integrate the technology being used and the target learning outcomes of this class. The idea is to elevate teaching method which can be applied by teachers and educators. For students of ESL (English as Second Language), it needs extra courage to speak in public, however they seem to have more confidence when talking in front of camera though it will also seen by public. This paper will show how certain lesson plans could help students' of ESL delivering their speech or presentation in English through social media better than they do it directly in front of others. As it is provided some teaching alternative, it is hoped that people who are involved in educational field specially language skills area, will be able to use it in their class activities. The method being used in this paper is descriptive qualitative. By using this method, it will be easier for the readers to understand the paper's purposes and follow the lesson plans provided. The subjects study of this paper are the students of Public Speaking class in English Department of Language and Culture Faculty of 17 Agustus 1945 Semarang University. They are in semester fifth which means they have basic English speaking skill but still need support and encouragement in performing their speaking skill specially in public. Public Speaking class is one of the subject that is meant to facilitate the students in order improving their speaking skills. This subject allows the students to be more creative and lead them to have more courage to deliver speech or do presentation publicly. Those will be reached by using the right method, teaching techniques and the means. Therefore it can be concluded that by using the right technique and media, educators can help their students to improve their English speaking skill. And it is recommended that the educators who want to use the lesson plan provided in this paper would follow it step by step and improvise it according to their own situation.

Keywords: public speaking; social media; ESL

Paper ID 65

Use IMMEX Assistance to Realize Student-Centered Teaching Practice

Min Chen[1], and Hongyu Ren[2,*]

[1]Shanghai Experimental School, Shanghai, PRC
[2]Shanghai Xile Information Technology Co., Ltd, Shanghai, PRC
*Corresponding author

ABSTRACT

Compared with the passive rote teaching based on isolated facts, the student-centered educational philosophy has huge advantages. It can give full play to students' learning initiative and participation, and can stimulate students to learn more about themselves. But at the same time, it is a kind of high-level thinking (from memory, understanding, application to analysis, evaluation, and innovation). Therefore, students often cannot do without the teacher's personalized guidance. Therefore, under the current situation of insufficient educational resources, it is difficult to truly realize student-centered teaching in middle schools. As a "multimedia interactive learning platform", IMMEX's biggest feature is that it can use information technology to record data to restore students' thinking process of solving problems. Therefore, our teaching practice was supported by the IMMEX system and data to guide students to independently discover problems, think about problems, explore problems, and try to solve problems by themselves. The teacher has gradually changed from the role of leading the classroom to the role of coach. Let students give full play to their subjective initiative, let teachers put more energy on the intervention of students' thinking and thinking quality.

Keywords: Student-centered teaching; thinking quality; IT integration;

Paper ID 164

Rethinking Syllabus and Curriculum Design for Hybrid Learning mode in Higher Education with reference to the Indian National Education Policy- 2020

Dr Rameesha Kalra,
Dr Kiran Vazirani

Assistant Professor, School of Business and Management
CHRIST (Deemed to be University), Bangalore, India

ABSTRACT

COVID pandemic has disrupted all walks of life in unimaginable ways. There is hardly any sector where the impact of the pandemic was not felt. As the world limps back to the NEW normal - Hybrid learning in the education sector has gained both adoption and acceptance. These rapidly changing dynamics in education sector has challenged the authors of this paper to come up with new ideas/strategies in designing the curriculum that can cater to the learning needs of students in the hybrid mode and also maintain the quality of the education.

In Indian context, National Education Policy (NEP) approved by Government of India in the year 2020 stresses on providing universal access to quality and practical education. With the quickly changing employment landscape and skill set required to cater to that, it has become extremely important to offer holistic, learner-centric and discussion-based curriculum. Educational institutions must gear itself towards addressing the evolving demands of the job market too. The need of the hour is to redesign the syllabus and curriculum to match the expectations of the New Normal and the changing demands of the Job market. But the change in the curriculum cannot be brought without bringing the necessary change in the syllabus and pedagogy.

This paper focuses on explaining how the current curriculum can be more objective and skill focused, in alignment with the requirement of the Revised Blooms' Taxonomy. Also, it aims to suggest the changes that can be incorporated in the course structure in order to offer an enriching learning experience for the students and meet the requirements of NEP – 2020. The new recommended model of teaching is the Hybrid one. With this paper, we have tried to recommend the pedagogical tools that can be used by the facilitators to provide engaging and inclusive learning environment to the learners in the hybrid mode of teaching.

Keywords: Syllabus and Curriculum Design; Revised Blooms' Taxonomy; Hybrid Learning; Teaching Pedagogy; National Education Policy.

Paper ID 116

Evaluation of Physical Therapy Bridging Program During Covid-19: From Online to Limited face-to-face Learning

Donald Manlapaz, Anne Marie Aseron and Fe Therese Chavez

ABSTRACT

The onslaught of the Covid-19 crisis has shaken the global educational landscape due to the closure of the academic institutions and the shift to online learning. Both learners and educators have felt the ripple effects of untargeted intended learning outcomes that can only be addressed via a face-to-face setup such as practical and hands-on skill applications. In Physical Therapy (PT) education, where skills are the program's cornerstone, innovations in teaching and bridging courses are needed as schools gradually return to a face-to-face setup. To ensure that maximum learning has transpired while considering the safe and effective delivery of the program, programs such as this must be reviewed and evaluated. This paper aims to evaluate Connectivity, a bridging program conducted by the Department of Physical Therapy of the University of Santo Tomas - College of Rehabilitation Sciences. A total of 160 students participated in a 3-hour session three times per week for six weeks bridging program. Each week included two days of PT examination and intervention demonstrations and one day of student's assessment under Musculoskeletal, Neurologic, Pediatric, and Cardiopulmonary PT modules and supplemented with curated online activities. The students submitted weekly electronic portfolios of their experiences and feedback regarding the strengths and weaknesses of the program. An exit survey was conducted to evaluate the student's satisfaction, program's usefulness, and quality, such as content, teaching and learning strategies, and facilities. The overall completion rate of the program was 91.02%. One hundred twenty-four students completed the survey with 92.74% satisfaction and 96.53% usefulness of the bridging program. The program's quality was rated at 92.12%, with a high rating on content (91.70%), teaching and learning strategies (94.59%), and facilities (90.70%). Within the duration of the program, only two students contracted the virus, but this was mitigated by strict compliance with the institutional health safety and protocols. As one of the first PT programs to return to limited face-to-face setup in the country and with the program's successful implementation, Connectivity's design and delivery can serve as a model to other PT and allied health programs in their transition from online to face-to-face instruction during the pandemic. The results of the Connectivity evaluation will help better understand the ongoing changes in the educational system and processes while ensuring a safe environment for the program's sustainability.

Keywords: Physical Therapy, Bridging program, Face-to-face learning

Paper ID 92

Gamifying Whole Person Education: The Development of a Mobile Application with Augmented Reality

***Dave E. MARCIAL[1], Jade O. MONTEMAYOR[2,*] and Joy M. DY[3]**

[1, 2] Silliman Online University Learning, Silliman University, Philippines
[3]College of Computer Studies, Silliman University, Philippines
*Corresponding author

ABSTRACT

Whole-person in education is Silliman University's kind of education for total human development. This study is an innovative integration of whole-person education in the classroom. Specifically, this paper describes the development of a mobile game application that promotes the understanding of whole-person education at Silliman University. Applying the gamification theory, a learning trail about the 5Cs of Silliman Education - Classroom, Church, Culture, Court, and the Community, was integrated. The learning trail consists of three learning paths, and each path consists of then checkpoints. Each checkpoint is augmented using QR codes. The educational game application was developed using Appery.io, a rapid development, integration, and deployment platform. The mobile application runs on the Android operating system. Based on the initial testing conducted, teachers and students agreed that the application provided an engaging and fun learning experience. The application is set for an intensive evaluation.

Keywords: gamification; augmented reality; whole person education; mobile application

Paper ID 94

Collaboration with Secondary Schools for A Virtual Reality Gamification: Students' Perceptions in Learning Biology for STEM Education

Christine K.Y. Yu[1], K.W. Yang[2], Roy K.L. Chan[3], Peter H.F. Ng[4], Daniel K.T. Fung[5], Olivia M.Y. Ngan[6], T.C. Chan[7] and Florence M.K. Tang[6*]

[1]G.T. (Ellen Yeung) College, Hong Kong (HK),
[2]Sing Yin Secondary School, HK
[3]Po Leung Kuk Ngan Po Ling College, HK
[4]Department of Computing, Polytechnic University f HK
[5]Department of English Language Education, The Education University of HK,
[6] Hong Kong Institute of Vocational Education, HK
[7]School of Biomedical Sciences, The Chinese University of HK
*Corresponding author: florencetang@cuhk.edu.hk

ABSTRACT

The traditional classroom pedagogical settings of teacher-centred direct instruction, dominated mainly by didactic-based approaches to biology teaching, are widely adopted at the high school to efficiently transmit the vast body of accrued scientific knowledge. Such one-way passive delivery based pedagogy has created a relative monoculture of teaching styles, making many students think that science is simply a collection of facts to be memorized. Students are not capable of problem-solving, communication, collaboration, creativity, and innovation which are 21st-century skills that equip students for complex life and work environments.

Virtual Reality (VR) applications effectively enhance learning and generalization skills to the real world as they provide immersive environments. In a modernization changing of the education landscape, teachers are open-minded to adopt new information technologies that help them to motivate their students to learn and improve learning outcomes. The urge of using VR with gamification settings has been widely developed for active learning recently. VR allows students to understand complex scientific subjects in a way that traditional methods cannot.

Our team has collaborated with the secondary schools to strengthen STEM education in biology subjects. The main objectives of this study were to investigate secondary school students' perceptions of the use of the immersive virtual reality simulation to learn the biology subjects, which allows them to knowledge transfer regarding STEM approach in science education. In the study, the Grade 9 to 12 students were involved from three different secondary schools. Two groups were divided into a pre-exposure group for VR gamification or a post-exposure group for VR gamification. The students did the test for their capabilities in the knowledge gained in between the study. A 5-Likert Scale questionnaire format was also adopted for the pre-and post-surveys, which have been conducted to study students' previous knowledge of tutorial contents and their perception of how the simulator can motivate and facilitate their cognitive learning. There were no significant differences

between the test scores of the pre-exposure group and that of the post-exposure group. The mean of the 5-Likert scale on the perception of the animal handling stimulation is positive.

After the data analysis, we propose that the addition of VR to a lab simulation provides students with an opportunity to enhance learning about tutorial contents with organization, integration and application of what they learned practically. To conclude, this study provides insights into the educational value of VR gamification for the knowledge transfer to science learning with enjoyment and engagement.

Keywords: Traditional classroom; Virtual Reality (VR) applications; Micro-modules; Gamification; STEM; Science learning

Day Two-1 December 2021

Parallel Session 3 | Room 1 | Session Theme: Online Learning

Paper ID 87

Online Learning: Students' Perception and Students' Learning Success

Novita Al Ihyak Dieni

Language and Culture Faculty, University of 17 Agustus 1945 Semarang, Indonesia

ABSTRACT

This paper aims to identify the students' perception of online learning and the impact of students' perception on learning success. The subjects of the research are the Senior High School graduate students from some cities in Indonesia and they are studying at University of 17 Agustus 1945 (Untag) Semarang in the first semester of the academic year 2021/2022. There are 74 students from different Senior High School. The research method used in this study is a qualitative method. The data was based on the questionnaires filled by the students. From the questionnaire, it can be seen that the students has been studied using online learning approximately one year up to two years. They started using online learning in pandemic era from the even semester in the second grade of Senior High School. It means, when they were third grade of Senior High School, the whole learning using online learning. The result of the research shows that only 23% of the students were satisfied studying using online learning. It can be seen from how they solve the problems when they found the difficulties in online learning. 14.9% of the students asked the teacher, 18.9% of the students asked their friends, 59.5% of the students searched from the internet, and no one solved the problems in online learning by reading a book. By searching the information from the internet, it cannot help them to solve the problems in online learning. 40.6% of the students still feel that they can not understand the subjects well, 55.4% of the students can quite understand the subject, and only 4.1% of the students can understand the subject well. This is because only 10.8% of the students like online learning. The reasons are they cannot learn with other friends, they cannot communicate with the lecturer directly, and there is a signal problem. So that, it is hoped that the result of the study can be used as an additional information for other researchers who want to do a research related to online learning and students' learning success in online learning. For the educators, it is suggested to know the students' condition in the learning process to get the best result of study. As an educator, we should always motivate the students to learn in the pandemic era.

Keywords: Students' perception; online learning; learning success

Paper ID 98

Transition to Fully Online Learning Due to COVID-19: The Adult Learners' Perspectives

Bao Zhen Tan[1*] and Yee Zher Sheng[1]

[1]Institute for Adult Learning Singapore, Singapore
*Corresponding author

ABSTRACT

The rapidity with which governments worldwide introduced the adoption of remote work and online learning in response to COVID-19 has led to profound changes to work and learning as we knew it. The push to fully remote and online experiences is without precedent, with many learning institutions being forced to abruptly and completely transition all in-person learning activities to online learning. Little is known about the adult learner's experience with this sudden and transformational shift in learning and work, as many had taken the institutional or faculty view. This paper looks into the Singapore adult learners' experience with the transition to full online learning due to COVID-19. A mixed methods study consisting of two phases was conducted: (i) Phase One is an online survey which consists of a series of Likert-scaled items that ask respondents to reflect on their most recent online learning experience and their perspectives on online learning; (ii) Phase Two is a combination of interviews and focus group discussions to gather information on the respondents' experiences and their collective suggestions. Findings indicate that adult learners in Singapore are embracing the fact that online learning is becoming a norm, but there is an immediate challenge of supporting the learners and adult educators to cope with the transition to fully online learning – ensuring that both the learners and Adult Educators (AEs) in Singapore possess the relevant digital skills should be a key focus in order for Singapore's Training and Adult Education sector to move ahead. Findings also imply that AEs and training providers should pay attention to the following aspects when designing an online learning programme: (i) a balance between synchronous and asynchronous modes of delivery to allow learners to enjoy both the flexibility and the element of social interaction in an online learning programme; (ii) provide for shorter sessions or introduce more breaks during each session in order to reduce screen fatigue and maintain learners' attention; (iii) prior support needs to be provided to learners for them to familiarise with the functions and use of learning platforms; and online learning systems should be intuitive. Lastly, it is observed that the majority of the adults who did not enrol in online learning programmes since the COVID-19 outbreak, are still engaging in some form of informal learning. This illustrates that there are many layers in continuous learning and that informal learning should not be overlooked in the digital age.

Keywords: training and adult education; online learning; e-learning; adult learners; COVID-19

Paper ID 105

Roots Program in Indonesia: Transferring the Module of Knowledge and Activities from Offline to Online during Pandemic Covid-19

Rika Saraswati

rikasaraswati@unika.ac.id
Law Department, Faculty of Law and Communication,
Soegijapranata Catholic University, Semarang, Indonesia

ABSTRACT

The Indonesian Ministry of Education, Culture, Research and Technology has a program namely Roots (Akar) to reduce bullying against students at schools. Prior to the Indonesian ministry implementing the program at national level, a hard copy (paper) version of the supporting module was created and the implementation of the module undertaken 'face to face'. However, the implementation of the module has been transferred to an online method due to the Covid-19 pandemic. This paper is written in order to examine the purpose of the Roots program, the different modes for training (i.e. offline and online), and the challenges that may have faced the facilitator when transferring the substance of the training and related activities from offline to online method. The Roots program targeted selected teachers as facilitators and selected students as agents of change who would be to spread positive values and norms in order to prevent bullying at schools. The module and activities can be implemented in three ways, namely: offline, online and via a hybrid. The choice depends on a school's geographical situation and conditions such as its availability of technology and appropriately trained personnel as well as the depth of the problem on that site.

Keywords: Roots program, offline, online

Paper ID 106

Learning Creative Design Online with a Flipped Classroom Approach

[1]Jackson Kong

[1]bsjkong@cityu.edu.hk
[1]Division of Building Science And Technology,
City University of Hong Kong, Hong Kong

ABSTRACT

One of the most common learning outcomes for engineering students in all disciplines is to develop an ability to produce design works which are creative yet practical. In modern engineering design, the process often encompasses the use of computer-aided design software and 3-D printing which allows designers/students to explore different design ideas and to print out their design works for verification/testing. However, the conventional teaching and learning of these software and the 3-D printing process, no matter in real-time online mode or face-to-face, was perceived to be ineffective, particularly for a large class without prior knowledge or experience in computer applications. In order to enhance the teaching and learning effectiveness in this respect and to promote active learning among students, a flipped classroom approach for the teaching and learning of structural design was implemented since 2019/2020 Semester B. In essence, the flipped classroom involves three key components 1) a set of tailor-made, self-learning video (uploaded to Youtube) that demonstrates the concepts and usage of the software and 3-D printing; 2) a set of in-class design tasks which contents synchronized with the learning progress of the video set and the course curriculum and 3) design projects that align with the course learning outcomes for students to complete in group after class. Before the class, students need to prepare for it by watching the video beforehand. During the class, the instructor has more time and flexibility to discuss with individual students about the design work, instead of just spending most of the time on the teaching of software. The effectiveness of the flipped classroom approach and its learning environment are evaluated through the use of student surveys, interview and written feedback. Overall, student survey about the flipped classroom approach is positive. Given the learning environment, students agreed that the flipped classroom encourages self-learning, creativity and promotes the learning of new technology. Further details of the implementation, feedback from students and refinement and extension works are presented herein.

Key words: Flipped classroom; online learning; design and creativity.

Paper ID 115

Effects of Instructional Strategies on Enhancing Student Learning

Edmond W.M. LAM[1,*] and Daniel W.M. CHAN[2]

College of Professional and Continuing Education, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong
Department of Building and Real Estate, Faculty of Construction and Environment, The Hong Kong
Polytechnic University, Hung Hom, Kowloon, Hong Kong
*Corresponding author

ABSTRACT

Due to the universalization of technological products and the global COVID-19 outbreak in late 2019, teaching-and-learning of subjects via an online mode has become a recent trend and a new normal in the tertiary education sector. As a result of the lack of face-to-face interactions, e-learning materials and e-databases are considered as the most crucial elements in enhancing positively-impacting lesson quality and students' learning progress, which aimed at assisting students' learning during online lessons.

The purposes of this paper are to examine the effectiveness of the e-learning activities and platforms to enhance students' academic performance including desktop literature search and learning by doing research in the construction sector as well as the effectiveness of the learning objects in supplementing lessons and students' understanding of research-related knowledge in construction.

In order to analyze the relationship between the use of e-learning materials and learning performance, students undertaking a specific construction research-related subject were invited to give responses for this research study throughout a semester after attempting and experiencing the e-learning materials integrated with the concepts of Technology, Pedagogy, Content and Knowledge (TPACK) uploaded onto the e-learning platform to assist students' learning. Self-administered questionnaires were also distributed at the end of the semester with questions set on students' acceptance and their opinions towards the effectiveness of the e-learning activities planned for the research-related subject under investigation.

The findings indicated that even though students did not have ample time to read all the e-learning materials before the lessons, they still support the use of e-learning materials and the technology-enhanced teaching methods to enable them to learn the research-related subject effectively and efficiently. Students agreed that the e-learning tools were effective in assisting their online learning, such as explaining complicated concepts with the use of aesthetically-attractive games and interactive videos.

Other than students' acceptance, e-learning methods have generated positive impacts on students' ability in learning the research-based skills and techniques in terms of pedagogy. Through studying the e-learning materials, students demonstrated their capability in applying construction-research knowledge to their coursework assignments and lecture tasks, such as completing citations, searching authorized literature for dissertations and

analyzing viewpoints in different perspectives by participating in various discussion forums. Besides, the results proved that students' research skills were significantly enhanced through evaluating peers' viewpoints with evidence, and consolidating construction knowledge by studying the e-learning materials themselves out of the class contact time.

The study has illustrated a positive relationship from the students' perspectives between academic performance and the use of the e-learning materials, which are believed to be effective in assisting students to achieve the intended subject learning outcomes and enhance their learning motivations, which can further develop their mindset in conducting research activities in the long term.

Keywords: Online Learning, Technology, Pedagogy, Content and Knowledge (TPACK), Information Literacy, Research-based Subjects, Construction and Surveying

Paper ID 165

Online Laboratory Work for Herbal Processing

Victoria Kristina Ananingsih

ABSTRACT

Herbal Processing Laboratory Work is a learning activity that aims to give students the opportunity to investigate and apply the theory of Herbal Food and Beverage lectures. This activity was carried out in the laboratory, attended by all students. However, during the pandemic, the laboratory work must be carried out online, so a different method is needed for the implementation of this activity. The stages of the online laboratory work are (1) laboratory work assistance, (2) virtual laboratory work implementation, (3) hands-on herbal processing conducted by students, (4) herbal product expo, and (5) final assessment. During the laboratory work assistance, an introduction to all the materials carried out is given, namely the processing of jamu (traditional herbal drinks), instant drinks, syrups, confectionery, grass jelly drinks, and dry herbal drinks. Each material is explained about the background, purpose, and processing method. This makes students clearer before the implementation of the laboratory work. Furthermore, a video of processing was made using all the technology and equipment in the laboratory. The virtual laboratory work is carried out by watching the video of the processing. In virtual classes, learning is carried out to observe all processing methods, equipment used and process conditions, as well as the qualities of the final product. Students analyze and solve problems from the given case studies. Then, students prepare reports containing background, objectives, method, results and discussion, conclusions and suggestions. From all the topics that have been given, the students choose one topic to make herbal products (hands-on), take a video, and make video presentations at the herbal product expo. The forum was opened to discuss about the qualities of the final herbal products produced by students. At the final stage, a final assessment is carried out in the form of essay and multiple choice questions to evaluate student understanding in the implementation of online laboratory work for herbal processing.

Keywords: online, laboratory work, herbal processing

Paper ID 89

Projecting the Impact of Integrated Service-Learning Projects on History Graduates of Lady Doak College through Online Learning Approach

[1]T. Durga Devi, [2]B. Aashika and [3]N. Kavipriya
[1]durgadevi@ldc.edu.in, [2]18his001@ldc.edu.in, [3]18his016@ldc.edu.in

[1]Assistant Professor, Department of History, Lady Doak College, Madurai, Tamil Nadu, India
[2]Department of History, Lady Doak College, Madurai, Tamil Nadu, India
[3]Department of History, Lady Doak College, Madurai, Tamil Nadu, India

ABSTRACT

Background: Service-learning is a universally accepted student-centric pedagogy that provides experiential learning by integrating academic study with community engagement activities. Lady Doak College is the pioneer institution in Tamil Nadu to introduce integrated service-learning project entitled Life Frontier Engagement (LiFE). It is the capstone of the Integrated Curricular Model, introduced in the undergraduate level since 2013. It is offered as a core major course for all final year undergraduate students in semesters V and VI from the academic year 2015 – 2016. The course opened the avenue for participatory learning and research to the students by engaging them with the community and thereby enhancing personal, academic and civic consciousness of students.

The Covid-19 pandemic has created a devastating impact globally. Humans as social animals were always engaged with others. The pandemic and the restrictions imposed by the government has altered the lives of the people overnight. Though there were sufferings, the pandemic did not hinder the humane activities of the people. It proved that social distancing cannot stop community engagement. In today's world, digital technology has made it possible to connect with fellow beings. It has augmented digital transformation within the education system. History, as a record of events, represents a study of cause, change and consequences. The pandemic has made the educationalists to analyse the causes, admit the challenges and adapt new modes in the teaching-learning process using the technological advancement especially in the service-learning process. To maintain the sustainability of the LiFE course, Lady Doak College has adopted e-service-learning to strengthen participatory learning and research during the academic year 2020 – 2021.

Purpose: This study attempts to highlight the effectiveness of integrated service-learning projects on history graduates of Lady Doak College, Madurai through online learning approach.

Methodology/Approach: The study has been undertaken by using survey and interview method. History graduates of Lady Doak College belonging from 2013 to 2017 batch were the community partners for the study. The study has been done after five years of implementation of the LiFE course.

Findings: LiFE created a platform for the history major students to relate their academic

learning in the classroom to real-life learning in the community. It facilitated students to understand the process of historical research and enabled them to recognise the importance of oral and local history in the reconstruction of historical and cultural heritage.

Implications: Integrated service-learning projects fostered students' role in the preservation and conservation of history and heritage. It also enhanced their sense of civic responsibility and involvement in the community development.

Keywords: service-learning, experiential learning, participatory research, community engagement, civic responsibility

Paper ID 103

Tele-EyePathology: Lessons learned and Survey of the learners' experiences

Wasee Tulvatana and Vannakorn Pruksakorn

ABSTRACT

Background and purposes: During COVID-19 pandemic, face-to-face lectures and onsite ophthalmic pathology readings had been converted to online sessions. The objectives of this study were to evaluate the learners' experience and satisfaction of the Tele-EyePathology course and to gather the learners' suggestions for the course.

Methods: The setting was at the Faculty of Medicine, Chulalongkorn University. The modification of the learning methods was introduced in the second to the third trimester of 2020, and again in the second trimester of 2021 until now. This was in response to the government and the university's policies of strict physical distancing during the periods. Only few clinician students were allowed to attend the live face-to-face sessions. Ninety percent of the students had to attend the live online sessions. To date, more than 30 sessions were implemented. A survey of the learners' experience and learning outcomes was performed by online questionnaires. Learners' thoughts and suggestions were collected.

Results: There was a total of 21 questionnaire responders. Ninety-five percent of them opined that the sessions were well-organized (scored >/= 4 out of 5). The communication of the sessions was smooth and productive (90.5% scored >/= 4 out of 5). The most enjoyable parts were the readings of histopathology in real situations, case discussion during the readings, and the knowledge shared by brief talks provided by classmates. Ninety-five percent found that the activities had increased their knowledge and skills in histopathology. Video records of the sessions were posted for further study. Half of the learners' had revisited these media after-class. There were still some technical difficulties during the live sessions regarding the clarity of pictures and interruption of voice, which depended on the internet quality on both ends. Therefore, a significant number of the learners' would like to study onsite when the pandemic situation alleviates.

Conclusions: The learners of tele-eyepathology sessions satisfied with the live online sessions and found that their aptitude in ophthalmic pathology had increased. Synchronous learning by combining the live ophthalmic pathology readings, clinico-pathological correlation and online sharing of clinical resources helps the tele-eyepathology course promote the learners' experiences.

Recommendations/future directions: We would like to expand this setting to broader audience and to other institutions. Moreover, an integration of digital pathology application to the live pathology readings should be explored whether it can be simply implemented and augment the learning outcomes.

Keywords: Telepathology, Telemedicine, Eye Pathology, Ophthalmic Pathology, Synchronous learning, Asynchronous learning, Learning experience, Learning outcome, Digital platform, Digital media, Cloud storage, Active learning, COVID-19

Paper ID 51

Diffusion Innovation in Online Learning and Practical Studies in Event Organizer Management Course During the Covid-19 Pandemic

Lenny Setyowati

[1]setyowati@unika.ac.id

[1] Department of Communication Science, Law and Communication Faculty, Soegijapranata Catholic University, Semarang, Indonesia

ABSTRACT

As one of the products in the modern digital era, online learning offers a new way to meet human needs in the context of higher education institutions. The learning management system was implemented to complement the direct learning system. However, only a small percentage of campus organization members are willing to use it. Covid-19 entered Indonesia in early 2020 and to reduce its spread, the Indonesian government imposed restrictions on community activities (PKM). SCU followed up by conducting online learning since mid-March 2020 through the Learning Management System, we call the platform as cyber.unika.ac.id and supercyber.unika.ac.id that is divided for ten faculties.

The phenomenon of online learning as part of an innovative product of change, can be studied using the development from the perspective of the diffusion of information and influence theory initiated by Everett Rogers and his colleagues, which was later known as innovation diffusion theory. This theory focuses on the phenomenon of social change that occurs in society, due to new technological innovations.

"Event Organizer Management" (EOM) is one of the lecture held online in the odd semester of the 2020/2021 academic year. As a lecturer in this course, the writer hopes that students can have an overview of the process of organizing events, starting from the planning, financial management, implementation to evaluation stages. In the EOM course there is a practicum where students, in groups, must organize an event with different themes such as: Event Organizer Seminar, Public Speaking Seminar, Book Review, Photography Competition and Exhibition, Film Festival, and Music Parade. This practicum is sound different since we are in the pandemic situation, the events must be held online.

Keywords: Online learning; Soegijapranata Catholic University; Diffusion of innovation; Event Organizer Management

Paper ID 122

Use of Gamified Platform to Improve Freshmen's Unreflective Approach to Learning

Sok Mui Lim, Oran Devilly, Xiao Feng Kenan Kok and Chek Tien Tan

ABSTRACT

Transition to university education is an important area to address. To improve the learning traits of newly matriculated freshmen, we developed AdventureLEARN, a gamified platform that targets four key learning traits, namely, "Approaches to Learning and Studying", "Well-Being", "Grit and Resilience", and "Mindset". These traits have been identified in the literature as being crucial to learning. The current study presents a summary of how the AdventureLEARN platform works and reports on the change in the specific learning trait of unreflective approach to learning (UAL) from the start to the end of the academic year (AY) for freshmen in the AY19/20 batch.

All freshmen in the AY19/20 batch were given remote and private access to AdventureLEARN. Students first answered validated questionnaires in the platform relating to the four learning traits to learn more about themselves. The AdventureLEARN platform then generates feedback about their strengths and weaknesses with respect to these traits and recommends high quality, curated resources to help them develop traits that were identified to be lacking. AdventureLEARN contains over 100 curated resources which have gone through the rigorous process of interrater reliability for quality and appropriateness. The resources include mini quizzes for assessing knowledge, developed with academic faculty and staff with psychology backgrounds. The platform also utilizes meaningful gamification where visualization of students' progress and rewards are provided to encourage participation.

302 freshmen from the AY19/20 batch participated in this study, while 398 freshmen from the AY18/19 batch were used as a historical comparison group. The results indicated significant differences in the levels of UAL between both batches of freshmen. Over one year, freshmen who used AdventureLEARN reported a significant decrease in UAL, whereas those in the historical comparison group did not report any significant decrease in UAL. Based on the qualitative data from the interviews we conducted, students reported that AdventureLEARN provided "engaging content", "resources that develop character", and "videos that were short and easy to absorb". The biggest hurdle to accessing the platform was the heavy academic workload and finding time to watch resources that help develop their learning traits. With the increase in online learning, especially during the COVID-19 pandemic, we believe that AdventureLEARN has immense potential in helping students develop their learning traits independently. For future research, we propose the inclusion of additional meaningful gamification techniques that address the psychological and social needs of higher education students.

Keywords: Gamification, AdventureLEARN, Approaches to Learning, Unreflective Approach to Learning, Higher Education

Paper ID 127

Using Discord as a Platform for Team-based Work in Online Learning

Gregorius Pramudita Witaradya

ABSTRACT

The sudden shift to online learning due to Covid-19 has presented many challenges not only for the teachers but also for the students. Students who no longer can see each other have to study the topics on their own, and to find ways to communicate and work on team-based projects. One of the ways chosen by the students to communicate and to work together is by using discord. Discord is one of the many social media forum platforms used by mostly gamers. Interestingly, discord has many features that may support online learning process especially discussion. Those features are the ability to share ideas in the forum, the ability to share files, the ability to chat and share screen if the team work is done using computers, and the ability to create video meeting sessions to discuss the teamwork. In short, the students can use discord as a platform to do group studies or team-based works.

Keywords: discord; collaborative learning, online learning

Paper ID 129

Mendadak Daring: Challenges and Opportunities in Transitioning Teaching and Learning into Online Environment

Toong Tjiek LIAUW

Petra Christian University, Jl. Siwalankerto 121-131 Surabaya 60236 INDONESIA

ABSTRACT

The COVID-19 pandemic has forced educators and students to experience sudden transitions from fully offline learning and teaching activities into fully online. There was virtually no preparation in making this sudden transition since it was made out of necessity due to the worsening public health situation at the time. Teachers and students have had their struggles in making the transition in adjusting to the new and fully online environment of learning and teaching.

This article intends to share best practices in transitioning from fully offline (onsite) teaching mode into a fully online due to the COVID-19 pandemic in early 2020. The discussions will be based on action research methods; employing the first-person approach by using the author's personal experience in teaching the International Business and eBusiness Management courses offered to undergraduate students at Petra Christian University in Surabaya, East Java, Indonesia.

This article focuses on a teacher's perspective of the transition, where the author shares and reflects on his personal experience at the beginning of the transition up to the current situation; one and a half year after the initial transition. The reflections include the trial and error approaches the author had utilized in adjusting to the new environment of teaching, some small innovations in teaching being tried out, and the small surveys being done to get feedbacks from the students. Some of the small innovations made include the use of blended learning (asynchronous and synchronous learning modes), semi-flipped learning, and the use of online tools to increase interactions with students.

Based on the classroom surveys there seems to be struggles by students to adjust to the new environment. However, it's also the case that there is increase in student satisfaction for the small innovations that the author has implemented in his classes. There have also been indications that genuine learning has occurred. Thus, it can be concluded that although sudden transition from fully offline learning and teaching mode into fully online has caused numerous struggled for students and teachers, the transition has also provided opportunities for innovations that can result in increased students' learning and satisfaction.

Keywords: blended learning; flipped learning; action research; offline to online learning; synchronous and asynchronous mode

Paper ID 70

How to Reduce the Dilemma in Students' Peer Appraisal

Vincent, K.K. Leung[1,*], Kai Pan Mark[2], Hazel Lee.[3]

[1]Department of Management and Marketing, The Hong Kong Polytechnic University, Hong Kong
[2]Educational Development Centre, The Hong Kong Polytechnic University, Hong Kong
[3]Department of Management and Marketing, The Hong Kong Polytechnic University, Hong Kong
* Vincent, K.K. Leung

ABSTRACT

Peer appraisal can be a component of the total assessment in both undergraduate and postgraduate business subjects. Some conscientious students prefer the instructor add this assessment mechanism even if it is not a required assessment component. The rationale is to maintain a fair culture when assessing the performance of group projects, and all students can use this designed mechanism to reflect their opinions of those contributing members or those who shirked their responsibility.

There are two main issues in running the peer appraisal mechanism. First, collecting all the filled forms individually, even through electronic means, and then input and calculate the scores is tedious, time-consuming, and daunting. Second, some students may behave strategically, just like the situation described in the prisoner's dilemma; they would give all members the highest level to maintain their optimal positions without revealing the truth view to the instructor. This behaviour made the instructor more challenging to distinguish the different levels of performance in a group.

Most learning management systems support peer evaluation forms ranging from a simple form to a comprehensive table with rubrics automating points calculation and anonymous feedback delivery, which helps reduce the hassle of using a traditional form. To resolve the second issue, we suggest using a forced ranking method, and the ranking is exclusive, which means no member in the same group can get the same score from an evaluator. Moreover, the evaluator has to give qualitative justification of the given score.

Feedback from students revealed that it built trust between the instructor and the students, and it also increased the self-efficacy of the students' effort and contribution in group work. It contributes to a positive teamwork spirit. Further improvement is necessary to reduce the errors caused by missing data, input errors and an individual case of no participation in the appraisal process. All these problems would affect the data integrity and the efficiency of the peer appraisal.

Keywords: peer appraisal; forced ranking; learning management system

Paper ID 91

Teachers' Language Competence Segmentation Using K-Means Algorithm

[1]Rosita Herawati, [2]Heny Hartono and [3]Cecilia Titiek Murniati

[1]rosita@unika.ac.id, [2]heny@unika.ac.id,
[3]c_murniati@unika.ac.id
[1]Soegijapranata Catholic University, Indonesia

ABSTRACT

This paper presents a part of an educational research and development which has been being conducted for the last three years with a focus on bilingual program teachers' communicative competence assessment. This study involved six aspects of communicative competence by means of three di erent assessments, so called self-assessment, receptive productive assessment, and performance assessment. Despite the fact that the assessment has been digitalized, due to the pandemic time, only self-assessment could be done. The other two kinds of assessment could not be done because of the limited access to the schools during the pandemic.

This study highlighted the teachers' segmentation in 3 di erent classes. This segmentation is done using the K-means algorithm. This algorithm is vastly used for clustering in many data science applications. The Elbow as a common heuristic mathematical method is also used to optimize these algorithms. The optimum K value is modeled using a metric WCSS (Within Cluster Sum of Squares).

The teachers' language competence segmentation study is the practice of partitioning a teacher into groups that have similar language competence. It is a signi cant strategy to recognize teachers' language competence. The results of the study can be used to map teachers' communicative competence as well as giving recommendations for the most appropriate professional teacher training to improve their communicative competence.

Key words: communicative competence assessment, K-means algorithm, Elbow, teachers' language competence

Paper ID 53

A Second Pair of Eyes: Remediating Formative Assessment in a Clinical Optometry Module Using a Video Annotation Tool

Dave GATRELL[1,*]

[1]The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong
*Corresponding author

ABSTRACT

This paper studies how implementing video-based formative assessment using an online video annotation tool *remediates* an existing approach to formative assessment and exam preparation in a clinical optometry module. Using a case study methodology and an activity theory-derived theoretical framework, and incorporating Engeström's notion of expansive learning, it analyses uses of the tool and practice change among a group of 20 undergraduate students. It highlights the contextual factors that inform the development of the new activity system and the multiple contradictions inherent in it. In doing so, it contributes to the literature on student experiences of video-based formative assessment in health HE. It finds that students are likely to experience the benefits of the approach, such as supportive, objective and contextualised feedback, if tutor and student roles are clearly communicated and tutors are flexible, adopting either more *tutor-facilitated* or more *student-centred* approaches to peer assessment to suit the needs of different peer groups. Using example videos and posts to *scaffold* reflection and feedback might reduce some of the affective barriers to participation and build group dynamics and interaction.

Keywords: Video annotation, video-based formative assessment, self-reflection, peer feedback, health HE, expansive learning

Paper ID 68

Text Analytics on WhatsApp Chats

Fedor Duzhin and Joo-Seng Tan

ABSTRACT

The covid-19 pandemic has accelerated the shift to online and mobile collaborative learning. WhatsApp is increasingly used by educators as a tool to support online and mobile collaborative learning due to its ubiquitous use and accessibility among students. By monitoring and participating in students' WhatsApp chats, an educator can potentially understand the students' needs and help students to work on their communication, critical thinking, and leadership skills.

However, a work mode where educator carefully reads all WhatsApp messages is hardly scalable.

The purpose of our study is to apply modern AI-based natural language processing techniques to a large collection of WhatApp messages in order to help an educator to make sense of what students are discussing. This study is a continuation of our previous studies presented at eLFA2019 and eLFA2020, where we looked at the number and the order of WhatsApp messages. Now we will look at the content.

We collected WhatsApp chats of student project teams in four undergraduate courses: two courses in business, and two courses in mathematics. For each course, we created a directory with all WhatsApp chats exported into txt files and one xlsx file with anonymized student information.

We used R for natural language modelling, clustering, topic modelling, and text visualization. Our analysis showed that words used in WhatsApp chats have important associations with certain topics that relate to task orientation and relational orientation. Our findings provide insights on how students collaborate, and how they build an online community using words in WhatsApp chats. Our findings also showed that R can be a useful tool to conduct text analytics on WhatsApp chats. Suggestions for future research will be discussed.

Keywords: WhatsApp chats, mobile collaborative learning, text analytics, natural language processing, topic modelling, unsupervised machine learning

Paper ID 112

Cooperative Learning in Physical Education through the Use of Fitness Apps

[1]Georgina V. Kusano

[1]kgv0976@dlsud.edu.ph
[1]De La Salle University - Dasmarinas, Cavite, Philippines
[1]International British Academy, Imus, Cavite, Philippines

ABSTRACT

The COVID-19 pandemic has brought school closure and restrictions on conducting outdoor and sports activities. This caused an alarming effect on the level of physical activity of students. This action research will report the experience of an intact Physical Education class that utilized Cooperative Learning strategies and mobile fitness apps. This paper presents the improved conceptual understanding, psychomotor skills developed, and the attitudes of the students towards fitness activities. In accomplishing the four learning outcomes of physical education, which includes: physical learning, cognitive learning, social learning, and affective learning, the following five essential elements were integrated: positive interdependence, promotive interaction, individual accountability, soft skills instruction, and group processing. This approach allowed the students to work effectively together in accomplishing the learning goals of the team. The members of each Cooperative Learning group realized that each group member's efforts and work output are important to both individual and team success. Aside from the academic skills, they also learned leadership, decisionmaking, trust-building, communication, and conflict-management skills working with each other. Given the challenges that the COVID-19 pandemic has brought to our P.E. classes, this presentation will offer insights that can contribute to helping teachers and students navigate through these challenging times

Key words: Cooperative Learning; Physical Education; Fitness Apps

Paper ID 140

"STOU-ODL to Serve the Demanding SDG's Cross Cutting Issues in Thailand under the Digital Technology & COVID-19 Pandemic Disruption"

Kamolrat Intaratat

ABSTRACT

This research aims to study 1) the demanding of SDG's cross cutting issues in Thailand that ODL can facilitate under the digital technology & COVID-19 pandemic disruption; 2) how STOU use ODL to serve the SDG' s cross cutting issues under the digital technology & COVID-19 pandemic disruption; and 3) to recommend how to scale up ODL to serve the SDG's cross cutting issues under the digital technology & COVID-19 pandemic disruption. Qualitative research with STOU-ODL case study approach was used to analyze how ODL of STOU serve the demanding SDG's cross cutting issues in Thailand under the digital technology & COVID-19 pandemic disruption.

Results found 1) the demanding of SDG's cross cutting issues in Thailand under the digital technology & COVID-19 pandemic disruption respectively are 1) Goal 4: Quality education; Goal 3: Good health and well-being ; Goal 5: Gender equality; Goal 1: No poverty ; Goal 2: Zero hunger; Goal 9: Industry, innovation and infrastructure; Goal 10: Reduced inequality ; Goal 11: Sustainable cities and communities; Goal 16: Peace, justice and strong institutions; and Goal 17: Partnership. And 2) STOU use ODL to serve the SDG's cross cutting issues under the digital technology & COVID-19 pandemic disruption by embedded with ICT to offer all types of educational programs : 1) Formal, 2) Non-formal & Informal educations to cover all groups of people in Thailand including all the marginalized can be easily accessed to all kinds of SDG's cross cutting issues for their new required knowledges and skills, more opportunities, and better quality of life. ODL must be appropriate designed with partnership model to fit well with all contexts of the SDG's cross cutting issue i.e. in-time & demanded base issue, friendly & appropriate pedagogy, agile administrative & management, and all kinds of participatory contribution. Some examples of STOU-ODL's academies to serve all the SDG's cross cutting issues are Smart MOOC, Smart Ageing, Smart Farmer, Smart Youths & Young Women Entrepreneur, and others.

Keywords: ODL, SDG, Digital technology, COVID-19 pandemic, STOU, Thailand

Paper ID 17

The Digital Future of Note Making

Tracy JOSE

Department of English, Stella Maris College, 17 Cathedral Road, Chennai, India

ABSTRACT

Obsidian is a software that was founded in 2020 and it signifies a remarkable shift in the process of note making on computers. It is a software that resulted out of the Covid-19 quarantine/ isolation period. Although there are several other note making apps in existence, my presentation and my paper attempt to highlight how Obsidian is a very unique entrant into this field. As their website tagline suggests, Obsidian claims to be 'a second brain for you forever'.

The software itself can be compared to a WikiLinks, except it is for your individual note making purposes. The layout is divided into vaults, folders, and then into files. One of the unique features of Obsidian is that it is capable of back-linking data and using hashtags to connect different ideas together. In simple terms, in any given vault, based on each subject or any other connection that you can think of, if you use a particular hashtag for particular sections, it is capable of clubbing all the data together and showing it to you in one go. So for each file that has a particular hashtag, if you search using that hashtag, the software shows all the instances across files and folders. Effectively, it works as a digital, local mind map (that is also completely offline) that stays on your computer while you also continue to have complete control over your data.

The main reason why Obsidian stands out within the range of note making apps is because it provides a digital solution to a problem that is also digital in its nature and origin: the problem of our dwindling attention spans. As more and more of our worlds begin to exist solely in the digital space, our attention span has also drastically decreased. Several scientists have suggested that one of the side effects of the modern world with increased use of technology and internet is the reduced attention span. This reduced attention span has serious repercussions on the teaching-learning experience as well. For a generation that has grown up reading listicles and shunning the long-form article or books; moving from YouTube videos to TikTok shorts and Instagram reels, it is interesting to see how they will adapt to these challenges. I believe that apps such as Obsidian have a huge role to play as they claim to be a second brain for us while our first brain has to constantly adapt to the rigmaroles of the changing digital space, especially post Covid.

Keywords: obsidian; notemaking; technology

Paper ID 109

Laboratory-in-Your-Pocket: A Real-time Hand-on Experimental Platform Based on Arduino-Smartphone

[1]Ka Lai WONG, [1]Wang Fai CHENG, [1]Kwok Lung JIM,
[1]Chi Wah LEUNG, [1]Chee Leung MAK, and [1]*Siu Hong CHOY

*albert.choy@polyu.edu.hk
[1]Department of Applied Physics, The Hong Kong Polytechnic University,
Hong Kong SAR, China

ABSTRACT

Laboratory learning is one of the ways to promote science process skills which are essential in science education. Yet, affordance and limitations require that we reconsider the learning approach. Many science educators find it become more difficult to bring students into laboratory at local high schools due to various reasons. Our team has been dedicated in bringing laboratory to students, eventually advancing towards a model of decentralized laboratory education and selfregulated learning.

In the Lab-in-Your-Pocket project (LYP), we have developed an Arduino-based platform hosting real-time experiments, connecting smartphones with external sensors via Bluetooth. This platform allows access to different demo-experiments, and users can read and record data on the smartphone instantly, which provides students a powerful but yet user-friendly tool to perform inquiry-based learning investigations anytime/anywhere. Nine sensors and eight experimental modules have been developed covering cross-disciplinary studies such as Physics, Biology, and Environmental Science. With the high flexibility of the platform, more laboratory modules for other subjects are expected to come.

Electromagnetism is one of our developed experiments on the platform, it is used to study the magnetic field strength of a solenoid with electric current flowing in it. 83 students aged between 16 and 19 were recruited. Pre-test and post-test of scientific knowledge in electromagnetism were administered before and after performing the experiment. In addition, a user survey was conducted at the end of the study.

It was found that students improved significantly in their understandings of electromagnetism in terms of the experimental skills and total score after using LYP. Positive feedback on teaching and learning materials and learning experiences was received. Students were satisfied with LYP and evidence supporting LYP as being a potential impactful platform on learning was obtained. In the future, students can even build their own platform with selected sensors for scientific explorations through the platform. Teachers are also engaged to cocreate authentic science experiments with students; Teaching-learning is shifted to a learner-centered and collaborative learning model.

Key words: Arduino; mobile learning; flipped classroom

Paper ID 88

An Intelligent Cloud Teacher for Unmanned Robotic Online Laboratory

Dongkun HAN*, and Martin Yun-Yee LEUNG

Department of Mechanical and Automation Engineering,
The Chinese University of Hong Kong, Shatin, Hong Kong
*Corresponding author

ABSTRACT

One-on-one student-instructor communication is essential in many aspects for science and engineering education. Especially under COVID-19, individual student-instructor interactivity becomes increasingly precious yet growingly difficult. To address this issue, we developed a so-called

"cloud teacher", which is an intelligent conversational agent for answering the questions from students in building and manipulating their robots online. The basic underlying idea is to train the agent by utilizing open-source artificial intelligence tools from Google's DeepMind, such that the agent can understand and answer the questions raised by students in making their robots online. Specifically, distinct features of cloud teacher include:

1) Provide instant textual answers to students' questions regarding robot assembly and computer programming (Arduino and SolidWorks: Two most common software in robot control and 3D printing). 2) Supply video demonstrations for helping students in building and manipulating their robots. 3) Automatic assessment of students' online lab performance on controlling their robots. 4) Personalized quizzes based on big data analytics of students' historical questions and performance. Based on the above features, an unmanned robotic online lab has been constructed with 11 sets of real robotic arms, controllers, touchable monitors and corresponding software.

The approach of AI-powered conversational agent has demonstrated its effectiveness in 4 engineering courses with more than 200 students. Furthermore, we collaborated with an oversee university, and applied it in the distant robotics education with 50 students from U.K. This method has a high potential to be explored across different disciplines and countries for virtual experiential learning in the new normal.

Keywords: Artificial Intelligence in Education; Experiential training; Online teaching; Education in Robotics;

Paper ID 66

Use the IMMEX information environment to develop the cultivation and exploration of the mathematical problem-solving ability in middle school

Haisheng Wang[1], and Hongyu Ren[2,*]

[1]Shanghai Experimental School, Shanghai, PRC
[2] Shanghai Xile Information Technology Co., Ltd, Shanghai, PRC
*Corresponding author

ABSTRACT

Interactive Multimedia Exercise platform (IMMEX) is composed of question sets. It brings together several variants of a type of problem, allowing students to fully practice through the disturbance of the variants in a type of problem. From "getting answers" , to "getting correct answers", then "getting continuous correct answers", and then "getting correct answers efficiently and reliably", and finally by summarizing the constants in the variants of this type of question Strategies for answering questions should be expressed explicitly. Through such systematic problem-solving training, the goal of improving problem-solving ability is achieved. This article summarizes the effective method of "variable disturbance" in training students to shift from low-level thinking to high-level thinking from the experimental data for more than ten years. With the application of the "cognitive structure of problem analysis", students have tangible thinking objects and explicit expressions of problem-solving strategies when they are doing high-level thinking in an information environment, which greatly improves students' understanding the efficiency effect of the problem, to achieve the effect of improving the student's problem-solving ability.

Keywords: variants of a type of problem; Cognitive structure; problem analysis;

Paper ID 121

International Case Studies for Promoting Intercultural Competence and Social Responsibility in University Students

Archimedes David GUERRA[1*]

[1]Department of Finance and Decision Sciences, Hong Kong Baptist University, Kowloon Tong, Kowloon, Hong Kong SAR
*Corresponding author

ABSTRACT

More and more, institutions of higher learning have been tasked to prepare graduates for an increasingly global and inclusive working environment through an internationalized curriculum. Indeed, "internationalization of higher education" and "globalization" have increasingly been cited together in curriculum design and policy discussions. Research on the internationalization of higher education has been dominated by two primary approaches: a process-focused approach referred to as internationalizing the curriculum, and an outcome-based approach which centers on measuring and enhancing the intercultural competence of learners. This study investigates how a specific approach to internationalizing the curriculum—the use of international case studies in teaching marketing and entrepreneurship courses—may contribute to the intercultural competence and social responsibility of learners.

Case studies in marketing and entrepreneurship from countries such as the Philippines, Thailand, and India were used in three sections of undergraduate university students in Hong Kong. At the end of the term, 60 students participated in the study by completing a questionnaire which measured the influence of the use of international case studies on social responsibility and three intercultural competence constructs, namely: "knowing", or complexity of thinking; "knowledge" of intercultural issues; and "affect", which pertains to respect and acceptance of cultural differences. Participants in the study scored significantly higher than the scale neutral point across all four measures. In addition, using regression analysis, knowing, knowledge, and affect were found to be significant predictors of social responsibility.

This study contributes to the literature of the internationalization of teaching and learning and the practice of international curriculum design. The results highlight the potential of international course materials such as case studies as an alternative tool for promoting intercultural competence among university students. In addition, the link between awareness and acceptance of "other" cultures and social responsibility, which the study suggests, further strengthen the importance of the internationalization of teaching and learning in nurturing global-minded future leaders.

Keywords: intercultural competence; internationalization of teaching and learning; social responsibility

Paper ID 95

Virtual Reality (VR) for Immersive 3-D eLearning, Making, and Communications in Architecture

Adam FINGRUT[*], Hilary K. Y. NG [2,]

[1]Assistant Professor, Rm 202, Lee Shau Kee Architecture Building,
The Chinese University of Hong Kong, Shatin, NT, Hong Kong. China.
[2]Assistant Professor, School of Education and Languages,
Hong Kong Metropolitan University, Ho Man Tin, Hong Kong
*Corresponding author

ABSTRACT

The incorporation of technology in Teaching and Learning can be a solution to address the increasing complexities of professional practice. Accordingly, significant strain has been placed on academic programmes to find more effective avenues for eLearning, especially those that are grounded in hands-on learning such as Architecture.

This research aims to demonstrate how emerging VR technology can be integral in cultivating design thinking among students in the School of Architecture at the Chinese University of Hong Kong. Workshops exposed students to a process of discovery learning based on an iterative design and problem-solving approach. In addition to VR hardware, specific software solutions were also tailored to fit into teaching activities found in architecture to augment modelling and presentation activities. Such customization was found to enhance the accuracy and user-experience in learning architecture. When learning with alongside this technology, students could gain experience with the following: 1) SCAN the three-dimensional properties of objects into digital format, 2) DESIGN with creative interventions, and 3) COMMUNICATE with other students for shared 3D experiences in virtual medium. Thus, VR technology and other software bear the ability to execute conventional learning tasks in architectural education, such as 3D modelling, group communication, and presentations. Beyond this, the immersive nature of VR headsets offers a positive conduit to upgrade the traditional learning experience to an innovative "first person" perspective that stimulates greater student motivation and engagement in their work.

Students were invited to provide feedback on the perceived usefulness, potential, and replaceability of conventional activities when learning with VR. The teaching and learning processes were also evaluated for ongoing development of architectural education through technology adoption. Overall, students were found to be receptive and enthusiastic about their exposure to novel technology as part of their regular learning activities. This research adds practical knowledge regarding VR adoption, viability and 'best-blended' approaches for teaching and learning. It confirms the potential that eLearning via 3D-VLEs "can be an alternative or replacement for traditional learning methods" (Nejad & Nejad, 2012) by presenting new possibilities for architectural practice.

Keywords: Virtual Learning Environments; Architecture Education; eLearning; Design; VR.

Paper ID 143

An Application of Immersive Augmented Reality Technology for Clinical Skill Training in Medical Education

Mohd Faeiz PAUZI[1,*] and Siti Norazlina JUHARI[1]

[1]Faculty of Medicine, Universiti Sultan Zainal Abidin, Malaysia
*Corresponding author

ABSTRACT

The teaching and learning landscape has evolved from traditional classroom to more advance usage of educational technology tools. In recent years, the organization such as healthcare and education explore the use of of VR (Virtual Reality), VR360, AR (Augmented Reality), MR (Mixed Reality) and XR (Extended Reality) to provide users or students with a more immersive experience. Augmented reality is a technology that augments or enhances our view by overlying digital content onto the real world. We had investigated the impact of the immersive augmented reality technology which applies to create an alternative training environment and educate the undergraduate medical students in clinical skills training with experiential learning. Our project was innovated by using Zappar augmented reality platform, or ZapWorks. The purpose of this study was to examine the effectiveness of using augmented reality to enhance the students understanding in performing clinical skill procedure in medical education. The students can view it by using Zappar application via mobile devises, in the clinical skill simulation lab or online at their own pace. We use the continuous quality improvement (CQI) to monitor the performance of the students for practical/ clinical skill performance of the group using the augmented reality application and the previous groups which were not using the augmented reality application. At the end of the rotation, the students were asked to complete the questionnaire survey to examine their perception of adopting the augmented reality as the adjunct in the clinical skill training session. The feedback from the students will facilitate the future development to embrace augmented reality technology in other clinical posting in our faculty. Our study will contribute to the literature of education innovation in medical discipline as a general, and in the clinical skill training in particular.

Keywords: Augmented reality; clinical skill; immersive learning; medical education

Paper ID 145

Implementing Crisis Resilience Pedagogy (CRP) in Mortgage and Real Estate Education: Case Study of Online Video Library and Virtual Reality (VR) based Education in Hong Kong and Indonesia

Rudi Santoso CHOW[1,*], Ervi LIUSMAN[2,*] and Oktavianus PUDJIANTO[1,*]

[1]KPR Academy, Indonesia
[2]The Chinese University of Hong Kong, Hong Kong SAR, China
*Corresponding authors

ABSTRACT

The E-learning team from the Chinese University of Hong Kong (CUHK) proposed Crisis Resilience Pedagogy (CRP) as the implementation of resilience attributes in teaching and learning that enables teachers to respond rapidly and also to adapt creatively through any critical situations or emergency circumstances [1]. In 2020, CUHK and KPR Academy experienced a teaching and learning crisis caused by the COVID-19 outbreak. As part of the strategies in managing the crisis, School of Hotel and Tourism (SHTM) of CUHK and KPR Academy team have been actively implementing online and innovative pedagogies through the use of video conferencing applications (such as ZOOM and Microsoft Teams), live webinars, animation and infographics videos, and Virtual Reality (VR) applications. In the past year, KPR Academy has produced an online library of over 120 short videos with topics ranging from introduction to mortgage investment, financial regulations, insurance, interest rates, credit rating and banking system in Indonesia [2]. On the other hand, SHTM has developed two VR applications: "A Walk in CBD & Wanchai District" for real estate economics courses and "Peak Galleria" for shopping mall courses with the objectives to replace physical field trips, to increase learning experience and enhance knowledge retention.

This presentation aims to share the adoption of CRP attributes by the team at KPR Academy and the use of VR technologies for real estate courses at SHTM as effective tools to maintain and enhance teaching and learning activities in times of crisis. Moreover, through this presentation we also hope to explore how resilience can also be adopted by teachers across various subjects as the coronavirus outbreak continues to impact education around the world.

Keywords: crises, Crisis Resilience Pedagogy (CRP), Virtual Reality (VR) based education, online learning, mortgage education, real estate education, resilience

Paper ID 28

Online Office for the Graduate Studies

Supakarn CHAMNI[*] and Duangjai Taweepa

[1]The Graduate Studies Affairs, Faculty of Pharmaceutical Sciences,
Chulalongkorn University, Bangkok, Thailand
*Corresponding author email: Supakarn.c@pharm.chula.ac.th

ABSTRACT

During the COVID-19 pandemic, the university has been temporarily closed and transformed to online learning at both undergraduate and graduate levels. Face-to-face activities are entirely prohibited for keeping the social distancing and prevent infection. An Office of Graduate Studies Affairs at the Faculty of Pharmaceutical Sciences, Chulalongkorn University in Thailand creates the user-friendly online office platform. Our platform consists of SharePoint, Line Official Account, and Facebook Page. The online platform connects 100 faculty members, around 250 current graduate students from domestic and international origins, several program staff, and prospective students. The online office aims to facilitate graduate studies and helping students meet their graduation goals without delay and financial problems. Students can access and get general information at any location for self-learning and preparation anytime. We use SharePoint as the key database for all documents. Response to student and staff inquiries can be made individually by Line official Account chat. The public news and announcements for current and prospective students are posted on the Facebook Page. We have 3,737 page views on SharePoint and 299 Line Official members during one year of using the online office. The satisfactory evaluation was collected from 145 evaluators, including Master's students, Doctoral students, faculty members, and staff. The satisfaction survey consists of 3 parts, including Part 1: Satisfaction towards the graduate studies services, Part 2: Satisfactory evaluation of online office platform, and Part 3: Outcome/benefit of the online office. The survey results revealed that the most satisfying online services consisted of the information, help, and guidance communicated by Line Official chat, which helps students prepare for graduation on time. Thus, the online office is successfully served as the alternative standard operating platform for managing general regulation, examination, document submission, response to student's inquires, and graduation.

Keywords: Online Office; Social media; SharePoint; Graduate Studies

Paper ID 36

The Effectiveness of Using E-learning for Information Literacy

Rikarda Ratih Saptaastuti

ABSTRACT

Information literacy becomes one of the knowledge and skills needed for students who currently do more online learning activities.Information literacy is needed so that students can choose and access electronic information sources that are in accordance with information needs for the benefit of learning. Previously the library provided support for information literacy activities conducted face-to-face to students, it is currently changing by providing literacy materials using the Learning Managament Systems (LMS) platform. Libraries need to find new ways to improve knowledge and understanding related to information literacy through e-learning, to train students in information literacy skills.Through e-learning information literacy, The Unika Soegijapranata Library develops online learning methods, practices and quizzes to improve students' information literacy knowledge and skills.The purpose of research is to find out the extent of effective use of e-learning for information literacy to students' understanding of the identification, evaluation and use of appropriate and needed information sources supporting the learning process.The research was conducted on students of research methodology classes who were given information literacy materials by the Unika Soegijapranata Library using e-learning.

Keywords: effectiveness, e-learning, information literacy

Paper ID 67

Using the ADDIE model to Develop Critical Thinking Serious Game for Reducing Misconceptions in Psychology

Heru Astikasari Setya Murti[1*], Thomas Dicky Hastjarjo[2,] and Ridi Ferdiana[3]

[1]Faculty of Psychology, Universitas Kristen Satya Wacana, Jln. Diponegoro 52 – 60, Salatiga, Central Java, Indonesia; Faculty of Psychology, Universitas Gadjah Mada, Jl. Sosio Humaniora Bulaksumur, Sleman, DIY, Indonesia

[2] Faculty of Psychology, Universitas Gadjah Mada, Jl. Sosio Humaniora Bulaksumur, Sleman, DIY, Indonesia

[3]Department of Electrical and Information Engineering, Universitas Gadjah Mada, Jl. Grafika No. 2., Sleman, DIY, Indonesia

*Corresponding author

ABSTRACT

A misconception is a belief that is broadly contradicting scientific evidence and is particularly common in the field of psychology. Misconceptions in psychology are often associated with critical thinking. A lack of critical thinking skills among students makes them vulnerable to misconceptions in psychology. Improving students' critical thinking skills through critical thinking instruction is one of the means that can be done to reduce misconceptions in psychology. In this digital era, students tend to spend a lot of time playing games. So, to make critical thinking instruction more interesting, it can be integrated into a serious game. The purpose of this research is to describe the development of a Critical Thinking Serious Game with the framework of Critical Thinking Instruction to reduce misconceptions in psychology by using the ADDIE Model. The ADDIE model is a design model that involves stages, which consist of Analyze, Design, Development, Implementation, and Evaluation Phases. Validation of the critical thinking serious game is achieved through the evaluation of expert judgments. There are nine experts from different expertise, which are three experts from Psychology subject, three experts from Media and Learning Methods subject, and three experts from Media and Game Development subject. The result shows that a Critical Thinking Serious Game that has been developed is appropriate to instruct critical thinking. In conclusion, the ADDIE model can be used as a method to develop a Critical Thinking Serious Game with the integration of a critical thinking instruction framework. For future recommendations or directions, it needed experimental research to evaluate the effectiveness of the Critical Thinking Serious Game that has been developed.

Keywords: Critical thinking; serious game; misconceptions in psychology.

Day Two-1 December 2021

Parallel Session 4 | Room 1 | Session Theme: Online Learning

Paper ID 117

A Case Study: The COVID-19 Pandemic Challenge for Motivating Teacher Candidates to Improve their English Knowledge and Skills

Yuli Christiana Yoedo

Elementary School Teacher Education Department
Faculty of Teacher Education
Petra Christian University, Indonesia yulichy@peter.petra.ac.id

ABSTRACT

The purpose of this article is to demonstrate how the use of technology and online English training fulfilled the needs of teacher candidates at Petra Christian University so that they were motivated to improve their English knowledge and skills. The Faculty of Teacher Education, Petra Christian University entered into an agreement with the Christian West Sumba Elementary School teachers to provide an English training which would enable them to address the need for some extra, more interesting and motivational material and methods, due to the restrictions on teaching imposed by COVID-19. This was also advantageous for Petra Christian University as it allowed them to involve a group of their own students, who had not yet had the experience of being involved in the actual teaching process in the preparation and presentation of the materials, thereby increasing and strengthening their own developing skills. The task was to provide online teaching sessions to the Christian West Sumba Elementary School teachers, which would incorporate the strategies and activities to motivate middle and higher level English students. A descriptive qualitative method was used to collect the data. The researcher was also the lecturer who led the online English training and it was her teacher education students who participated. The results showed that the students were highly motivated to improve their English when they were presented with challenging opportunities to choose roles according to their capacity and passions. They became enthusiastic in the preparation of materials and also ensuring they were able to perform perfectly. In addition, the use of a social networking application and music video platform called *Tik Tok* and the various educational games involved, all contributed to the enthusiasm. In fact, not only were the English knowledge and skills of the students improved but also their communication skills. It can be concluded that a significant challenge for students is likely to produce more benefits than expected. The recommendations for future research are threefold: to investigate the use of the material for English teachers from other remote areas; to use a quantitative method; and to consider different challenges.

Keywords: online English training; pandemic challenge; improve; technology; educational games

Paper ID 128

Students' Response Toward Teaching Online in English Reading Class

Steffie Mega Mahardhika

English Teacher, Language and Culture Faculty,
University of 17 Agustus 1945 Semarang,
Indonesia

ABSTRACT

Pandemic COVID-19 is not over yet, however as an educator we should more creative and innovative to motivate our students in teaching and learning processes. One of the important aspects of learning The English language is increasing reading comprehension. It is challenging for the educator to make it happened when doing online teaching and learning process. To evaluate and analyze the problem the writer makes this research. The purpose of this study is to find out teacher strategies in teaching online reading classes during pandemics. The subjects are the thirdsemester students of The English Department, Language and Culture Faculty, Universitas 17 Agustus 1945 Semarang. The research was held during the even semester of the academic year 2020/2021. This study uses a descriptive qualitative method. The instruments of the data used in this study are questionnaires filled by the students. The objective of this study is to know some problems that happened during online teaching and learning process in reading class that give an impact in improving their reading comprehension skill. In this research, the writer collected students' responses and doing evaluations to make them more effective and interesting in the teaching process. The research indicated that there are some problems faced by the students dealing with learning processes such as teaching strategies, technical problems during online teaching and learning process and they also need extra motivation to improve their reading comprehension. The findings suggested that educators can use diverse teaching strategies in reading class such as scaffolding, QARs (Question and answer relationship), and other strategies to stimulate them being active in online learning processes, the other problem is a technical problem as a signal when they are joining in a class by virtual meeting application. The learners also stated that they need motivation and guidance to use various methods in reading a text. Thus, the process of teaching online doesn't have a big impact on improving reading comprehension but there are other problem that should be noticed.

Keywords: EFL Classroom, Online, Teaching Strategies, Reading Comprehension

Paper ID 134

A Qualitative Analysis on Students' Perspectives Towards Online Learning

Maheswaran A/L Muniandy

SK Putrajaya Presint 9(1), Presint 9, 62250 Putrajaya, Malaysia
maxewmahesh@gmail.com

ABSTRACT

With the pandemic COVID-19, online learning had become a new norm of learning. Though online learning used to be a common practice in some higher learning institutes that offer distant learning, the implementation of this learning mode across all education levels only happened since March 2020. Due to the sudden transition of learning mode, most of the students entered the new norm of learning quite unprepared. Despite of numerous reviews and changes implemented in online learning since it was started, there seems limited effort made to understand students' perception about the online learning. Literature studies showed there were both advantages and disadvantages experienced by students participating in online learning in many different places around the world. Therefore, this research aimed to identify the issues faced by Malaysian students in online learning and the impact of these sessions to them. Qualitative research design was selected and data from samples were collected through the in-depth interview method. Samples from both primary and secondary school students expressed the issues such as technical interruption, difficulty in staying engaged in the lesson and lack of comfort. In terms of the impact, health and work efficiency were expressed as the students' main concern. Future study in the similar scope is recommended to be conducted with multiple research approach to gather more in-depth insights about online learning in Malaysia.

Keywords: Online learning, students, interview, issue, impact.

Paper ID 138

Pre-Service English Teachers' Readiness for Online Instruction and Anxiety amidst Covid-19 Pandemic

PAULUS WIDIATMOKO[1], IGNATIUS TRI ENDARTO[2]

[1]Universitas Kristen Duta Wacana, Indonesia
[2] Universitas Kristen Duta Wacana, Indonesia

ABSTRACT

COVID-19 pandemic has brought about changes in various aspects of human life, including education. Classroom instruction in the time of global crisis demands preparedness to deal with the complexity of its conducts. Focusing on Indonesian pre-service teachers' readiness and anxiety towards online instruction amidst the COVID-19 pandemic, this study took a sample of 334 students from 10 English Language Education Departments in Yogyakarta. The quantitative data of this study suggested that the highest mean was on the students' computer self-efficacy and the lowest one was on their perceived usefulness of online learning. This indicated the students' readiness to deal with online learning technicalities and conducts, although online learning might not be their favorable mode. Furthermore, positive correlation was gained among all 5 aspects of online learning readiness (computer self-efficacy, perceived usefulness, self-directed learning, motivation, and financial resources) with varied significance levels. The highest correlation was between self-directed learning and motivation (R .651**), meanwhile, the lowest one was between perceived usefulness and financial aspect (R .307**). Moreover, regression analysis suggested that the 5 aspects significantly influenced their readiness in which self-directed learning was known to be the most significant one (R .843; R^2 .711; $p < .01$). Consistent with previous findings, the financial aspect was known to be the least significant influence (R .678; R^2 .459; $p < .01$). Meanwhile, the respondents' anxiety level was found to be moderate. Despite positive correlation between anxiety and readiness ($p < .01$) was identified, its effect was weak (R .273; R^2 .075). This study confirms findings of previous research on the effect these five aspects into instructional technology readiness. Further qualitative studies on how these five aspects contribute to EFL pre-service teacher readiness for online instruction would be required. Moreover, affective factor including anxiety at time of crisis needs to be considered to contribute the students' readiness of online instruction.

Keywords: Pre-service teachers; Online Instruction; COVID-19

Paper ID 142

Online Learning -An Education in Covid-19

[1]Dr. A.K. Shafreen Banu, [2]S. Mohamed Aslam and [3]X. Antony Julian

[1]shafreenbanu@gmail.com , [2]assukutty2018@gmail.com , [3]julianx941@gmail.com

[1]Associate professor, Department of Information Technology,
Bishop Heber College (Autonomous),
Tiruchirappalli, Tamilnadu, India
[2]Student (3rd B.Voc IT), Department of Information Technology,
Bishop Heber College (Autonomous),
Tiruchirappalli, Tamilnadu, India
[3]Student (3rd B.Voc IT), Department of Information Technology,
Bishop Heber College (Autonomous),
Tiruchirappalli, Tamilnadu, India

ABSTRACT

In India before Covid-19 education system was traditional one. Educational institutions like Schools, Colleges and University use traditional Chalk and talk method, face to face lecture in classroom. Due to this deadly disease Covid-19 entire world was outburst and World Health Organization (WHO) declared it as a pandemic. This makes the education institution to change the education from offline to online mode. This paper deals with the importance of online teaching-learning process. ICT tools used to make teaching-learning interactive, modes of online learning and issues deals with online learning.

Keywords: Covid-19, ICT tools, Issues in Online Learning

Paper ID 144

Peer Review in Online Academic Writing Class from the Students 'Perspective

Emilia Aydawati

ABSTRACT

This study aims at exploring the students' perception of the peer review activities in Academic Writing Class using CyberLearning, an e-learning platform used to do an online learning with some activities. This platform is a newer twist on e-learning, where technology tools are used to carry out and facilitate learning experiences. It is a platform that has been used during this Covid 19 pandemic. There are several activities that can be done on this platform, such as chat, feedback, and forum. To get data, a questionnaire was distributed to sixty students in Academic Writing Class to know their perception of the peer review activities done in cyberlearning. These activities are done in a forum, chat, discussions, and google doc. The result indicates that they perceive the peer review in online Academic Writing Class in CyberLearning positively. They were considered peer review activities they done were helpful. They believe that doing peer review can improve their writing skills. The most preferred peer review activities are using Google doc and forum, while discussion is the least preferred peer review activity.

Keywords: Cyberlearning, Peer Review, Witing activities

Paper ID 131

Online Learning: The Impact of Listicle Writing Guide on Low Proficient Students' Ability In Writing Corresponding Essays

[1]Grace Gayathri Ramakarsinin and [2]Grace Vishalini Ramakarsinin

[1]graceleah68@gmail.com, [2]racgrace1@gmail.com

[1]Temiang National School, Malaysia
[2]Bekok National Tamil School, Malaysia

ABSTRACT

The paper provides insight into factors that influence students' ability to write corresponding essays. The purpose of this paper was to identify the impact of the Listicle Writing Guide on low proficient students' ability in writing corresponding essays. Listicle Writing Guide is a new intervention created to guide low proficient students to produce good corresponding essays, which are presented in a thematic structure of five steps guide. To gain a deeper understanding of the matter at hand, a mixed-mode case study was conducted involving 3 teachers and 36 students from two different schools. These 36 students were chosen through purposeful sampling, where all of the students had difficulty writing corresponding essays and had weak command of the language. The initial interview with the teachers shows that the students have problems developing ideas, lack of understanding in writing corresponding essays and confusion of the structure of the essay being written which led to their lack of motivation to write corresponding essays. This matter deteriorated after schools were forced to shut down due to the pandemic as teachers are not able to give students the intended guidance and supervision. An intervention has taken place where the Listicle Writing Guide was introduced to the students through Google Classroom for two weeks. The findings suggest there is an improvement from a mean of 26% (sd 2.55) in the pre-test to 77% (sd 2.95) in the post-test. An extensive interview after the intervention shows that the systematic writing guide helped the students to write with correct format and structure, have good flow in-between paragraphs and are able to expand ideas more efficiently. The interview also shows that students are more motivated to write corresponding essays after the intervention. In conclusion, our findings indicate that the Listicle Writing Guide is found to be a useful technique to improve low proficient students' ability to write corresponding essays as well as their motivation to write corresponding essays. For future direction, a more extensive study should be conducted on the subject to create a framework for teachers to teach corresponding essays using the Listicle Writing Guide.

Keywords: Listicle Writing Guide; writing; corresponding essays

Paper ID 132

The effects of teaching skills on teaching performance in Petra Christian University (PCU): Did the Covid-19 pandemic make a difference?

Ridhotama Shanti Darsih Ottemoesoe[1,*], Yohanes Sondang Kunto[2] and Liauw Toong Tjiek[3]

[1, 2, 3]Petra Christian University, Indonesia
*Corresponding author

ABSTRACT

Previous studies have shown that teaching skills positively affect teaching performance. However, with the Covid-19 pandemic has forcefully transformed the traditional on-site classes to distance learning, less were known on what teaching skills are required to maintain teaching performance. This study explores the effects of teaching skills on teaching performance in three different periods: one semester before the pandemic began and two consecutive semesters after COVID-19 hit Indonesia. This study uses the teaching performance evaluation database used at Petra Christian University (PCU) which consist of ten (10) teaching skills indicators before COVID-19 pandemic, and twelve (12) teaching skills indicators during COVID-19 pandemic. The data is in the form of four-point Likert scale, where the indicators used have been set and developed by the Quality Assurance Department at PCU. A linear regression model with cluster robust standard errors at the faculty level is used to measure the effect of teaching skills on overall teaching performance. We use several control variables in order to control the differences in faculty characteristics (eg, workload and age) and class characteristics (class size and faculty fixed effects). By randomly selecting 1,500 classes by proportionally sampling classes from the three different periods, we find that, in general, lecturers in PCU have a high score in teaching skills and teaching performance (≥ 3.00 in four-point scale). Teaching skills positively affect teaching performance. "The teaching matches the learning plan" has the highest effect on teaching performance. Whist, "The lecturer uses attractive teaching materials" has the least effect. In the first semester of the pandemic, the effects of "The lecturer has an extensive knowledge on the topic" on teaching performance increased relatively to the last semester before the pandemic, while the opposite takes place for the effects of "The study workload corresponds to the lesson objectives". Interestingly, changes on the strength of the effects then flatted-out in the second semester of the pandemic, matching that of the effects in the last semester before the pandemic. In conclusion, the necessary teaching skills to maintain teaching performance shifted in the first semester of the pandemic. During the time, the lecturer was required to upgrade their knowledge and emphasized less on the study workload. Studying the root causes of this phenomenon could be an agenda for future research.

Keywords: teaching skills; teaching performance; Covid-19, online learning, distance learning

Paper ID 136

Students' Evaluation on the Use of Google Jamboard in the Online Learning

Angelika Riyandari

ABSTRACT

Asking the students to do collaborative learning during the synchronous session of an online course can be a tiring task for the teacher. The unstable internet connection is a cliché excuse for the students to not turning on the microphone and participates in the class discussion. As a result, the teacher ends up doing most of the talking even in the supposedly class discussions. In the small group discussions, granted the internet connection is stable, the teacher still needs to dedicate extra time to move from one virtual room to another. Google Jamboard, then, can be an alternative to do collaborative learning. This presentation aims to share the students' evaluation on the use of Google Jamboard in the writer's classes. In general, the students viewed the use of Google Jamboard positively. They were also confident that they could navigate this application on their own. However, some students said that they had difficulty to use the Jamboard via their mobile phone and, again, when the internet connection is unstable.

Keywords: Google Jamboard, evaluation, collaborative learning, online learning

Paper ID 30

Low-delity Buyer Seller Housing Simulations Can Encourage Authentic Learning Experiences

WONG Wai Chung Gary, [2]WONG Pui Yun Paulina and [3]SHEN Jiandong, Daniel

[1]wongwc@ln.edu.hk, [2]paulinawong@ln.edu.hk,
[3]dan@soqqle.com
[1]Department of Economics, Lingnan University, Hong Kong
[2]Science Unit, Lingnan University, Hong Kong
[3]Soqqle Pte Ltd, Singapore

ABSTRAC

The purpose of this pilot study is to evaluate the possibility of using low- delity simulations in a social network to achieve diverse learning goals. While popular simulations use modern technologies like virtual reality, the cost involved in acquiring such technologies, the student learning curve, and the scalability of the solution often create challenges in teacher-student adoption. Popular communication technologies like social networks may help as the multimedia format can still re ect realistic scenarios or events. The easy-to-use and familiar nature of social networks also may encourage adoption. However, besides being unclear how a game design can t into a social network, students may not nd the experience purposeful for learning. This is in light of studies that show that students do not prefer social networks in learning if not designed with purpose and learning goals. This gap in knowledge and evidence has motivated this pilot study for which 23 students taking part in a housing economics course in a Hong Kong university post pictures for properties on a private social media application, Soqqle. Soqqle is a code-protected mobile application where students can post multimedia and engage with each other using comments. In this context, participants posted properties on Soqqle and transacted with each other using comments through a bidding and purchase acceptance process over three rounds.

Post-course re ective essays suggest that students nd the process authentic as conditions for re ective thinking, knowledge transfer, and optimal challenge were met. The authors invite other researchers interested in low- delity game-based learning to develop other use cases that may use a multimodal approach.

Keywords: game-based learning, gami cation, economics education, social

Paper ID 139

A Study on Students' Perception of Social Media to Learn English as a Foreign Language

Kenny Sely, Cecilia Murniati and Heny Hartono

ABSTRAC

This study focuses on the use of social media for learning English as a foreign language. The purpose of this study is to find out students' perception of social media which are used to learn English, what type of social media which students mostly use to learn English, and how students use social media to learn English. To address the research questions, this study used qualitative method approach. To obtain the qualitative data, the writer interviewed two sophomores, two juniors, and a senior. The qualitative data were aimed at getting in-depth information about how students used social media to learn English and what type of social media which they used mostly to learn English at the one of private universities in Semarang. The result of the study showed that students had positive perception on the use of social media to learn language skills. They reported that they mostly used Instagram and YouTube to learn English as their foreign language. The findings of this study also suggested that lecturers had an important part in their learning process even though they already learned a lot of lessons from social media.

Keywords: Social media, Instagram, YouTube, language learning

Paper ID 101

Evaluation of Acceptance of Block Programming Technology for Multidisciplinary New Students at Unika Soegijapranata

Agus Cahyo Nugroho

ABSTRACT

At this time most of the people can not be separated from the gadget. Smartphones, tablets, laptops and others are always there wherever we go. This is based on various kinds of social media, entertainment, and education contained in these gadgets. People of various ages ranging from old, young and children cannot be separated from these gadgets. Even today people are more worried if they leave their gadgets at home than if they leave their wallets behind. This fact further strengthens the importance of gadgets in the daily life of almost some people. But on the one hand, most of the people are just connoisseurs or consumers of the various advantages offered by these gadgets. Therefore, there is a need for education on how to make various kinds of applications contained in these gadgets. The hope is that people will not only become users or consumers of various kinds of applications on these gadgets. However, the community is also actively involved in presenting solutions to various problems that exist in the community. One of the easiest technologies in developing applications on gadgets is Block Programming. Categorized as easy because users only need to arrange program blocks based on their logical flow. So that users can focus on presenting solutions to real problems that exist in society without paying attention to errors in writing lines of code. Evaluation of acceptance of Block Programming technology for new multidisciplinary students is expected to be able to measure the level of ease of use of Block Programming for new students from various Study Program backgrounds.

Keywords: Evaluation, Block Programming, Multidisciplinary

Paper ID 102

Development of an AI-assisted Platform to address Learning and Assessment Needs of Virtual Presentations in English for Chinese students

Pauli LAI[1,*], Julia CHEN[2,*] and Vicky MAN[3,*]

[1]The Hong Kong Polytechnic University, Hung Hom, Kowloon, HONG KONG
[2]The Hong Kong Polytechnic University, Hung Hom, Kowloon, HONG KONG
[3]Hong Kong Baptist University, Kowloon Tong, Kowloon, HONG KONG
*Corresponding author

ABSTRACT

Effective oral communication skills are instrumental to students' academic and professional success. While students can practise presentations on their own, the improvements could be limited without timely and appropriate feedback. Real-time assessment of oral presentations in a class with more than a hundred students is not feasible either, nor is it practicable for teachers to offer input to students on each of their practice attempts. Meanwhile, non-language specialists would find it challenging to address the specific oral presentation needs of Chinese speakers. As such, a team of engineering and English teachers are creating an AI-assisted virtual presentation platform to develop the speaking skills of Chinese students, improve their self-learning and learn-to-learn ability, and address the heavy assessment load of subject teachers. This platform has three components: 1) learning units with exercises on the delivery aspects of oral presentations, 2) preliminary AI evaluation of presentation practices, and 3) customizable rubrics for teachers to adjust evaluation criteria and weightings based on their discipline-specific requirements. To understand Chinese students' weaknesses in delivering oral presentations in English, in-depth discussions, needs analysis and focus group interview were conducted. Their results inform the design of customized learning materials that address some of the areas of concern, such as repetitive signposting and overuse of vocal fillers. The technical team then develops the platform for students to submit their presentations for preliminary AI evaluation. This AI-assisted platform under development targets the learning needs of Chinese students. It aims to provide practical exercises specifically for Chinese students and enable them to practise English presentations on their own. Meanwhile, the AI evaluation of the delivery aspect of students' oral presentations serves two purposes. Firstly, the AI-generated feedback enables students to reflect on the communication part of their performance. Secondly, the AI scoring mechanism shares teachers' grading workload. With the AI feedback targeting the delivery/communication aspects, discipline teachers can focus on the content of students' presentations. Working out this platform has presented challenges of weighing feasibility against desirability. The language team advises on the needs of students, while the technical team identifies the appropriate AI tools to use. Through negotiating differences in perspectives and working out solutions, this cross-disciplinary collaboration strengthens the efforts for the betterment of e-learning.

Keywords: Artificial Intelligence; AI; Chinese students; virtual English presentation; learning and assessment tools

Paper ID 147

Developing eLearning Resources in Religious Education Department, Sanata Dharma University, Indonesia

Bernardus Rukiyanto

ABSTRACT

During COVID-19 pandemic, e-learning resources need to be developed so that the teaching-learning process can continue to run well and smoothly. In Religious Education Department, e-learning resources are needed to support the development of faith and to develop the ability to educate as well as the ability to assist in the formation of faith. Prospective religious teachers also need to be equipped with the ability to use learning media so that later they can teach by utilizing all kinds of available media. As religious educators, they also need to know people of other religions so that later they can work together with them to build a just and prosperous society and nation. Realizing these needs, lecturers need to develop creative e-learning resources due to the limitations during this pandemic. These e-learning resources were explored in this article. The purpose of this article is to explore e-learning resources through technological advances, the internet, learning media, and so on. This study applies a qualitative method. The researcher made deep interviews with lecturers and students. The expected result of this research is to find varieties of e-learning resources for teaching-learning in Religious Education Department. The conclusion of this research is that there are many e-learning resources that can be used to teach. The researcher recommends lecturers of Religious Education Department to use e-learning resources to teach and to develop teaching-learning process so that students can learn effectively.

Keywords: Religious Education Department, e-learning resources, learning-oriented technologies

Paper ID 120

Face to Face or Online? Student-led Approach in Driving Acceptance and Sustainability of Hybrid Teaching

Kai Pan MARK[1*], Rodney Wai Chi CHU[2] , Karmen ZHENG[2] and Charles W. H. WOO[2]

[1]Educational Development Centre, The Hong Kong Polytechnic University, Hong Kong SAR
[2]Department of Applied Social Sciences, The Hong Kong Polytechnic University, Hong Kong SAR
*Corresponding author

ABSTRACT

As a response to the local COVID-19 pandemic, face-to-face (F2F) classes were suspended in Hong Kong universities since spring 2020. While the local pandemic situation has been improving, these universities also started to adopt hybrid teaching (F2F teaching with online attendance) since summer

2020 on teachers' voluntary basis. After one year, in fall 2021, hybrid teaching has become mandatory in all classes, allowing students to freely attend classes F2F or online irrespective of their present geographical locations.

It is, however, challenging for teachers to deliver their lessons in hybrid mode. Thus, many concerns were raised at the beginning, worrying about the lack of support provided on infrastructure, digital learning pedagogy, teaching assistants and readiness of teachers to teach in hybrid settings. In the previous practices, the ratio of students who attended F2F classes to online lessons could vary significantly among different classes. This further affected teachers' perceptions on hybrid teaching, as it would be difficult to design effective teaching and learning activities, and cause unequal attention either to the F2F or online group. This can have a significant impact on students' engagement and learning experience on the less privileged, although unintended, mode.

After one year's voluntary adoption, our attempt to minimise the gap between teacher's concerns as well as improve students' experience in the current academic year 2021/22 is to adopt a student-led approach to bridge the digital gap between teachers, especially from the digital immigrant generation, and the students who are generally from the social media generation. Built on the experience and lessons learnt in academic year 2020/21, students and recent graduates are engaged in the pedagogical planning and the development process, providing input and guiding the implementation of an online and blended learning solutions that naturally resembles the daily lives of the current student generation. Students with different expertise, including social sciences, design and computer science, are further trained to take up active classroom supporting roles in hybrid teaching activities, from acting as the "avatar" of online students in the classroom, to providing on-site operational help and troubleshooting technical issues. The immediate benefit to be seen is that teachers can design activities that address students' behaviours, digital habits and learning needs without investing much effort and trials. Student assistants can also provide feedback to the department promptly and drive innovative solutions timely as a response. The approach, however, will need to be carefully designed and implemented to avoid potential conflicts and to sustain the positive impacts on student learning.

Keywords: hybrid teaching; social learning; student-led pedagogy development; learning management systems; video in learning

Paper ID 126

Commonplace of Curriculum Design in the Next Normal: Insights from Philippine Pandemic Classrooms

Louie B. DASAS[1]

[1]University of Santo Tomas, Manila, Philippines

ABSTRACT

The ongoing COVID19 pandemic daunted educators with a herculean task to modify and migrate an in-person curriculum to an online teaching and learning environment. It should go without saying that the current pandemic curriculum is not without blemish, such that it was initially designed to "make ends meet." Moving forward with and post-COVID19, schools are challenged to respond to the emerging need for dynamic curriculum design that is responsive to the needs of disruptive times. A thought-provoking inquiry: *What is the commonplace of curriculum design in the next normal?* This session describes an inquiry that documents teacher experiences given the volatile realities of curriculum implementation in a pandemic classroom. The current Philippine K-12 curriculum is analyzed from the lens of classroom practice. More specifically, this session outlines curriculum design practices of selected Filipino K-12 teachers and elucidates on the push and pull factors concerning curriculum design. This session explicates curriculum design in the next normal, focusing on a dynamic structure rooted in the eccentricities of a complex and ever-changing world with and post-COVID19. Lastly, this session underscores the importance of include teacher agency, curriculum content, and dynamic milieu as commonplaces of curriculum design in the next normal.

Keywords: curriculum design; curriculum design in the next normal; pandemic curriculum

Paper ID 135

Project Based Learning and Transdisciplinary approach as Pedagogies for Innovative and Enterprise Education to develop 21st century skills

Cherine Tan MF[1*] and Foon Yee Lee[1]

[1]Nanyang Polytechnic. 180 Ang Mo Kio Ave 18, Singapore 569830.

ABSTRACT

Singapore SkillsFuture and 21st century skills initiatives are national movement which help Singaporeans to develop to prepare themselves in the future workplace. These initiatives suggest that apart from the technical knowledge, soft skills such as creative and transdisciplinary thinking, problem solving, communication and teamwork/collaborative skills are also keys to the success for them to stay relevant in the face of this constantly changing environment and be effective in their workplace. How can our higher education institutions best position our graduates for the challenges and opportunities they will encounter in a real world work environment? Research suggests that repeated exposure to high impact practices such as project-based learning (PjBL) could be the answer. This research aimed to evaluate and compare the effectiveness of using PjBL and the transdisciplinary pedagogical approaches in the development of the skills mentioned above. Students' perceptions of their development and importance of these skills were examined with a set of survey questions answered by two groups of students at the beginning and in the end of the project under the PjBL approach, except that one of the group also practice the transdisciplinary (TD) approach which required students to collaborate with students from another disciplines. Using a I&E (Innovation and Enterprise) module which required students, working as a team, to complete a project by developing a solution to a real world problem. The study focused on two questions: 1) What are students' perceptions of their development and importance of these skills? 2) What relationship, if any, is there between students' perceptions of these skills among the different groups of students? Quantitative analysis paired samples *t*-test and two samples *t*-tests were used to analyze the survey data. The results showed students' perceptions of their skills were positive and that PjBL helped them develop multiple skills including, but not limited to creative & critical thinking, problem solving, and collaboration in both PjBL and TD groups while the comparisons between the 2 groups was not significantly different. Implications of this research suggest that PjBL is an effective pedagogy to improve on students' life skills development and helps prepare them to be successful in the 21st century global community and economy.

Keywords : Project-based learning; Innovation and Enterprise; 21st century skills; Transdisciplinary

Paper ID 73

Promoting Flipped Learning in Hong Kong's Secondary Schools through a Joint-Institutional Project

Martin LAU[1] and Theresa KWONG[1*]

[1] Centre for Holistic Teaching and Learning, Hong Kong Baptist University, Hong Kong
*Corresponding author

ABSTRACT

Flipped learning has grown in popularity worldwide over the past few years. However, it is still at an early stage of recognition and adoption in Hong Kong's schools, particularly those below the tertiary level. While some teachers in Hong Kong wish to "flip" their classes, heavy workload and insufficient support are the major hurdles in their successful implementations. Furthermore, due to the "spoonfeed" characteristic of the traditional teaching and learning approach in Hong Kong, many students are not active in terms of learning. Many of them rely on the lecturing of teachers heavily and seldom seek self-learning opportunities, making it difficult to ask students to self-learn before coming to flipped classes. Two universities in Hong Kong have joined forces (with a teacher society as a collaborative partner) to implement a territory-wide pilot project to facilitate teachers at secondary schools in Hong Kong to implement flipped learning at the junior secondary level. Being a pilot project, flipping is promoted mainly for English Language and Mathematics classes at the junior secondary level. The project is being implemented with four major components, namely: (1) Lowering of the threshold of flipped learning, by producing teaching and learning resources for teachers, and developing an online platform for disseminating the resources and for teachers to manage their flipped classes. (2) Enhancement of teachers' knowledge of and confidence in flipped teaching through workshops of pedagogical and technical areas, a scheme providing close mentoring and support to participating teachers, as well as a flipped learning case contest. (3) Competitions and activities to promote flipped learning and self-learning among students. (4) Research and evaluation to build a comprehensive flipped classroom model that can be replicated or adapted in different educational settings in Hong Kong and other regions. In this presentation, the work being done by one of the universities will be detailed. In addition, feedback from participating teachers in terms of the benefits of flipped learning to them and their students, as well as the approaches they adopted to overcome the challenges encountered during their flipping, will be shared. It is envisaged that through this presentation, participants will recognise how flipped learning can be applied to Hong Kong's secondary education.

Keywords: flipped learning; teacher training; secondary education; English Language education; Mathematics education

Paper ID 76

Lived Experiences of Doctors Utilizing Telemedicine for Patient Care in a Private Hospital in Iloilo City

De Asis, Hazelene Grace, Capague, Christienne,
Blancaflor, Veronica, Capate, Celyn, Degala,
Carl John, Delos Santos, Jan Gabriel,
Dr. Betty Polido, MAN, M.Ed, Ed.D

ABSTRACT

This study aimed to answer the question, "What are the lived experiences of doctors utilizing telemedicine for patient care in a private hospital in Iloilo City?" The goal of this study was to learn about the experiences of doctors who have integrated telemedicine into their practice to satisfy the health-care needs of patients. Telemedicine is the electronic transmission of health-related services and information with the purpose of providing, delivering, and augmenting healthcare when participants are separated by distance. It can efficiently handle the challenges that the medical community encounters in terms of communication, health education, follow-up, and research. This study used a qualitative descriptive phenomenological research design, which focuses on the examination of an individual's lived experiences. The participants in this study were purposefully chosen, and data saturation occurred after the sixth participant was interviewed. Data were gathered through unstructured, in-depth interviews that were recorded utilizing the Zoom internet platform. Colaizzi's method of data analysis was utilized to describe the phenomenon under investigation. Methods to establish rigor, trustworthiness, and integrity of data were established. The data collected showed three repeating patterns that were made into the major themes and eight subthemes, namely, (a.) Telemedicine: An Enabler, with subthemes (1) Continuity of Care and (2) Increasing the Scope, (b.) Coping with the New Normal, with subthemes (1) Minimal Risk Exposure and (2) Adapting Telemedicine, and (c.) Telemedicine: A Challenge with subthemes (1) Inadequate Assessment, (2) Lack of Connection, (3) Being Legally Conscious, and (4) Technology-Related Difficulty. Telemedicine has given physicians the opportunity to have the scope of their practice expand and allow them to cater to the needs of patients in an era where contact and exposure poses the greatest risk to one's health. Despite its promising outcomes however, it also proves as a challenge for those who are not fond or used to such technology. The themes identified were used to formulate recommendations for physician telemedicine use, such as holding trainings and seminars on the topic which are crucial in the development of a knowledge-based approach to Telemedicine. Furthermore, this research can be used as a foundation for future research to better understand the role of telemedicine from the perspective of clinicians who use it to provide patient care.

Keywords: education; health care; technology; Telemedicine

Paper ID 114

Development and Validation of Scouts' MATHventures: A Mobile Application Screening Tool for Dyscalculic Tendencies

Arman DC. Santos[1,2,*], Maria Ana T. Quimbo[1]

[1]University of the Philippines Open University, Los Baños, Laguna, Philippines
[2]Polytechnic University of the Philippines, Sta. Mesa, Manila, Philippines

ABSTRACT

The main objective of the study is to develop and validate the psychometric properties of Scouts' MATHventures, the first Philippine mobile application screening tool for dyscalculic tendencies. As the first screening tool of its kind in the country, Scouts' MATHventures aims to be the primary step to help children at-risk to dyscalculia through early identification. The test is embedded in a playful game environment using a tablet computer and includes eleven (11) tasks divided into basic number skills, arithmetic calculation, and other cognitive tasks. The study was conducted using instrumentation and qualitative research designs. A total of 248 Grade 3 pupils (136 boys and 112 girls) were included in the standardization or norming group. For the psychometric properties, validity was measured using face and content validity while reliability was measured using internal consistency and test-retest reliability. Findings revealed that the screening tool has excellent level of face and content validity and acceptable to excellent level of internal consistency and test-retest reliability. This suggests that the screening tool is a valid and reliable instrument to identify children with dyscalculic tendencies. From the results of norming procedure, the study provided stanine norms and cut-off scores that can be easily utilized by teachers, parents, and other researchers to identify at-risk children. In terms of mobile app quality, all aspects of engagement, functionality, aesthetics, information quality and subjective quality were rated as excellent by a panel of experts. Moreover, the respondents had high level of engagement and over-all satisfaction as indicated by their enjoyment and interest in completing all the tasks. Likewise, the app's functionality and aesthetics were evaluated to be very good. Hence, the children had an over-all positive experience. The use of Scouts' MATHventures is highly recommended to mathematics teachers and parents for initial identification of dyscalculic tendencies among children.

Keywords: dyscalculia; dyscalculic tendencies; mobile application; screening tool

Paper ID 47

Teachers' Challenges and Strategies of Teaching Speaking in Virtual Classrooms

Elfrida Oktaviani,
Cecilia Titiek Murniati
Heny Hartono

ABSTRACT

COVID-19 urges the education system to adapt with the inevitable situation. The teachers are obliged to conduct online classes to reduce the virus transmission. However, teaching in an online class can be a new thing for some teachers. Online class requires the mastery of technology in order that the teaching-learning process can run well. Thereby, some teachers might face difficulties and challenges in operating the platforms and managing the class during teaching in online classrooms. The present study aims to examine the challenges that teachers face during teaching speaking online in the pandemic era and the strategies to overcome those challenges. The participants in this qualitative study were teachers of speaking classes in universities. The findings will discuss the challenges that teachers encounter in speaking classes and how they navigate these challenges to attain the teaching objectives.

Keywords: online classes, speaking skill, English teaching, challenges, strategies

Paper ID 37

The Construction of Virtual Public Space in the Gamespace

Mita YESYCA[1*]

[1]Universitas Kristen Indonesia, Jl. Mayjen Sutoyo No. 2, Kel. Cawang,
Kec. Kramat Jati, Kota Jakarta
Timur, Provinsi DKI Jakarta-13630, Indonesia
*Corresponding author

ABSTRACT

Today, because of the impressive technology development, we have virtual public spaces. Some virtual public spaces are connected to the real space and life, while many others are not. The paper aims to explore the agency of cyberspace users by investigating the formation of an unregulated virtual public spaces. Online game is used in the research because it is suitable for representing the unregulated virtual public spaces with millions of users. This research begins by recognizing at how a public space, which is intended to be safely and comfortably used by anyone, tends to be harmful and violent-friendly towards a particular group of people. Instead of looking at public space as given, following some Feminists' arguments, the paper looks at public space as always contingent and constructed through violent acts and language of paternalists. By examining player-driven media (internet forums, contents, websites) in various online games; the rules, the dialogues, and discussions there are reread to capture the capacity to prevent, defend and remedy violence inside of those gamespaces. This way, how the virtual public space in the gamespace constructed simultaneously as players taking part in concrete social struggles to convey and ascribe meaning to their 'public' dialogues and conflicts, as well as (2) how difficult it is to create genuinely virtual public space when the question of what constitutes 'legitimate' violence is itself in dispute, can be shown.

Keywords: Virtual public space; violence; gamespace; agency

Paper ID 59

Transition from Offline to Digital Learning: Negotiating Attitudes and Challenges Among Higher Education Students

Jacqueline Kareem, PhD, Arathi Venkatesh, PhD, Abhaya N B

School of Education, CHRIST (Deemed to be university)
Department of Psychology, CHRIST (Deemed to be university)
Department of English and Cultural Studies, CHRIST (Deemed to be university)

ABSTRACT

Digital teaching and learning is a major consequence of COVID 19 pandemic. Educational institutions at all levels have adopted digital platforms with various success. This past year and a half has encouraged researchers and academics to reflect upon digital intervention, its impact on pedagogy, learning, assessment. However, the focus of the research across the globe, specially in India has been to think about access to effective infrastructure for institutions and its learners. Such research has pointed out the limitations of available infrastructure, lack of expertise of the faculty to adapt themselves to digital teaching, socioeconomic factors affecting the learners to access digital platforms for learning. Educational institutions will have strict rules and policies on campus and will effectively deploy them with the help of appropriate measures. However, in the present circumstances, online teaching, learning and assessment will demand the learner to bring in their own ethics unrestrained by the external institutional rule book, hence this study. This study is an exploratory study, exploring the attitude towards online classroom engagement and online assessments and exams and challenges in digital learning. The sample were 1017 students in higher education across India. The tool used was a researcher made 'Digital Learning' scale. The tool has three factors namely; Attitude towards Online classroom engagement (14 items), Attitude towards online assessments (7 items) and challenges in digital learning (11 items). There were 32 items marked on a 5-point scale from strongly agree to strongly disagree. The reliability and validity of the tool was established and administered to the sample through gform. Normality, tests of significant differences, correlation and percentage analysis have been computed. The major findings of this study are: Around 50% of the students prefer that there should be a balance between online and offline teaching, learning and evaluation; there is significant positive very high correlation between the last online exam and last offline exam scores(=838); there is a significant positive high correlation between attitudes towards online class engagement and attitude towards online assessments and exams (=630); there is a significant positive high correlation between attitudes towards online class engagement and attitude towards online assessments and exams (=630); there is a significant positive low correlation between attitudes towards online class engagement and challenges in digital learning (=069); there is a significant positive moderate correlation between attitude towards online assessments and exams and challenges in digital learning (=340); around 60% of the students appreciate digital learning and digital exams at the present times; there was significant difference found in the attitude towards online classroom engagement and online assessments and exams and challenges in digital learning with respect to Undergraduate and postgraduate students; 65% of the students agree that digital learning increases social isolation; 55% of the students agree Incidence of cheating by the students in Digital Exams is evident; 60% of the students agree that added skills are required to overcome any glitches in Digital learning. The study concludes with recommendations to faculty and administrators in Higher education in India.

Keywords: Higher Education, Digital learning, Digital ethics, Online classroom engagement, Online exams.

Paper ID 123

A Study of College Students' Perception and Practice of Digital Citizenship

Cecilia Murniati,
Heny Hartono,
Angelika Riyandari,
Rikarda Ratih Saptaastuti
Andre Kurniawan

ABSTRACT

The COVID-19 pandemic presents an unprecedented challenge worldwide including education. To prevent the spread of the virus, governments enforce school closure. Students learn from home. Teaching is conducted remotely and learning activities are done through various digital platforms. As the world continues to be connected virtually, digital citizenship has become increasingly more important. As a place to nurture the minds, schools should guide learners to act responsibly and respectfully to other people in their communities. College students as the users of digital technology have to possess the ability to read, write, interact with diverse online communities as well as the ability to think and act critically, analytically, and responsibly in online environments. This quantitive study is exploring college students' perception and practice of digital citizenship. An online survey covering elements of digital citizenship was distributed to college students. This presentation will delineate the results of the study. Implications of the findings on higher education policy will also be discussed.

Keywords: digital citizenship, college students, technology

Paper ID 153

Why Should Students Take Screen Breaks? Lessons Learned in Shifting from Face-to-face to Fully Online Distance Learning

Dave Marcial,
Jan Cynth Palama,
Aurielle Lisa Maypa

ABSTRACT

The sudden shift from face-to-face to online learning continues to challenge every stakeholder of learning. One of the emerging issues in online distance learning is screen time management among teachers and students. To mitigate, some schools implement screen break initiatives. This paper answers the question, "Why should students take screen breaks? Specifically, it measures the degree of benefits of screen break as perceived by the students. Likewise, it assesses occurrences of activities done by the students during the screen break in the academic semester. Respondents are students from Silliman University. A total of 236 survey responses were analyzed. The result shows that 92% of the respondents agreed that the screen break is helpful in their well-being. 86% of respondents said that they enjoyed doing non-school-related stuff during the screen break. More than half of the respondents are not taking the screen break and are still performing school works. Not all respondents (65%) believed that the objective of the academic screen break had been achieved. The activities that the students performed during the break include bonding with their family and relatives, sleeping and resting, and doing some outdoor activities. It is highly recommended that academic screen breaks be part of the school calendar in online distance learning.

Keywords: Online learning, screen break, academic break, mental health

Paper ID 163

Being and Becoming a Digital Mentor- An Explorative Study towards Building Digital Citizenship

Mary Jayanthi Michael
Merlin Depsy Nithiya

ABSTRACT

Education across the world had experienced a paradigm shift since March 2020. With technology dissemination at its peak, it creates an urge to equip the post-apocalyptic learning cohorts and their mentors to understand the principles of digital citizenship. Hence, this paper is an attempt to platform the role of a teacher in the E-classroom and provides ethical guidelines for students in the digital age. It further discusses the need for digital detox and suggests ways to implement them within and outside the 21st century classrooms. The paper includes surveys for teachers and students and the findings analyze the need for imparting digital citizenship.

Keywords: Digital Mentor, Digital Citizenship, Digital Detox, Post-apocalyptic

Paper ID 148

Peer-Teaching as a Strategy to Augment Synergic Learning

Dr. R.Annie Karunya Bagyam

Assistant Professor of English, Bishop Heber College
Tiruchirappalli -620017, Tamil Nadu, India

ABSTRACT

The Gen Z teenagers, who pursue their higher studies in colleges are digital natives, well versed in technology. This article endeavours to prove the power of peer-teaching which facilitates in enhancing the potential of both the trainers and learners. The students of III B.A. English Aided in

Bishop Heber College were instrumental in organising B.U.I.L.T. – Buddy Upliftment Incorporating Learning and Teaching: A Peer Teaching Initiative under the guidance of the researcher Dr. R. Annie Karunya Bagyam to augment the constructive growth of student community during the time of pandemic. A group of student volunteers identified their skills and talents in extra-curricular aspects, teamed with like-minded peer talents and framed syllabi for crash courses. There were twenty seven trainers from III B.A. Aided and they offered twelve courses ranging for a week to ten days through online google meet/ zoom platform for the students of the department of English from September 2020 to January 2021. Separate Whatsapp groups were created for each course and this promoted cordial communication between the trainers and learners.

The courses are Acrylic painting and Micro Art, Cooking and Baking, Class of Cultures,

Calligraphy, Blogging for Beginners, Creative Writing, Starter Kit for Online Learning, Basic French, Basic Hindi. Basic Malayalam, Basic Keyboard and Basic Guitar. More than 150 learners benefitted from this venture. Apart from acquiring basic knowledge, the learners were also channelized in the right pursuit of greater knowledge through their respective courses. Some of the courses facilitated the learners to acquire life skills like cooking, entrepreneurial skills like creative art and writing. The initiative also boosted the confidence of the trainers and widened their horizons in exposing their talents and skills. This was possible through constant motivation and periodic feed-back. As both the trainers and learners are peer members, it established mutual love and respect. It is win-win venture and it can be extended to regular curriculum.

Keywords: Peer-teaching; digital-natives; trainers; learners

Paper ID 157

Developing "deep listening" Spiritual Pedagogy in online learning

Yuliana Tacoh

ABSTRACT

This article focuses on how to develop the application of the "deep listening" spiritual pedagogical framework in online learning, religious education. The development of spiritual pedagogy in online learning departs from various problems of connectedness and student involvement in online learning. The article aims to (1) explain what deep listening spiritual pedagogy is, (2) explain what online learning is and the various learning problems experienced (3) develop spiritual values from one's own perspective within the framework of deep listening pedagogy, (4) describe the implementation of pedagogy spiritual "deep listening" conducted in religious education courses. The first work is to review and explain the meaning of spiritual pedagogy and the various value concepts used. Then understand and describe the spiritual pedagogy of "deep listening" and the values that can be implemented. Next is to describe online learning and its advantages and disadvantages. The next step is to describe the value of one's own perspective used in religious education learning activities and analyze its integration with the value in the "deep listening" spiritual pedagogy. The last section describes the implementation in online learning classes which is carried out by discussing spirituality in the topic of discussion, using teaching methods that include real-life cases according to the topic of discussion, which are analyzed from the perspective of "deep listening" spiritual pedagogy.

Keywords: Spiritual pedagogy, deep listening spiritual pedagogy, online learning

Paper ID 130

MEMS Design and Fabrication Project-Based Assessments during Pandemic Remote Teaching and Learning

Mohd Hafiz Ismail[1]

[1]Faculty of Electronic Engineering Technology, Universiti Malaysia Perlis, Pauh Putra Campus, 02600 Arau Perlis, Malaysia

ABSTRACT

Project-Based Assessments have been successfully implemented for EMT463 MEMS Design and Fabrication, a final year undergraduate course for Electronic Engineering Program at Faculty of Electronic Engineering, Universiti Malaysia Perlis. These assessments were conducted remotely during Semester 1 2020/21 from October 2020 until February 2021 due to COVID-19 Movement Control Order announced by Malaysian Government. Google-based platforms are utilized for the course delivery, learning activities and course assessments. Google Meet was used for synchronous lecture and tutorial sessions, Google Meet and Google Jamboard were utilized for the team synchronous discussions and YouTube was the platform for the asynchronous presentation, question and answer sessions. In addition to Google-based platforms, Turnitin is also used for assessment submissions and WhatsApp is the communication platform for the course announcements and consultations. ANSYS Academic Version was the simulation software used by the students to complete the project. These Project-Based Assessments are aligned with three Course Outcomes, which are (CO1) Ability to explain the fabrication processes of MEMS devices, (CO2) Ability to design and analyze MEMS devices and (CO3) Ability to simulate MEMS devices. There are six individual and team assessments for the project with the theme "MEMS Sensors and Actuators in Fight against COVID-19". 75 students were divided into 21 teams with three to five members in each teams. Each teams were assigned with one MEMS device and were required to design, simulate and analyze the device as well to propose the device applications related to COVID-19. Overall, all course and program outcomes are attained for this Project-Based Assessments. The average marks for the assessments are as follows; 74.68% (Project Part A), 75.84%(Project Part B), 82.72% (Project Part AB), 64.78% (Project Part C), 75.78% (Project Part D) and 83.35% (Project Part E). Student evaluations on the course at the end of the semester were excellence with 87.22 % for Course Evaluation, 90.75% (Teaching Evaluation), 88.27% (Project Evaluation), and 81.75% (Pandemic COVID-19 Remote Teaching, Learning and Assessments). These Project-Based Assessments can be continued to be implemented as Continuous Alternative Assessments for Blended Learning Substitution approach post-pandemic COVID-19.

Keywords: Project-Based Assessments; MEMS Design and Fabrication; Remote Teaching and Learning

Paper ID 156

Online Communication Synchrony: Preference Among First Timers in Online Distance Learning

Dave E. Marcial[1], Alfie Q. Arcelo[1,*] and Fredlie P. Bucog[1]

[1]Silliman University, 1 Hibbard Avenue, Dumaguete City, Philippines 6200
*Corresponding author: alfieqarcelo@su.edu.ph

ABSTRACT

In online learning, there are two primary communication synchrony options. These are synchronous and asynchronous learning. This paper evaluates the preference for communication synchrony among students who are first timers in online learning. Using Google Form, a survey among 1,260 responses was analyzed. Students from Silliman University who were enrolled during the second semester of 2020-2021 were the respondents. The result shows that 51.5% of respondents prefer to have 50% synchronous and 50% asynchronous activities. Among the learners, 20.3% prefer to have more asynchronous than synchronous learning, while 16.6% preferred to have more synchronous than asynchronous learning. The result also shows that laptop ownership, tablet, smartphone, and device ownership are significantly correlated with communication synchrony preference. Desktop ownership does not significantly correlate with communication synchrony preference. It is concluded that students' preferences for online communication synchronous vary from one another, which is affected by the hardware resources of the learners.

Keywords: synchronous learning; asynchronous learning; bichronous learning

Paper ID 158

Successful Factors of Online Learning During Pandemic Covid-19: Lessons' Learned from Indonesia Students' Experiences

Augustina Sulastri

Jl. Pawiyatan Luhur IV/1, Bendan Dhuwur, Semarang, Jawa Tengah, Indonesia

ABSTRACT

At this global pandemic time, administrators, teachers, and students had the challenges of how to achieve the overall objectives of the institutions and individuals. Varieties of online learning have emerged and adapted in order to enable students to continue learning. Purpose of this study was to identify the critical as well as successful factors that affected the use of e-learning by students, including university and secondary schools, during the pandemic. By doing so will enable institution administrators, teachers, and students to continue developing online learning when the Covid-19 pandemic passes based on their own conditions and challenges. Methods: To carry out this systematic review, the bibliography has been searched through Research-gate, PubMed, and Google-scholar database, using as keywords: successful factors of online learning, challenges on online learning, critical factors of online learning, and implementation of online learning.

Results: A total of six manuscripts related to factors attributable to successful online learning have been found. The respondents participated in these six manuscripts represented the lessons' learned of online practices in Padang, Medan, Madura, Papua, Bali, and Aceh Mountains. **Conclusion:** There are several factors that contributed to the success of online learning throughout Indonesia: teachers characteristics, students characteristics, parental support, technology readiness, types of online learning, and institutional-governmental support.

Keywords: online learning, success factors, pandemic Covid-19, students, teachers.

Paper ID 160

Students' Attitudes Toward The Use Of Animated Video In Online Learning

Joko Prayudha.S

jokoprayudha@gmail.com
University of Bengkulu, Bengkulu City, Indonesia

ABSTRACT

During the COVID-19 pandemic, teachers and students learn from home with the help of learning technology that is connected to the internet or known as online learning. Many things have happened due to the implementation of online learning, one of the problems that often occurs is the lack of interest in student learning caused by less interesting learning materials. This is a big problem for teachers because the lack of interest in student learning will cause students cannot to achieve learning objectives. On the other hand, the teacher who is the main key in the class has a role and responsibility to find a solution to this problem. Teachers must be able to find solutions when online learning takes place, especially in providing learning materials to students. One way that teachers can do is to provide material that is fun or that can attract students' interest in learning. The material can be in the form of interesting and creative animated videos to be able to attract students' interest in learning. This study aims to increase students' interest in online learning by using animated videos. Animated videos can be in the form of a collection of live cartoon pictures or objects that are made as attractive as possible to attract students' interest in learning. The method used is qualitative using a descriptive approach. Data is collected in two ways; 1) giving questionnaires via Google form and, 2) interviews conducted via Whatsapp. Data were analyzed descriptively. The results show that students' attitudes towards the use of animated videos when online learning are very positive, even students think that animated videos can make them interested in learning because animated videos are more fun and easy to understand.

Keywords: Student's attitude, animated video, online learning

Paper ID 78

Online Learning, The New Teaching and Learning Norm

Qiu Ping LIM, Sylvia CHONG[*] and JiZhi Li Singapore

University of Social Sciences
461 Clementi Road Singapore 599491
*Corresponding author

ABSTRACT

The COVID-19 pandemic has dramatically changed the teaching and learning environment with a distinctive shift to online instruction. This sudden shift raises several challenges among instructors and students. As a part of a larger study, interviews were conducted with 13 instructors from a highly subsidised tuition programme that support socioeconomically disadvantaged primary and secondary students in Singapore. This presentation will discuss the instructors' perspective on the challenges and opportunities in this abrupt change to an online learning environment.

One key challenge highlighted by the instructors is the compromised instructor-student interaction within the online teaching praxis. It was found that instructors were unready with strategies to foster interaction and engagement when the computer screen is the main platform of connection. Another challenge that was highlighted is the availability of resources. The dependency of online learning on technological equipment and the provision of the equipment is a major challenge for this group of disadvantaged students. Some of these students do rely on available technological equipment and free internet in their schools. However with the closure of schools, the access to these online learning lessons is major issue.

There is no doubt that the pandemic has changed our lives and necessitates further paradigm shifts. New practices are evolving. Online learning is not a new concept but will be the new norm in the post-COVID-19 teaching and learning environment. *Zoom*, or any other video conferencing service, is the new classroom. However, the interviews also found that despite the transformational discomfort, the instructors remained committed and positive with the online learning environment. In the process, they were adjusting and exploring different methods to maintain connection with their students to maximise engagement. Hence, it is timely to explore and address the challenges experienced during this pandemic and transform them to opportunities.

Keywords: Online learning, COVID-19, Teaching and learning challenges

Paper ID 166

Utilization of Video as a Communication Tool in School Reputation Management Activities during the Covid-19 Pandemic Period in Semarang

[1]V. Ananda A. Permatasari and [2]Rotumiar Pasaribu

[1]vincentia.ananda@unika.ac.id, [2]rotumiarpasaribu@unika.ac.id
[1]Communication Studies, Law and Communication Faculty,
Soegijapranata Catholic University, Semarang, Indonesia
[2]Department, Faculty, University, City, Country

ABSTRACT

The Covid-19 pandemic situation has brought a crisis impact in every life aspect, education is one of them. Pembelajaran Jarak Jauh (PJJ) is an effort to deal with the current crisis. School unpreparedness and various obstacles that arise will produce a new crisis for schools. Improper management will threaten a negative reputation in the future. To improve the reputation of the school, it is necessary to build a sense of public trust, one of which is the dissemination of positive information from school. In a pandemic situation, the ability of schools to carry out PJJ to the maximum is an achievement that will improve the reputation of the school in the future. In addition, the positive message disseminated by the school in this urgent situation will increase public confidence in the school. Thus, this community service activity aims to help manage school reputation by making videos that contain positive content about the implementation of PJJ in private schools in Semarang City. Positively packaged information will create public trust and improve the school's reputation in the future. This is because the reputation for private schools is one of the important things to survive as a school institution.

Key words: School, Crisis Management, Pembelajaran Jarak Jauh (PJJ), Video, Pandemic

Paper ID 99

Moving Adult Learning and Higher Education Online Due to COVID-19: Challenges and Opportunities

Bao Zhen Tan[1*], Zan Chen[1]

[1]Institute for Adult Learning Singapore, Singapore
*Corresponding author

ABSTRACT

The sudden emergence of COVID-19 and its rapid spread has transformed work and learning. This paper looks into the impact of COVID-19 on the digitalization of work and learning for the Higher Education (HE) and the Training and Adult Education (TAE) sectors in Singapore. An online survey was conducted among adult educators in Singapore who work in institutes of higher learning or training organisations that provide training to working adults. The survey consists of a series of Likert-scaled items that ask respondents to reflect on their level of confidence in the transition to online learning, teaching and assessment, to report the level of impact of this transition on various areas of their work and their own or learners' wellbeing, as well as to outline the type of support they had received from their institutions. Results show that COVID-19 has accelerated the digital transformation of the HE and TAE sectors in Singapore. It also indicated that, in general, the institutes of higher learning are one step ahead of training organisations in terms of digitalization. The overall sentiment from adult educators also indicates that such a transformation will not be a temporary response to an emergency crisis, but instead remain as a permanent shift for both the HE and TAE sectors in Singapore. However, this inevitably came with a price for the various stakeholders, with implications on the adjustments to be made to the ways that learning, teaching, training and assessment are conducted, business models and strategies of the training institutions and organizations, as well as the professional development of adult educators in order for these stakeholders to stay sustainable in their sectors. With a harmonised view of permanent change, COVID-19 is seen as representing an opportunity for a paradigm change towards innovations in pedagogy and education technology, as well as business extension with online offerings to wider audiences globally. For that reason, digital transformation of the HE and TAE sectors in Singapore is at a point of no return, with little motivation to revert to the pre-COVID-19 learning landscape, given the cost-affordances and potential opportunities for fostering sustainable learning innovation. The paper also discusses implications on both educational policy and practice.

Keywords: higher education; training and adult education; online learning; e-learning; COVID-19

Paper ID 146

Adaptive Learning Environments Model for Innovative Educational

Theresia Dwi Hastuti [1]

[1]Economic and Business Faculty of Soegijapranata Catholic University, Indonesia

ABSTRACT

The term "adaptive" is associated with a quite range of diverse system characteristics and capabilities in the e-Learning industry, thus making it is necessary to qualify the qualities . a learning environment is considered adaptive if it is capable of: monitoring the activities of its users; interpreting these on the basis of domain-specific models; inferring user requirements and preferences out of the interpreted activities, appropriately representing these in associated models; and, finally, acting upon the available knowledge on its users and the subject matter at hand, to dynamically facilitate the learning process

Adaptive behaviour on the part of a learning environment can have numerous manifestations. categories that we will be referring to are: adaptive interaction, adaptive course delivery, content discovery and assembly, and, finally, adaptive collaboration support. Adaptive Interaction, refers to adaptations that take place at the system's interface and are intended to facilitate or support the user's interaction with the system, without, however, modifying in any way the learning "content" itself. Adaptive Course constitutes the most common and widely used collection of adaptation techniques applied in learning environments today. Content Discovery and Assembly, refers to the application of adaptive techniques in the discovery and assembly of learning material / "content" from potentially distributed sources / repositories. Adaptive Collaboration Support, is intended to capture adaptive support in learning processes that involve communication between multiple persons. The Adaptive Learning Environments Model's goal is to ensure achievement of basic academic skills and other valued educational outcomes, including students' positive self-perceptions of academic and social competence, sense of responsibility for their own education and the broader community and competencies for coping with the social and academic demands of schooling. In order to accomplish this, the model focuses on systematically integrating features that theory, research, and practice have shown to be instructionally effective and pedagogically meaningful.

Keywords: adaptive, domain specific model, innovative educational

Paper ID 119

Using chatbots to support asynchronous online learning

L. S. Ng [1*] and G. Pheang[2]
[1]Ng Li Shan, Singapore
[2]Grace Pheang, Singapore

ABSTRACT

Background: The COVID-19 pandemic has disrupted education systems worldwide, and nursing education was no exception. All face-to-face lectures had to be transited to asynchronous learning. In face-to-face lectures, students could ask questions during lessons. For asynchronous lectures, a Padlet was embedded in the school's learning management system for students to post questions. However, the students would not receive an instant reply. Students may also be embarrassed to ask the questions on Padlet that is visible to all and may also face a lacked of individual learning support. Providing support to learners is crucial for their success. **Purpose:** To explore the learners perspectives, satisfaction and experience in using a self-regulated chatbot to support students' asynchronous learning. The extent of the learners' interaction with the chatbot was also examined. **Methods:** A chatbot based on three topics about Advanced Cardiac Life Support in a nursing module was developed using QnA Maker by Microsoft Azure. The chatbot was embedded in the e-learning package designed using Articulate Rise and is accessible to 705 third-year students enrolled in a module in a Diploma course at an institute of higher learning in Singapore. The knowledge base of the chatbot consists of customised answers to questions. Images, videos and journal articles were added as additional resources in the answers. Learners could interact with the chatbot to ask questions or use the interactions to gain knowledge related to the topics. The survey included nine closed-ended questions based on a four-point Likert scale and four open-ended questions to understand the learners' perspectives and experience. **Results:** 122 students participated in the survey voluntarily. The analysis of the survey results based on (i) student's learning experience, (ii) usability of the chatbot and (iii) impact of using the chatbot showed that most of the students were satisfied, and the chatbot had a positive impact on the students. We also evaluated the learners' interaction with the chatbot, which revealed that the bot was visited 961 times, and 873 questions were asked. **Conclusions:** Overall, positive user experiences were received, and many learners expressed that the chatbot was an easy, useful and interesting learning guide. Using chatbots can play an important role to support students' online asynchronous learning. **Recommendations/ Future directions:** We could not analyse the average session length and optimal duration per user; this information could be useful in the future. It would also be meaningful to study further the impact of using a chatbot on students' academic achievement and evaluate the influence of chatbots on the learners' self-efficacy and motivation in online learning.

Keywords: Chatbot; Online learning; Asynchronous learning

Paper ID 161

A Qualitative Study on Self-Directed Learning among Adult English Learners

Anita Angelina Wibawa
Cecilia Titiek Murniati

ABSTRACT

Since the global coronavirus outbreak (COVID-19), the use of technology in education has evolved significantly. Present technology advancement has assisted students, from nearly all age groups, adopting independent learning. This method of learning has become a growing trend among students. With or without any guidance from teachers or expertise, students nowadays are more determined to establish their learning goals. Students assuredly have their methods together with struggles they may have encountered during the self-directed learning process. This study aims to explore adult learners' self-directed learning activities and strategies along with investigating the challenges and barriers to their self-directed learning. A qualitative approach is employed by conducting interviews with adult English students from one of the biggest English learning institutions in Semarang. The results of the study will be presented and further discussed in this presentation.

self-directed learning, adult learners, english, online class

Paper ID 110

Validating Students' Learning in Pre-Calculus through Virtual Oral Assessment

Chonilo S. Saldon

Faculty of Mathematical Sciences
Zamboanga del Norte National High School, Dipolog City, Philippines
schonilo@yahoo.com

ABSTRACT

One of the concerns in the conduct of distance education is the area of assessment. The online exams pose a question of integrity. This prompted the teacher-researcher to supplement online exams with individual oral exams. This study compared the oral exam performances of modular distance learning (MDL) – printed and digital learners. Grade 11 STEM students underwent oral exams via voice calls or digital platforms like Facebook Messenger Chatroom or Zoom. In a semistructured interview and instrument, respondents were asked with (1) preliminary questions relating to their experiences with distance mathematics education and learning modality and (2) content mastery for Pre-Calculus topics such as conics sections and trigonometric functions. Performance was rated using a 10-point scoring rubric. A total of 44 MDL-P and 102 MDL-D learners went through the oral revalidations. No significant difference was found in the content mastery. However, MDL-P learners reported more challenges and difficulties in distance mathematics education. In particular, they lamented for the inequity of the access of digital learning tools and the insufficiency of the contents of the self-learning modules. The oral examinations in the implementation of distance education present a good alternative for genuine assessment and opportunity to detect students' content difficulties. Likewise, it provides opportunities for both learners and teachers to connect. Moreover, there is a need to offer more learning materials that are accessible to MDL-P learners.

Keywords: virtual assessment, distance education, mathematics education

Paper ID 133

(Re)Designing Meaningful Online Learning Opportunities Shane

Alexander Laong[1]

[1]University of Santo Tomas
UST Educational Technology Center
Manila, Philippines 1015

ABSTRACT

The onset of the COVID-19 pandemic challenged teachers to design engaging, relevant, and constructively-aligned learning experiences appropriate for an online environment. However, disparities in capabilities, readiness and the availability of technological resources of both teachers and students remain a challenge, especially for a developing country like the Philippines. Teachers find it challenging to design interactive, learner-centered classroom opportunities because of the underlying assumption that these can only be achieved in synchronous sessions. Similarly, students struggle with the demands of online learning which can be associated with the various stressors brought upon by the pandemic.

This presentation outlines the institutional efforts of a Philippine comprehensive university to upskill faculty members (n=1681) to deliver classroom instruction in an online environment. More specifically, the session elaborated on the use of the Bandwidth Immediacy Matrix (Stanford, 2020) with respect to faculty members' online teaching and learning situated praxis. In-depth exploration of faculty experiences reveal strengths, weaknesses, and struggles of using the Bandwidth Immediacy Matrix and best practices in designing and implementing synchronous and asynchronous classes. Emerging issues and challenges were mined from faculty members' situational praxis. These include unfavorable student attitudes on asynchronous instruction, low level of student enthusiasm and participation during synchronous sessions, limited teacher knowledge about teaching and assessment strategies in online learning, lack of student collaboration opportunities, and the need for teacher upskilling on the development of video-based resources and monitoring of student access of these resources. This session underscores the importance of teacher agency, pedagogical and technological upskilling, and institutional support as a cornerstone to an institution-wide eLearning adoption program. This session draws significant insights on a) optimal utilization of available tools and resources to support institution-wide eLearning adoption, b) conceptualization and implementation of targeted eLearning-focused faculty development programs, and c) participatory policy formulation rooted on the principles of encounter, accessibility, flexibility and dialogue.

Keywords: bandwidth immediacy matrix, elearning, asynchronous strategies

Paper ID 155

Measuring Intrinsic and Extrinsic Motivation in A Digital Game-Based Learning Context

Ronnie SHROFF, Fridolin TING*

[3]Department of Applied Mathematics, The Hong Kong Polytechnic University
*Corresponding author

ABSTRACT

Game-based learning is among the most popular active teaching pedagogies to motivate students to learn. There is a jungle of educational apps available to help implement game-based learning, for example, one of the most popular ones is Kahoot! Drawing on the theory and literature on extrinsic and intrinsic motivation, we develop a valid and reliable instrument to measure intrinsic and extrinsic motivation in a digital game-based learning context in terms of four variables: propensity for reward (PFR), readiness to explore (RTE), inclination to engage (ITE) and desire to seek challenge (DSC). We discuss how our instrument may be used to determine correlations between various student learning outcome measures, like assessment scores and conceptual understanding.

Keywords: Game-based learning; intrinsic motivation; extrinsic motivation; instrument; active learning.

Paper ID 108

AP Sensor: A Physics Experimental App for Flipped Classroom

[1]Ka Lai WONG, [1]Wang Fai CHENG, [1]Siu Hong CHOY,
[1]Chi Wah LEUNG, [1]Chee Leung MAK and [1*]Kwok Lung JIM

[*]michael.jim@polyu.edu.hk
[1]Department of Applied Physics, The Hong Kong Polytechnic University,
Hong Kong SAR, China

ABSTRACT

STEM Education emphasizes the integration and application of interdisciplinary subject knowledge and techniques to solve real-life problems. Students are immersed in hands-on inquiry with open-ended exploration. They are inspired to plan, investigate, build and create multiple right answers, which is more comparable with the actual process of scientific explorations.

Students' interest and motivation to learn science will be fostered, when meaningful connections between science knowledge and students' daily lives are seamlessly connected. However, formal science learning in secondary schools focus on covering various scientific phenomena as prescribed in the syllabus, and relatively little time is allocated for hands-on laboratory and application experiences.

Therefore, current project developed a mobilized solution, namely AP Sensor (APS), where students can make use of smartphones to carry out experiments. It enables physical measurement easily with the use of built-in sensors in mobile devices, such as smartphones and tablets, that allows display and records the data on the mobile app. There are two modes in APS: experimental module and basic function. Ten experimental modules have been designed as entry level, to guide students carry out specific experiments; and seven built-in sensors can be selected individually as basic functions that students can use these built-in sensors freely whenever they need. It aims to encourage students to make observations to daily environment and encourages teachers to co-create experiments with students.

APS was implemented in various settings and formats. 42 (M=34, F=8) undergraduate students aged between 17 and 23, who came from 15 faculties and departments, took an introductory physics course. They performed experiment anywhere anytime using APS; and completed a user survey. Positive feedback and valuable advices were received. They were satisfied with the learning experience and it is a potentially good platform for flipped classroom learning and self-regulated learning.

Key words: Smart-phone app; experimental laboratory; flipped classroom

Paper ID 96

Studio-based Learning Approach for Dissection in Anatomy Education to Medical Training: Student Perspectives

Florence MK Tang*[1], Kevin TL Ho[2], Sam HK Poon[1], Josephine WS Lau[1], L Yung[2], Y Leung[2], Austin LH Chau[2], CY Lee[2], TK So[2] and YC Fung[2]

[1]School of Biomedical Sciences, The Chinese University of Hong Kong, Hong Kong
[2]Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong
*Corresponding Author: Dr Florence MK Tang (florencetang@cuhk.edu.hk)

ABSTRACT

Anatomy education is one of the essential subjects in core knowledge acquired in basic medical sciences during the medical training to develop professional competence either to surgeons or physicians. Cadaveric dissection is hands-on practice, from which the medical students can apply their anatomy knowledge in application, connection and creation of the related information during the dissection process besides anatomy atlas and textbooks. Regarding the regular tight teaching and learning schedules, medical students just have restricted time for the practice under teacher guidance without any self-evaluation of what they have learned or even by observation only.

Studio-based learning (SBL) is an active student-centred approach that provides sufficient physical spaces and tools with instructional goals in a short period for students' creations, reflection and design to apply their learnt knowledge. The SBL setting for dissection can change to a new pedagogical strategy to an active learning environment independently, allowing students to acquire the experiential experience to apply their knowledge in the future clerkship training.

In this pilot study, our team adopted the 'studio-based learning' pedagogical model to arrange a 4-week Summer Enhancement Dissection Workshop for medical students who finished their Year 2 study in the program of Bachelor of Medicine and Bachelor of Surgeon. Twenty-seven students joined the workshop with enthusiasm to be good surgeons. A focus group interview and a 6-Likert Scale online survey were collected and analysed at the end of the workshop. The focus group interview agreed they can learn under the free setting environment as they discuss, appraise, compare and contrast with peers according to their planning during the workshop, which cannot accommodate in regular dissection classes. The mean score of 5.8 reflects that the SBL setting provided them in execution, assessment and construction of their works related to the anatomical knowledge.

This workshop aims to enhance students' capabilities in recalling information to be selfdirected, creating critical judgment to dissect appropriately, and discussing with peers to deepen and consolidate the understanding. Even though with minimal teacher-supporting, the participants can always work imitatively and have peer interaction with their groupmates to make a collective decision. Regarding domains of learning related to Bloom's taxonomy for affective, psychomotor, and cognitive, the SBL setting in the dissection workshop is still stimulative. To conclude, the participants are more competent in anatomy knowledge for future clinical training.

Keywords: Anatomy education, Studio-based learning, Dissection, Bloom's taxonomy

Paper ID 162

Utilizing Karaoke Videos in Learning Japanese Vocabulary Among Malaysian University Students

[1]Muhammad Alif Redzuan Abdullah, PhD,
[2]Sanimah Hussin, PhD

[1]muhammadalif@upm.edu.my, [2]sanimah@upm.edu.my

[1]Faculty of Modern Languages and Communication, Universiti Putra Malaysia, Serdang, Malaysia
[2]Centre of Advancement and Language Competence, Universiti Putra Malaysia, Serdang, Malaysia

ABSTRACT

This research paper aimed to explore and investigate whether the use of karaoke videos in the Japanese language classes has an influence on vocabulary acquisition among Malaysian Japanese language learners. The study was conducted on 120 students learning the Japanese language at the beginner level as an elective subject at the Faculty of Modern Languages and Communication, Universiti Putra Malaysia (UPM). Data were collected through questionnaires, interviews, and observations. The analytical descriptive result showed that the participants were able to memorize and understand Japanese vocabulary quickly and easily after watching animation consisting of visual graphics combined with text which stimulate their brain. Data from the interviews also showed that the target vocabulary items were pronounced accurately and correctly when learners sang along while watching the karaoke videos. The triangulation of data showed that karaoke videos is a good tool to engage participants in learning the Japanese language while at the same time, having fun and feeling highly motivated to explore the language. The implication of the study suggests that the use of karaoke videos in other foreign language classes will help boost students' confidence and motivation level.

Keywords: karaoke videos, vocabulary acquisition, foreign language, Japanese language, language learning.

Paper ID 141

Assessing Dyscalculic Tendencies Among Children through a Mobile Application Screening Tool

Arman DC. Santos[1,2,*], Maria Ana T. Quimbo[1]

[1]University of the Philippines Open University, Los Baños, Laguna, Philippines
[2]Polytechnic University of the Philippines, Sta. Mesa, Manila, Philippines

ABSTRACT

Dyscalculia is a specific learning disorder with impairments in the academic domain of Mathematics leading to difficulties in mastering number sense, number facts or calculations, and difficulties with mathematical reasoning. Several theories have been suggested to explain the causes of these difficulties. A variety of hypotheses from single core deficit to multiple deficits were proposed to measure characteristics and account the impairments present with dyscalculic children. The present study sought to identify the difficulties of children at-risk to dyscalculia and compare the presence of these impairments to the different deficit hypotheses of dyscalculia. In the current study, a random sample of 248 Grade 3 pupils (136 boys and 112 girls) completed several tasks which measured the basic number skills, arithmetic calculation and other cognitive skills. The instrument used was the Scouts' MATHventures, a valid and reliable mobile application screening tool that identifies children with dyscalculic tendencies. Out of 248 children, 44 (26 boys and 18 girls) were found to be at-risk to dyscalculia. On the analysis of weaknesses, at-risk children performed significantly lower in arithmetic calculation, basic number skills, and other cognitive tasks compared with the normally performing children. Among the tasks, they obtained relatively lower scores in arithmetic calculation, number line estimation, and verbal Arabic matching tasks. The observed weaknesses favored the approximate number system (ANS) deficit and access deficit hypotheses of dyscalculia. Consequently, the presence of two deficit hypotheses accounts supported the assumption of multiple deficits. To add support to the multiple deficit hypothesis, using K-means clustering approach, five distinct profile clusters of children were identified. Cluster 1 is characterized by weaknesses in both number line and perceptual quantity estimations. Cluster 2 showed low abilities in dot counting, tasks that measured the symbolic number abilities, and other cognitive tasks. Cluster 3 is described by low average to average performance in most of the tasks. Cluster 4 favored the ANS deficit hypothesis and is characterized by weaknesses in non-symbolic and estimation tasks. Lastly, Cluster 5 is characterized mainly by strong non-symbolic and symbolic comparison skills and low average to average performance in other tasks. These findings are strong evidence in favor of the multiple deficit hypothesis, indicating that the difficulties of children with dyscalculic tendencies are not solely due to a single core deficit but rather by multiple deficit accounts.

Keywords: difficulties; dyscalculia; dyscalculic tendencies; impairments; mobile application; screening tool;

Paper ID 154

Application of ITIL Framework and Academe-Industry Partnership Model in the Immersion and Engagements System

[1]Arne B. Barcelo, [2]Juan Miguel C. Burayag, [3]Mary Joy M. Polinada, [4] Djorge Kristine R. Salgado, and [5]Ivan Joseph U. Santiago

[1] abbarcelo@ust.edu.ph,
[2] juanmiguel.burayag.iics@ust.edu.ph
[3]maryjoy.polinada.iics@ust.edu.ph,
[4] djorgekristin.salgado.iics@ust.edu.ph,
[5]ivanjoseph.santiago.iics@ust.edu.ph

Department of Information Systems, College of Information and Computing Sciences,
University of Santo Tomas, Manila,
Philippines

ABSTRACT

Partnerships and linkages are essential for companies and Higher Educational Institutions (HEI) since both share the same goal to offer practical skills and opportunities for students. However, the complexity of processing related documents for the academeindustry partnership for companies and the HEIs seems to be tedious. But with the help of emerging technologies, the researchers came up with SYNERG-IES that would cater to the needs of the educational institution, companies, and students. SYNERG-IES is a web-based system wherein "SYNERG" came from the word "synergy," which means combined interaction of two or more parties, and "-IES" means Immersion and Engagements System. With it, the educational institution will be able to deliver valuable opportunities that will help in the holistic development of the students. Integrated with the system is the Academe-Industry Partnership Model as a service framework in the web-based system, and the ITIL Service Management practices: Service Portfolio Management, Availability and Service Continuity Management, Organizational Change Management, and Access Management. At the same time, the development methodology utilized by the researchers throughout the project was the Agile Methodology, as it promotes continuous improvement and consistent collaborations among researchers. In terms of the efficiency of the web-based system, the researchers compared the estimated time of existing processes being used to the proposed business process and it revealed that 2 days, 5 hours, and 35 minutes was the time reduced. Tests were conducted in the system using Unit Testing, User Acceptance Testing, and ISO 25010 for the software quality attributes to ensure that the functionalities needed were working. Combining the best practices, frameworks, standards, and technologies, SYNERG-IES provides opportunities for collaborations and meaningful engagements with stakeholders to promote sustainable community development which leads to transforming university education.

Keywords: SYNERG-IES; Partnership and linkages; AcademeIndustry Partnership; Immersion and Engagement; ITIL;

Paper ID 124

Diversity at Schools Project - Student Learning Analytics

Vincent TY Ng[1,*], Boris Chan[2] and Daniel Lai[3]

[1]University Research Facility in Big Data Analytics (UBDA),
The Hong Kong Polytechnic University, Hong Kong, China
[2]HisTech, Hong Kong, China
[3]The Hong Kong Jockey Club, Hong Kong, China

ABSTRACT

Learner diversity is a broad concept to acknowledge students' differences. While catering for learner diversity is to address different needs of students, many frontline practitioners attempt to eliminate diversity. In 2019, the Jockey Club "Diversity at Schools" project (DM 1.0 Project) launched a 3-year to drive changes at different levels such as societal level (diversity-embracing), school level (evidence-informed & student-centric policy and practice), subject/teacher level (differentiated choices), and other professionals (collaborative professionalism) so that learner diversity can be effectively managed, and students will have active, meaningful and relevant participation in the classrooms and schools. One of 3 major strategies of the DM 1.0 project is to develop a diversity management platform (DMP) to help schools and teachers understand the needs of students, profile their diversities, formulate strategies, and ultimately promote a culture of evidence-based and data-driven. The DMP is aimed to serve as a platform to facilitate exchange, coordinate decision-making, and cross-disciplinary support. In Stage 3, the development has been focused om the Student Learning Analytics (SLA) subsystem. The SLA subsystem would utilize the AI technologies for analyzing the student data with the statistical knowledge and data mining techniques. Algorithms of pattern recognition, multivariate models, deep learning and machine learning are adopted to find the important features, classification, and clustering as well as to identify specific groups of students with similar characteristics of learning behaviours. The SLA subsystem should enable teachers and school management to make informed decisions and strategies through data analytics, for example, analysing the correlation between extra-curricular activities/APASO and academic performance, tracking the adjustment needs of students, locating at-risk students. The SLA subsystem also provides traditional statistical reports in student data. As of June 2021, there are 70 local schools, 1100 teachers/school administrators, and 23,000 student profiles involving the DMP. With the core student information and other datasets captured or created at school level, such as IEP (individual education plan), the DMP provides dashboard functions with visualization and charts functions and preliminary trend and prediction analyses.

Keywords: learning analytics, diversity management, AI

Paper ID 44

Using a Career Card Game to learn about technical and soft skills required for occupations related to the Diploma in Food Science & Nutrition

**Liang Lin, Pei Pei Tng, Qian Qian Tng,
Zi Xuan Tay, Gia Wen Sim, Rou Shen Liew,
Jayden Ang and Annie Ng**

ABSTRACT

Technical and soft skills are essential in the real working world and students usually do not know the essential skills required for the different careers in their diploma. In this project, a card game which consists of five major occupations related to Diploma in Food science & Nutrition (DFSN) namely, Process Technician, Quality Control (QC)/Quality Assurance (QA) Lab Technician, Assistant Food Technologist, Assistant Market Development Executive, and Dietary Assistant with their related job descriptions, key tasks, technical and soft skills was developed to bridge this gap. The students were divided into groups of 4-5 and they will each select a career card. The rest of the cards which consist of technical and soft skills and action cards were shuffled and distributed among the players. The players will then take turns to display a card out and they will have to do the task indicated on the soft skills cards. There are different game points indicated on the technical and soft skill cards. At the end of the game, the student who has collected the most number of relevant technical and soft skills to their career and hence, with the most number of points wins. The students were then given a google form in which they filled in a survey and 88 of them have responded. 47.7% and 45.5% of the respondents strongly agree and agree that the goals and objectives of the Card Game are clearly defined respectively. Most of the students, 47.7% strongly agree and 37.5% agree that they enjoyed playing the game. 35.2% strongly agree and 46.6% agree that they were able to think about their future profession through the card game. It can be concluded that most of the students have enjoyed the game and the game is useful in learning about the different careers in the food science & nutrition sector. However, the game can be further improved by simplifying the calculation of the game points and by having clearer instructions on the game play. The game can also be further modified to have two different stacks – the technical and soft skills separately and the students can choose to play the technical skills stack only when time is limited. The game will also be expanded to other diplomas in the School of Applied Science, Nanyang Polytechnic and will be played during the class interaction sessions.

Keywords: Career card game, technical skills, soft skills

Paper ID 100

The Development of Music-Based Working Memory Mobile Application

Chi Yin, Hue[1], Aini Marina Ma'rof[2], and Lip Meng, Soo[3]

[1]momoko_hue90@hotmail.com, Malaysia.
[2]ainimarina@upm.edu.my, Malaysia.
[3]gene26@gmail.com, Malaysia.

ABSTRACT

The purpose of developing the Music-Based Working Memory (MbWM) mobile application is to integrate music elements and working memory elements in the working memory training (WMT). Working memory is a salient cognitive functioning that humans require for daily cognitive tasks and to learn effectively. MbWM is the first WMT app published in Google Play Store that combines these elements to enhance working memory performance. The music elements include the pitch and musical notes identification, as they are the verbal and visuospatial stimulus input of working memory. Besides, working memory elements consists of forwarding recall, backwards recall, and interrupted recall. There are two main games in the MbWM, called Ear Training and Visuospatial Training. In Ear Training, users must memorize the sound of musical notes and recall them back in sequence. Users can test the musical notes on the virtual keyboard before giving the answers. There are four sub-sections in Ear Training, named sound identification, forwarding recall, backwards recall, and interrupted recall. Users can learn the octave musical notes "C, D, E, F, G, A, B" in sound identification before proceeding to other subsections. Users need to recall the sound of musical notes in a forwarding sequence or backwards sequence. In interrupted recall, users need to answer a trivial question before recalling the musical notes in a forwarding sequence. Visuospatial Training is similar to Ear Training as there are forwarding recall, backwards recall, and interrupted recall sub-sections. The difference is that users have to recall musical notes on the virtual keyboard, as shown before. There are 11 levels for each sub-sections, and each level consists of 15 trials. The length of musical notes is between 2 and 12, and it increased when the levels increased. The scores will be recorded in the app to allow users to track their performance. The design of this app is suitable for age nine and above. With the availability of MbWM, students and adults can use it to enhance working memory performance.

Keywords: Music-Based Working Memory; working memory training; mobile application

Paper ID 72

A Gamified Approach to Improving Students' Online Collaborative Skills and Broadening Their Awareness of Sustainable Development

Martin LAU[1] and Theresa KWONG[1*]

[1] Centre for Holistic Teaching and Learning,
Hong Kong Baptist University, Hong Kong
*Corresponding author

ABSTRACT

Teamwork has always been a major area in university education. With online collaborations becoming a norm, it has become essential for universities to provide students with opportunities to further their teamwork skills to online scenarios teams with members of diverse backgrounds. On the other hand, sustainable development has caught more attention of individuals, businesses and governments with initiatives such as green marketing, ban of disposable plastic products and phaseout of fossil fuel vehicles. Since 2019, a team-based, entirely online competition named "United Nations SDGs eTournament" has been organised for university students around the world to participate. The aim of the eTournament is for students to broaden their awareness of the United

Nations' Sustainable Development Goals (SDGs) and to enhance their online collaborative skills. Teams were not formed by students but the competition organiser to ensure a good mix of team members in terms of discipline and cultural backgrounds, and to mimic the scenario that team formations at workplaces are often not by the personal relationship between members but by their roles in the accomplishment of the goals concerned. In addition, team members were only connected via online communication tools. A two-stage "strategise-play" approach was deployed in the eTournament. In the first ("strategise") stage, the teams got acquainted among the members and worked out the strategies for their game in the second ("play") stage. In the second stage, the teams implemented the strategies when they played the game on an online platform by answering questions related to the SDGs. The 2021 eTournament marks the third iteration of that competition, with a record-breaking number of participants – 1,088 students from 41 home regions (260% of the number of students in the 2020 run), in 219 teams. In this presentation, the features found in the highperforming and low-performing teams will be discussed using the data collected from the game platform and the discussion histories. Comparisons with the similar data in the previous runs of the eTournament will also be made to highlight the similarities and differences found. It is envisaged that through this presentation, participants will recognise the importance of enhancing the sustainability and online collaboration competences of students.

Keywords: online collaboration; sustainable development goals; gamification; multi-cultural; multidisciplinary

PRIME MINISTER'S DEPARTMENT

ISKANDAR REGIONAL DEVELOPMENT AUTHORITY

Our Ref : IRDA.2021-IMSET/11/22(06)

Date : 28th November 2021

Dr. Desideria CW Murti,
Director (Business and Development),
Travelxism Sdn. Bhd.,
Yogyajakarta,
Indonesia

Dr,

INVITATION AS SPEAKER IN "ISKANDAR MALAYSIA SUSTAINABLE TOURISM WEBINAR 2021 (IMSET 2021)"

The above subject refers.

2. IRDA, together with UTM Tourism Planning Research Group (TPRG) and with the support of Ministry of Tourism, Art & Culture Malaysia and Tourism Johor will be organising our annual **"ISKANDAR MALAYSIA SUSTAINABLE TOURISM WEEK 2021 – WEBINAR ON SMART CITIES SMART TOURISM DESTINATION"** on 6 December 2021. The programme consists of two parts:

- **Panel Session I – Industry**, featuring 4 tourism industry panelists and one moderator, and
- **Panel Session II – Academic Papers**, with three parallel break-out sessions featuring presentations from members of the academia.

3. The theme this year will focus on **"Smart Cities Smart Tourism"** aspirations, taking into consideration post-pandemic recovery efforts currently being rolled out for the tourism sector in Iskandar Malaysia and Johor. The main objective of the programme is to provide knowledge-sharing platforms for industry players with expert views and academic insights given by invited speakers who are leaders and/or subject matter experts.

4. The topics of focus in the keynote addresses and panel discussions will touch on, among others:

- Smart Destination & Governance;
- Technological Solution for Smart Cities; and
- Data Driven Management for Cities & Tourism Destination.

5. For your kind information, IRDA had been organising "Iskandar Malaysia Ecotourism Summit (IMES)" since 2012 and decided to change the programme name to "Iskandar Malaysia Sustainable Tourism Week (IMSET)" in 2018 to reflect the bigger scope of the industry and the direction it was moving into in Iskandar Malaysia and Johor. This was in keeping with the global trends and aspirations of the SDGs (Sustainable Development Goals 2030) then, which have proved to be more relevant now than ever.

6. IMSET 2021 expects the participation of 250 pax from Malaysia and beyond, from among our key target segments. The programme details are as follows:

TIME	PROGRAMME
1.30 PM – 2.00 PM	Check in
2.00 PM	Welcome remarks
2.05 PM	Opening/Officiating – YB Datuk Onn Hafiz Ghazi, State EXCO for Tourism (10 mins)
2.15 PM	Keynote 1 – MOTAC (10 mins)
2.25 PM	Panel Session 1 : Smart Tourism - Restrategizing for Future Sustainable Destination (50 mins) • 4 panelists (Tourism Johor, Kelab Alami, CrescentRating, Desaru Coast) • 1 moderator (Engku Kamel)
3.15 PM	Break (5 mins) (Promotional Video)
3.20 PM	Special Message from DCE, IRDA (10 mins) – Creating a Smart Tourism Destination (proposed topic)
3.30 PM	Keynote 2 (15 mins) - UTM
3.45 PM	Break (5 mins)
3.50 PM	Panel Session 2: 3 Parallel Sessions (1 hour) • Smart Destination & Governance (2 papers and Q&A)-UTM • Technological Solution for Smart Cities (2 papers and Q&A)-UTM • Data Driven Management for Cities & Tourism Destination (2 papers and Q&A)-UTM
4.50 PM	Break (5 mins) Promo videos
4.55 PM	Closing remarks by UTM (5 mins)
5.15 PM	Ends

7. We hereby would like to invite you as one of the speakers in the Panel Session 2 and share your views on the merits of Smart Tourism as a game changer for our industry post-pandemic.

8. We appreciate your acceptance to this invitation via reply email to norhaz@utm.my and provide your CV and a profile picture for promotional poster purpose.

Please do not hesitate to contact the undersigned or Dr. Norhazliza Halim (norhaz@utm.my) or Ms. Wan Suziana Wan Othman (suziana.othman@irda.com.my) should you need any other information.

Thank you.

Yours Faithfully

ISKANDAR REGIONAL DEVELOPMENT AUTHORITY

ENGKU AHMAD KAMEL

Director, Economic Prosperity

REPUBLIK INDONESIA
KEMENTERIAN HUKUM DAN HAK ASASI MANUSIA

SURAT PENCATATAN
CIPTAAN

Dalam rangka pelindungan ciptaan di bidang ilmu pengetahuan, seni dan sastra berdasarkan Undang-Undang Nomor 28 Tahun 2014 tentang Hak Cipta, dengan ini menerangkan:

Nomor dan tanggal permohonan	:	EC00202153102, 7 Oktober 2021
Pencipta		
Nama	:	**Desideria Cempaka Wijaya Murti, Victoria Sundari Handoko dkk**
Alamat	:	Universitas Atma Jaya Yogyakarta, Jl. Babarsari No.44, Janti, Caturtunggal, Kec. Depok, Kabupaten Sleman, Daerah Istimewa Yogyakarta 55281, Yogyakarta, DI YOGYAKARTA, 55281
Kewarganegaraan	:	Indonesia
Pemegang Hak Cipta		
Nama	:	**Desideria Cempaka Wijaya Murti, Victoria Sundari Handoko dkk**
Alamat	:	Universitas Atma Jaya Yogyakarta, Jl. Babarsari No.44, Janti, Caturtunggal, Kec. Depok, Kabupaten Sleman, Daerah Istimewa Yogyakarta 55281, Yogyakarta, DI YOGYAKARTA, 55281
Kewarganegaraan	:	Indonesia
Jenis Ciptaan	:	**Poster**
Judul Ciptaan	:	**Aplikasi Kelas Alam Mbak Dewi: Digitalisasi Desa Dengan Teknologi Kecerdasan Buatan Dan Paket Wisata**
Tanggal dan tempat diumumkan untuk pertama kali di wilayah Indonesia atau di luar wilayah Indonesia	:	27 September 2021, di Yogyakarta
Jangka waktu pelindungan	:	Berlaku selama hidup Pencipta dan terus berlangsung selama 70 (tujuh puluh) tahun setelah Pencipta meninggal dunia, terhitung mulai tanggal 1 Januari tahun berikutnya.
Nomor pencatatan	:	000280377

adalah benar berdasarkan keterangan yang diberikan oleh Pemohon.
Surat Pencatatan Hak Cipta atau produk Hak terkait ini sesuai dengan Pasal 72 Undang-Undang Nomor 28 Tahun 2014 tentang Hak Cipta.

a.n. MENTERI HUKUM DAN HAK ASASI MANUSIA
DIREKTUR JENDERAL KEKAYAAN INTELEKTUAL

Dr. Freddy Harris, S.H., LL.M., ACCS.
NIP. 196611181994031001

LAMPIRAN PENCIPTA

No	Nama	Alamat
1	Desideria Cempaka Wijaya Murti	Universitas Atma Jaya Yogyakarta, Jl. Babarsari No.44, Janti, Caturtunggal, Kec. Depok, Kabupaten Sleman, Daerah Istimewa Yogyakarta 55281
2	Victoria Sundari Handoko	Universitas Atma Jaya Yogyakarta, Jl. Babarsari No.44, Janti, Caturtunggal, Kec. Depok, Kabupaten Sleman, Daerah Istimewa Yogyakarta 55281
3	Antonius Bima Murti Wijaya, ST., M.T	Universitas Atma Jaya Yogyakarta, Jl. Babarsari No.44, Janti, Caturtunggal, Kec. Depok, Kabupaten Sleman, Daerah Istimewa Yogyakarta 55281

LAMPIRAN PEMEGANG

No	Nama	Alamat
1	Desideria Cempaka Wijaya Murti	Universitas Atma Jaya Yogyakarta, Jl. Babarsari No.44, Janti, Caturtunggal, Kec. Depok, Kabupaten Sleman, Daerah Istimewa Yogyakarta 55281
2	Victoria Sundari Handoko	Universitas Atma Jaya Yogyakarta, Jl. Babarsari No.44, Janti, Caturtunggal, Kec. Depok, Kabupaten Sleman, Daerah Istimewa Yogyakarta 55281
3	Antonius Bima Murti Wijaya, ST., M.T	Universitas Atma Jaya Yogyakarta, Jl. Babarsari No.44, Janti, Caturtunggal, Kec. Depok, Kabupaten Sleman, Daerah Istimewa Yogyakarta 55281

PENGENALAN APLIKASI

Berikut ini adalah tampilan user interface dan beberapa fungsi kegunaan dari setiap fitur yang ada pada aplikasi android TinalahEdu :

1. Tampilan Menu Splash Screen

Tampilan pertamakali yang disajikan oleh system Ketika user membuka adalah splash screen. Setelah splash screen terbuka maka secara otomatis system akan mengarahkan user ke tampilan login. Berikut ini adalah tampilan dari splash screen :

2. Tampilan Menu Login

Tampilan login merupakan sebuah tampilan yang berfungsi untuk memverifikasi setiap user. Pada tampilan login, user diharuskan mengisi data beberapa inputan seperti alamat email dan password. Berikut ini adalah tampilan dari login :

Keterangan :

- Untuk login user harus mengisi email dan password
- Format inputan untuk form email harus berupa format email.
- Password dapat dilihat dengan cara menekan tombol mata pada inputan password.

3. Tampilan Menu Register

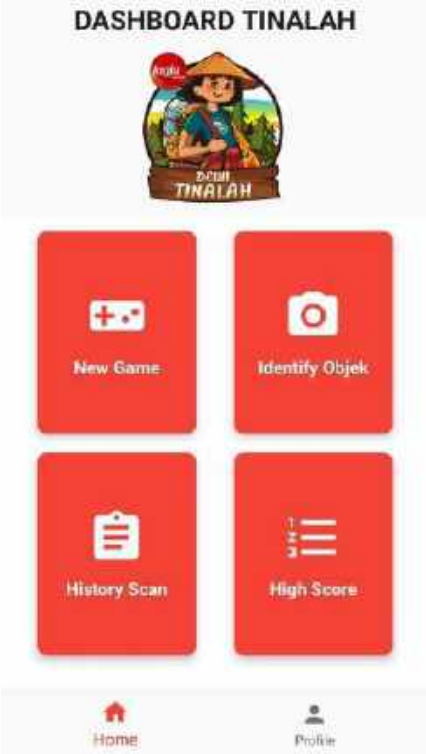
Tampilan register merupakan sebuah tampilan yang digunakan oleh user baru yang belum pernah mendaftar untuk mengakses tiap menu di aplikasi. Pada tampilan register user diharuskan mengisi data diri seperti nama user, email user, password user, nomor telephone user dan foto profile. Berikut ini adalah tampilan dari register :

Keterangan :

- Semua inputan data harus diisi dan tidak boleh ada inputan yang kosong.
- Format inputan untuk form email harus berupa format email.
- Format inputan password minimal 8 kombinasi karakter baik huruf, simbol atau angka.
- Untuk inputan foto profile user harus menekan tombol bingkai foto kosong kemudian secara otomatis system akan membuka kamera. Setelah kamera terbuka user dapat mengambil gambar foto profile kemudian menekan tombol centang.

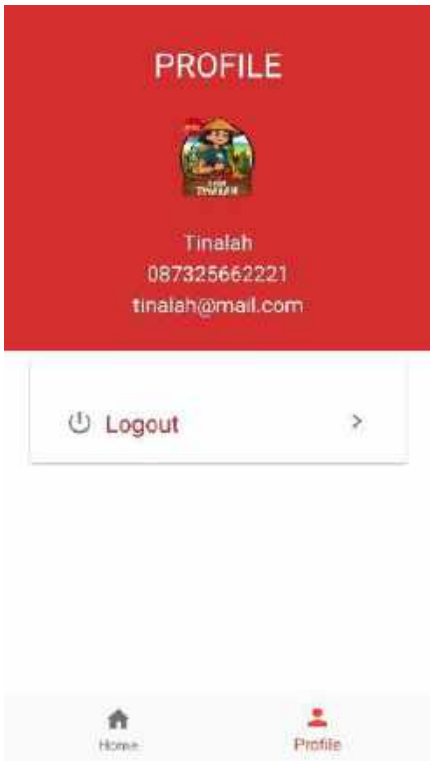
4. Tampilan Menu Home

Tampilan home akan muncul ketika user berhasil login. Pada tampilan ini ada 4 menu yang disajikan diantaranya adalah new game (permainan baru), identifikasi, history scan dan highscore (poin tertinggi di setiap kelompok). Berikut ini adalah tampilan dari home :



5. Tampilan Menu Profile

Tampilan profile merupakan sebuah tampilan yang berfungsi untuk menampilkan data diri user yang sedang login seperti nama, email, nomor telephone dan foto profile. Selain data user yang sedang login, pada tampilan ini juga terdapat fitur logout untuk keluar dari sesi login. Berikut ini tampilan dari halaman profile :

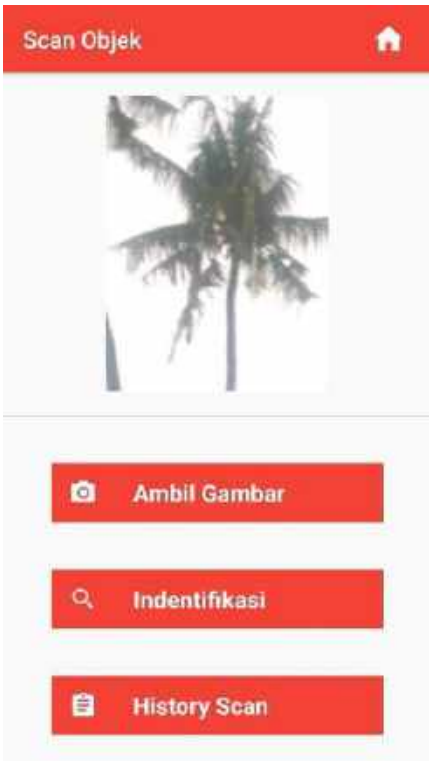


6. Tampilan Fungsi Permainan

Berikut ini adalah tahapan user untuk menggunakan fungsi permainan pada aplikasi TinalahEdu dimana sebelumnya user menekan tombol new game pada halaman home:

1) Pertama user melakukan verifikasi token dimana token akan diberikan oleh pemandu/guide dari tinalah berupa 5 kombinasi angka dan huruf.

2) Setelah berhasil melakukan verifikasi maka sistem akan menampilkan tampilan scan gambar permainan. Kemudian user akan membuka kamera untuk melakukan scan gambar dengan cara menekan tombol ambil gambar.



3) Setelah gambar berhasil diambil user akan mengidentifikasi gambar tersebut dengan cara menekan tombol identifikasi.
4) Setelah menekan tombol identifikasi system akan menampilkan halaman detail scan gambar.

5) Pada halaman detail scan gambar user dapat memilih untuk melakukan scan gambar kembali atau melihat history scan atau keluar dari permainan. Untuk melakukan scan gambar kembali user menekan tombol kamera. Untuk melihat history scan gambar user menekan tombol list.
6) Terakhir untuk keluar dari game user harus menekan tombol rumah. Ketika menekan tombol rumah akan muncul pop up apakah yakin keluar dari permainan. Jika user memilih ya maka akan keluar jika tidak maka akan kembali ke detail scan gambar.

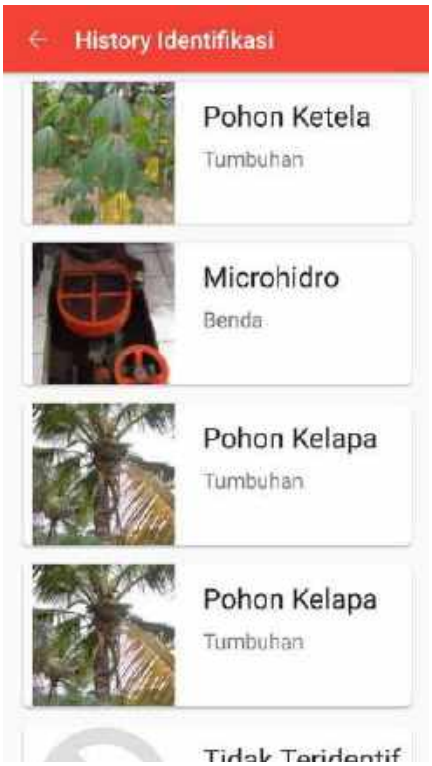
7. Tampilan Fungsi Identifikasi

Berikut ini adalah tampilan untuk mngidentifikasi sebuah objek pada aplikasi TinalahEdu dimana sebelumnya user menekan tombol identifikasi pada halaman home:

1) Pertama sistem akan membuka tampilan identifikasi kemudian user menekan tombol ambil gambar untuk mengambil gambar objek yang akan di identifikasi.
2) Setelah berhasil mengambil gambar objek user harus menekan tombol identifikasi untuk melihat informasi gambar yang telah diambil tadi.

3) Setelah menekan tombol identifikasi maka secara otomatis system akan menampilkan detail informasi dari objek yang telah di identifikasi.

4) Pada menu detail identifikasi user dapat memilih untuk melakukan identifikasi kembali atau melihat history identifikasi atau keluar dari menu identifikasi. Untuk melakukan identifikasi kembali user menekan tombol kamera. Untuk melihat history identifikasi user menekan tombol list.



5) Terakhir untuk keluar dari identifikasi user harus menekan tombol rumah. Ketika menekan tombol rumah akan muncul pop up apakah yakin keluar dari identifikasi. Jika user memilih ya maka akan keluar ke menu home, jika tidak maka akan kembali ke detail identifikasi.

8. Tampilan Fungsi History Scan Gambar Permainan

Berikut ini adalah fungsi untuk menampilkan history scan gambar pada permainan yang sebelumnya pernah dilakukan dimana user untuk mengakses menu ini harus menekan menu history scan pada halaman menu :

1) Ketika user menekan tombol history scan pada menu home maka secara otomatis system akan menampilkannya dalam bentuk list.

2) User juga dapat menampilkan detail informasi history scan gambar yang pernah diambil sebelumnya dengan cara menekan salah satu data pada list tersebut.

9. Tampilan Fungsi Highscore

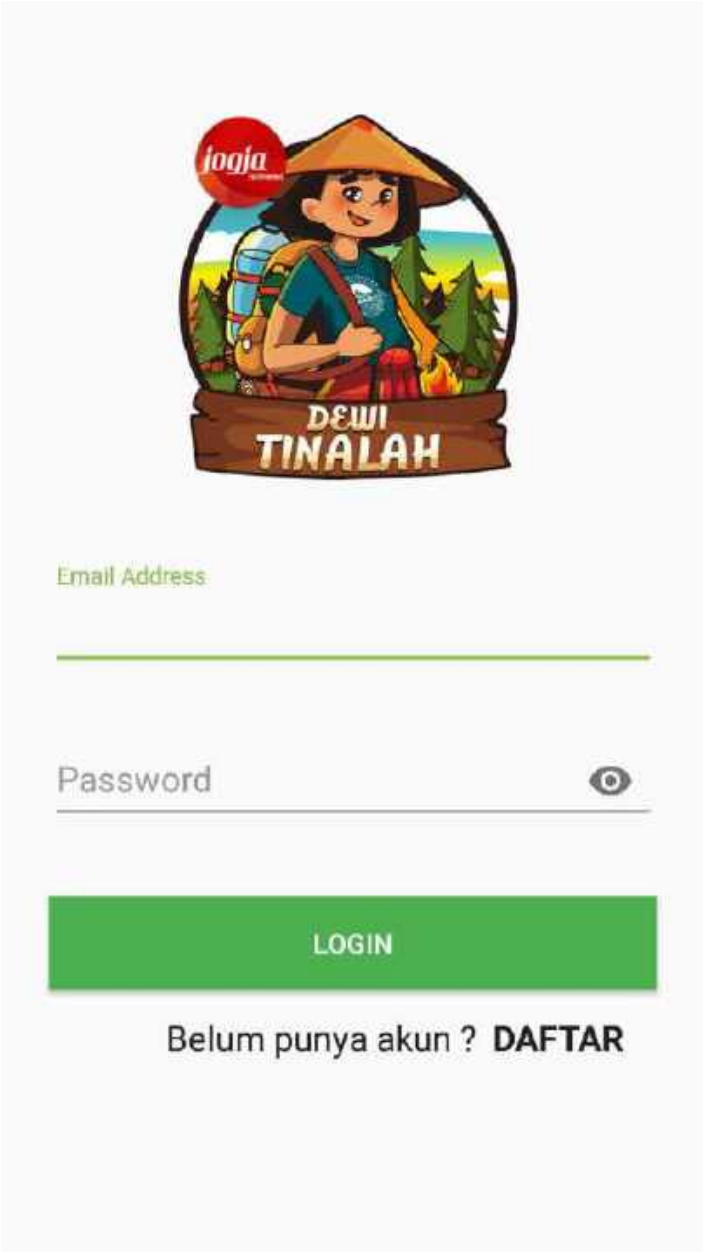
Berikut ini adalah fungsi untuk menampilkan highscore atau peroleh poin tertinggi pada setiap kelompok dimana sebelumnya user menekan tombol highscore pada tampilan home :

1) Pertama hal yang haru silakukan user adalah memasukkan token permainan kelompok mana yang akan dilihat peroleh poin tertinggi.

2) Setelah berhasil verifikasi maka system akan menampilkan peroleh poin tertinggi berdasarkan token kelompok yang di inputkan tadi.


High Score
Sundari
Nakula
1730
Dewi Tinalah
Nakula
260
Galang Adhitya
Nakula
250
Admin
Nakula
250
Yusuf
Nakula
210
dewi tinalah oye
Nakula
180
Galuh

Foto Aplikasi yang sedang proses



PROFILE

Tinalah
081229844969
tinalah@mail.com

Ubah Profile >

Logout >

Home Profile

Detail Scan Objek

Batuan Kapur

Batuan

Gamping atau batu kapur adalah batuan sedimen yang tersusun dari mineral kalsit dan aragonit, yang merupakan dua varian yang berbeda dari kalsium karbonat

History Scan

Batuan Kapur

Batuan

Batuan Kapur

Batuan

Batuan Kapur

Batuan

Batuan Kapur

Batuan

Batuan Kapur

Perjanjian Kerja sama
Fakultas Sains dan Komputer
Universitas Kristen Immanuel
Dengan
Fakultas Ilmu Sosial dan Ilmu Politik
Universitas Atma Jaya Yogyakarta
Tentang
Kolaborasi Penelitian dan Pengabdian

Nomor<FISKOM-UKRIM>: 012/PK/D/FISKOM/XII/2021
Nomor<FISIP-UAJY>:

Pada hari **Rabu** tanggal **enam belas** bulan **September** tahun **2021 (16-06-2021)** telah ditanda-tangani surat perjanjian Kerja sama yang bertempat di **Yogyakarta,** kami yang bertanda tangan di bawah ini:

1. Sunneng Sandino Berutu, Ph.D: Selaku Dekan Fakultas Sains dan Komputer Universitas Kristen Immanuel, yang selanjutnya disebut sebagai pihak **PERTAMA;**

2. FX. Bambang Kusumo Prihandono, M.A Dalam kedudukannya selaku Dekan, oleh karenanya sah bertindak untuk dan atas nama Fakultas Ilmu Sosial dan Ilmu Politik, Universitas Atma Jaya Yogyakarta yang selanjutnya disebut sebagai pihak **KEDUA.**

Selanjutnya pihak **PERTAMA** dan **KEDUA** sepakat mendatangani surat perjanjian Kerja sama dalam bidang magang mahasiswa untuk mendukung program Merdeka Belajar Kampus Merdeka.

Pasal 1
MAKSUD DAN TUJUAN

1. PARA PIHAK sepaham dan sepakat bahwa surat perjanjian Kerja sama yang diadakan didasari oleh keinginan untuk saling membantu dan saling menguntungkan.
2. PARA PIHAK sepaham dan sepakat bahwa surat perjanjian kerjasama ini bertujuan untuk meningkatkan dan mendukung kegiatan pendidikan yang mendukung program merdeka belajar-kampus merdeka terutama program riset dan pengabdian masyarakat dalam hal pembangunan pariwisata berkelanjutan serta untuk meningkatkan sinergitas potensi sumber daya yang dimiliki untuk mewujudkan visi dan misi PARA PIHAK.

Pasal 2

RUANG LINGKUP

Ruang lingkup Perjanjian kerja sama ini meliputi :

1. Program riset yang mencangkup kegiatan penelitian bersama kedua belah pihak yang memungkinkan untuk melibatkan mahasiswa sebagai wujud program merdeka belajar kampus merdeka.
2. Program pengabdian kepada masyarakat yang melibatkan kedua belah pihak yang memungkinkan untuk melibatkan mahasiswa sebagai wujud program merdeka belajar kampus merdeka.
3. Tema yang diusulkan dalam kegiatan penelitian dan pengabdian kedua belah pihak adalah penguatan program pariwisata berkelanjutan.

Pasal 3

Hak dan Kewajiban

Hak dan Kewajiban pihak **PERTAMA**:

1. Pihak **PERTAMA** berkewajiban untuk menugaskan dosen dan mahasiswa untuk melakukan program penelitian dan pengabdian kepada masyarakat yang sudah disepakati bersama dalam rangka melaksanakan program MBKM.
2. Pihak **PERTAMA** berkewajiban untuk menugaskan dosen untuk menentukan tema penelitian dan pengabdian kepada masyarakat dalam tema pariwisata berkelanjutan.
3. Pihak **PERTAMA** berkewajiban untuk menugaskan dosen untuk membantu pihak **KEDUA** dalam proses pengembangan proposal untuk penelitian dan pengabdian dalam tema pariwista berkelanjutan.
4. Pihak **PERTAMA** berkewajiban membantu pihak **KEDUA** dalam proses pelaksanaan penelitian dan pengabdian kepada masyarakat dalam bidang ilmu informatika dan teknologi informasi.
5. Pihak **PERTAMA** berkewajiban menugaskan dosen untuk membantu pihak **KEDUA** dalam proses pelaporan dan publikasi hasil kegiatan penelitan dan pengabdian kepada masyarakat.
6. Pihak **PERTAMA** berhak memperoleh informasi tentang rencana program penelitian dan pengabdian yang berkaitan dengan tema pariwisata berkelanjutan;
7. Pihak **PERTAMA** berhak menggunakan dana bersama penelitian dan pengabdian dari penelitian yang sudah diajukan bersama untuk kepentingan kegiatan penelitian dan pengabdian tersebut.
8. Pihak **PERTAMA** berhak memperoleh hasil rekognisi terhadap publikasi sesuai peran yang dilakukan pada program penelitian dan pengabdian yang dilakukan bersama.

Hak dan Kewajiban pihak **KEDUA**:

1. Pihak **KEDUA** berkewajiban untuk menugaskan dosen dan mahasiswa untuk melakukan program penelitian dan pengabdian kepada masyarakat yang sudah disepakati bersama dalam rangka melaksanakan program MBKM.
2. Pihak **KEDUA** berkewajiban untuk menugaskan dosen untuk menentukan tema penelitian dan pengabdian kepada masyarakat dalam tema pariwisata berkelanjutan.
3. Pihak **KEDUA** berkewajiban untuk menugaskan dosen untuk membantu pihak **PERTAMA** dalam proses pengembangan proposal untuk penelitian dan pengabdian dalam tema pariwista berkelanjutan.
4. Pihak **KEDUA** berkewajiban membantu pihak **PERTAMA** dalam proses pelaksanaan penelitian dan pengabdian kepada masyarakat dalam bidang ilmu informatika dan teknologi informasi.
5. Pihak **KEDUA** berkewajiban menugaskan dosen untuk membantu pihak **PERTAMA** dalam proses pelaporan dan publikasi hasil kegiatan penelitan dan pengabdian kepada masyarakat.
6. Pihak **KEDUA** berhak memperoleh informasi tentang rencana program penelitian dan pengabdian yang berkaitan dengan tema pariwisata berkelanjutan.
7. Pihak **KEDUA** berhak menggunakan dana bersama penelitian dan pengabdian dari penelitian yang sudah diajukan bersama untuk kepentingan kegiatan penelitian dan pengabdian tersebut.
8. Pihak **KEDUA** berhak memperoleh hasil rekognisi terhadap publikasi sesuai peran yang dilakukan pada program penelitian dan pengabdian yang dilakukan bersama.

Pasal 4

Pelaksanaan dan Evaluasi

1. Perjanjian Kerja sama ini akan lebih didetailkan dalam kontrak penelitian antara pihak **PARA PIHAK.**
2. Untuk mendukung kelancaran dalam melaksanakan perjanjian Kerja sama ini pihak **PERTAMA** dan **KEDUA** dapat menunjuk pihak lain sebagai penanggungjawab, koordinator, ataupun pengawas dari masing-masing pihak.
3. Evaluasi kegiatan dilakukan setelah satu tahun selesai dilakukan.

Pasal 5

Jangka Waktu Kerja sama

1. Kerja sama ini berlaku untuk jangka waktu 2 (dua) tahun, sejak tanggal penandatanganan dan dapat diperpanjang Kembali dan atau diperbaharui setelah diadakan evaluasi bersama atas pelaksanaan kerja sama ini.
2. Jika salah satu pihak hendak mengakhiri perjanjian kerja sama sebelum kurun waktu yang diatur pada pasal 5 ayat 1, maka pihak tersebut harus melakukan diskusi dengan pihak lain dengan menyertakan surat pemberitahuan secara tertulis kepada Pihak lainnya. Keputusan berakhir atau tidak akan ditentukan oleh kedua belah pihak.

Pasal 6

Pembiayaan

1. Program riset dan pengabdian ini dilaksanakan dengan pendanaan yang diusahakan dari kedua belah pihak baik dari dana internal dan dana dari institusi luar.
2. Pembiayaan pengembangan proposal atau pra proposal di lakukan oleh kedua-belah pihak yang saling bekerja sama dalam mengembangkan proposal penelitian atau pengabdian.

Pasal 7

Perubahan

Perubahan mengenai pasal-pasal yang ada pada kesepakatan kerja sama ini dapat dilakukan berdasarkan kesepakatan kedua belah pihak dalam bentuk amandemen atau addendum yang menjadi bagian yang tidak terpisahkan dari kesepakatan ini.

Pasal 8

Korespodensi

1. Setiap pemberitahuan, surat-menyurat, permintaan, persetujuan dan/atau bentuk komunikasi lainnya yang disyaratkan atau diizinkan berdasarkan Perjanjian ini harus dilakukan secara tertulis, ditandatangani oleh wakil yang sah dari PIHAK yang memberikan pemberitahuan ataupun kuasanya yang sah, dan diantarkan secara langsung atau dengan jasa kurir atau dikirim melalui faksimili atau surat elektronik yang dialamatkan kepada alamat sebagaimana tertera di bawah ini kepada suatu PIHAK atau kepada alamat, nomor faksimili atau alamat surat elektronik lainnya sebagaimana ditentukan oleh suatu PIHAK dari waktu ke waktu dan diberitahukan ke PIHAK lainnya dalam waktu 3 (tiga) hari sejak terjadinya perubahan dimaksud kepada:

PIHAK PERTAMA:
Fakultas Sains dan Komputer,
JL Solo KM 11.1
Telepon : +62-274-496256
Faksimili : +62-274-496257
Email : bimamurti@ukrimuniversity.ac.id
Up. : Kepala Program Studi Informatika

PIHAK KEDUA:
Fakultas Ilmu Sosial dan Ilmu Politik
Kampus IV Gd. Teresa, Jl. Babarsari No. 6 Yogyakarta 55281
Telepon : +62-274-487711 ekst. 4123
Faksimili : +62-274-487748
Email : fisip.wadek3@uajy.ac.id

Up. : Wakil Dekan III Fakultas ISIP

2. Suatu pemberitahuan akan dianggap sepenuhnya telah diterima apabila (i) dikirim langsung atau melalui jasa kurir yang dibuktikan dengan tanda terima secara sah, ketika ditinggalkan pada alamat penerima, (ii) dikirim melalui faksimili, saat pengirim menerima pemberitahuan atau laporan transmisi dari mesin faksimili pengirim yang mengindikasikan faksimili tersebut telah terkirim secara keseluruhan kepada nomor faksimili penerima, (iii) dikirimkan melalui email kepada penerima yang dituju.

Pasal 9

Keadaan Memaksa *(Force Majeure)*

1. Jika terjadi keadaan memaksa diakibatkan oleh hal hal yang tidak dinginkan dari pihak PERTAMA dan KEDUA seperti yang diakibatkan oleh Kondisi Bencana Alam, kondisi Perekonomian dan Politik, yang mengakibatkan perjanjian Kerja sama batal maka kedua belah pihak sepakat untuk berdiskusi dan melakukan langkah-langkah pengalihan yang diperlukan sebelum melakukan pembatalan kegiatan.
2. Pelaporan tentang kejadian *Force Majeure* ini dilaporkan maksimal 2 minggu setelah kejadian.
3. Jika pelaporan melebihi waktu tenggang seperti pada ayat 2 pasal 8 maka tidak dapat dikategorikan sebagai kejadian *force majeure*.

Pasal 10

Perselisihan

Jika terjadi perselisihan antara kedua belah pihak, maka kedua belah pihak sepakat untuk membicarakan secara musyawarah dan mufakat terlebih dahulu.

Pasal 11

Berakhirnya Perjanjian

Kesepakatan Kerja sama ini dapat berakhir apabila:

1. Masing-masing pihak tidak dapat memenuhi kesepakatan yang tertuang dalam surat perjanjian kerja sama ini dan sudah melalui proses diskusi atau musyawarah bersama.
2. Tidak ada evaluasi atau pembicaraan setelah jangka waktu kerja sama ini seperti tertuang pada pasal 5 berakhir.

Kesepakatan ini ditandatangani dan disetujui oleh keduabelah pihak pada hari dan tanggal yang tertera, serta dibuat dua rangkap yang masing-masing dipegang oleh dua belah pihak.

Demikian kesepakatan ini dibuat untuk mendukung program Merdeka Belajar Kampus Mengajar serta untuk meningkatkan Kerja sama saling menguntungkan dari kedua belah pihak.

Pihak PERTAMA **Pihak KEDUA**

Sunneng Sandino Berutu, Ph.D.
Dekan Fakultas Sains dan Komputer
Universitas Kristen Immanuel

FX. Bambang Kusumo Prihandono, M.A
Dekan Fakultas Ilmu Sosial dan Ilmu Politik
Universitas Atma Jaya Yogyakarta

UNIVERSITAS ATMA JAYA YOGYAKARTA

DIES NATALIS

PENGHARGAAN

No. 208/In-Pen/LPPM/X/2021

Diberikan kepada:

Desideria Cempaka Wijaya M., S.Sos., M.A., Ph.D.
Dr. Victoria Sundari Handoko, M.Si
Antonius Bima Murti Wijaya, S.T., M.T.

Sebagai:

JUARA 2

"LOMBA POSTER ILMIAH"

dalam rangka Dies Natalis ke-56
Universitas Atma Jaya Yogyakarta

LPPM

Prof. Ir. Suyoto, M.Sc., Ph.D.
Koordinator Lomba
Ketua LPPM

Pupung Arifin, S.Sos., M.Si.
Ketua Umum Dies Natalis ke 56
Wakil Rektor III

ABDIMAS UAJY DAN UKRIM

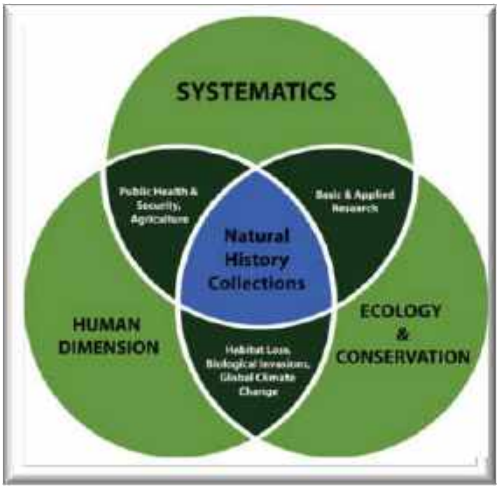
DESAIN KURIKULUM

KELAS ALAM

DESA WISATA TINALAH

Sekapur Sirih Dewi Tinalah #Berbenah

Desa wisata Tinalah yang terletak di Kabupaten Kulon Progo sejak tahun 2013 telah menjadi salah satu destinasi eduwisata untuk kalangan siswa sekolah dan mahasiswa perguruan tinggi di DIY. Berbagai sarana kegiatan luar kelas diwadahi dalam sebuah kawasan terintegrasi antara wisata alam, perkemahan dan aktivitas pemanduan fisik dengan destinasi wisata sejarah perjuangan Pangeran Diponegoro melawan penjajahan Belanda.



Sebagai bagian kawasan pegunungan Karst Kendeng dan bercampur dengan bebatuan dan mineral piroklastik Merapi kuno maupun Gunung Gajah Kaligesing Purworejo menjadikan kawasan Dewi Tinalah menarik bagi kalangan perguruan tinggi. Para peneliti bidang Geomorfologi dan Biologi banyak mengangkat informasi dan potensi alam yang ada ranah sains. Saat ini kekayaan alam flora, fauna, dan lanskap dengan tradisi turun temurun yang menjaganya, secara **inovatif** (1) dikembangkan kearah kegiatan ekoeduwisata. Aneka macam tehnologi konvensional hingga aplikasi android berbasis *artificial intelligent* pengenalan flora, fauna dan bebatuan akan dimanfaatkan untuk pengembangan ekoeduwisata ini.

Pengelolaan kegiatan dan pemanfaatan sumber daya alam Dewi Tinalah secara organisatoris dilakukan oleh kelompok sadar wisata Dewi Tinalah. Kekompakan tim pengelola dengan gaya **kepemimpinan**(2) delegatif mampu mengatasi aneka kelemahan yang dihadapi tim pengelola. Persoalan tersebut antara lain minimnya konsistensi jumlah keterlibatan personil, kapasitas penguasaan iptek, dan tekanan biaya operasional yang harus dikelola dengan sangat efisien. Pola kepemimpinan demikian berpotensi untuk berkembang cepat dengan terus berinteraksi antar sesama pengelola dan pemangku kepentingan pengembangan ekoeduwisata Dewi Tinalah. Berkembangnya pengalaman pengelolaan ini juga dapat menjadi pola asuhan dan pemanduan sebagai satu bagian materi yang dapat disampaikan kepada para wisatawan yang menginginkan pula adanya paket pengembangan gaya kepemimpinan (diutamakan bagi para kaum muda usia).

Pola pemanduan yang tidak terlalu rigid membuat para pengunjung/ wisatawan dapat mengembangkan **inisiatif**(3) kegiatan kreatif yang disajikan oleh para pemandu. Interaksi ini terus diolah oleh para pengelola sebagai bagian dari inisiatif mengembangkan paket-paket wisata alternative yang pada gilirannya juga akan menguatkan secara organisatoris komunikasi para pengelola.

Pengembangan modul ekoeduwisata ini dikembangkan dengan basis pengetahuan untuk karakteristik wisatawan usia siswa sekolah menengah atas. Kawasan wisata Tinalah saat ini mampu menampung hingga 200 pengunjung untuk berada di bumi perkemahan. Kapasitas area kunjungan Dewi Tinalah masih sangat memungkinkan untuk terus ditingkatkan jumlah

pengunjungnya. Pengembangan aktivitas ekoeduwisata ini juga menjadi salah satu strategi pengembangan **kapasitas**(4) pemanduan bagi pengelola, juga manjadi sarana peningkatan kapasitas usaha dibidang kepariwisataan bagi warga diseputar kawasan Dewi Tinalah.

Saat ini bisnis eduwisata menjadi salah satu alternative yang menjanjikan bagi pengembangan usaha ekowisata di DIY. Potensi jumlah siswa sekolah dan mahasiswa perguruan tinggi di DIY secara maksimal terus dieksplorasi untuk dapat menjadi salah satu pendukung **keberlanjutan bisnis**(5) ekowisata Dewi Tinalah. Maka pengembangan sarana dan instrument pembelajaran dalam basis kegiatan ekoeduwisata akan dikembangkan untuk menarik minat siswa dan mahasiswa di DIY. Situasi karakter anak muda yang saat ini mengalami titikbalik hidup dalam pola persekolahan daring, menjadikan sebuah peluang tawaran untuk menikmati pembelajaran daring di alam secara kontekstual. Belajar daring di masa pandemic ini menjadi salah satu potensi juga yang dapat mendukung pengembangan sarana belajar berbasis AI di kawasan Dewi Tinalah. Tawaran untuk bermain kreatif, suasana segar, interaksi sosial yang sehat dengan penerapan protocol kesehatan pandemi, dan sajian-sajian baru berbasis tehnologi AI menjadi salah satu aspek penting dalam pengembangan bisnis wisata ekologis edukatif di kawasan Dewi Tinalah.

Pengembangan sarana online dalam pelayanan wisata Dewi Tinalah bukan hal yang baru bagi pengelola. Penyediaan infrastruktur jaringan internet sudah disediakan perangkat *hot spot wi-fi* di lapangan utama. Perangkat ini sangat penting untuk memberikan kemudahan bagi para wisatawan untuk tetap eksis secara **daring**(6) melalui unggahan-unggahan status terkini saat mereka berkunjung di Dewi Tinalah. Pemanduan yang memberikan kesempatan para wisatawan berswafoto saat ini menjadi pertimbangan yang tidak kalah pentingnya disamping soal materi edukatif yang disajikan oleh pengelola. Pemanfaatan sosmed bagi pemasaran obyek wisata Dewi Tinalah telah digunakan oleh pengelola mulai dari akun IG @dewitinlah, facebook https://id-id.facebook.com/dewi.tinalah, sajian infografis di pinterest https://id.pinterest.com/dewitinalah/infografis-dewi-tinalah/ dan https://br.pinterest.com/dewitinalah/ juga akun google bisnis dan youtube serta web https//www.dewitinalah.com. Basis data informasi yang dengan mudah didapatkan oleh setiap pengguna internet merupakan salah satu kunci keberhasilan dalam mengundang wisatawan jauh yang secara mandiri terdorong untuk datang berwisata di kawasan Dewi Tinalah. Pada akhirnya praktik hospitality yang khas bagi anak muda usia sekolah menjadi bagian dari tehnik pemanduan untuk pengembangan aspek ekoeduwisata Dewi Tinalah. Model pelayanan dan transaksi yang melibatkan **sistem online** (termasuk pemanfaatan *fintech*) menjadi salah satu bentuk hospitality baru yang akan menjadi bagian cara mudah bertransaksi dan gaya hidup wisatawan muda yang berkunjung di Kawasan Dewi Tinalah.

Kelengkapan enam aspek edupreneurship inilah yang secara penuh dapat dimaksimalkan untuk mengembangkan kawasan Dewi Tinalah dari wisata berbasis alam menjadi pola ekoeduwisata. Keterkaitan sajian materi belajar ditempat wisata diharapkan menjadi unsur penguatan belajar di sekolah ataupun di kampus secara langsung. Obyek-obyek

kenakearagaman hayati dan ekosistem karst Dewi Tinalah dapat dikaitkan pada pelajaran Biologi SMA dapat menjadi target sasaran kunjungan belajar bagi siswa SMA kelas X. Sedangkan potensi temuan-temuan fosil kayu (kawasan perbukitan) dan fosil hewan laut di bebatuan karst/goa dan bebatuan di sungai Tinalah dapat menjadi jalinan cerita belajar evolusi siswa SMA di kelas XII. Sajian menarik wisata pengolahan pangan dapat menjadi bahan kajian alternative belajar kaitan nutrisi sehat (pangan organic) dan kesehatan sistem pencernaan di kelas XI. Materi perubahan energi dari potensial air bergerak menjadi energi listrik yang dapat diaplikasikan dalam instalasi mikro dan pikohidro dapat menjadi penjelas belajar fisika kekekalan energi bagi para siswa di kelas X , hukum fluida dan aplikasi untuk kelas XI dan belajar listrik dinamis arus DC di kelas XII. Lebih luas lagi tentu menyediakan sarana belajar alam yang tidak terbatas bagi ekplorasi mahasiswa belajar di luar kampus dengan aneka macam obyek dari setiap program studi yang ada.

Menyediakan ruang belajar dan berkompetisi menjadi cara baru dalam pengembangan sajian destinasi ekoeduwisata di kawasan Dewi Tinalah. Melalui alat bantu berupa aneka aplikasi berbasis android dan aplikasi android berbasis AI yang dikembangkan khusus untuk belajar keanekaragaman hayati Dewi Tinalah merupakan salah satu poin keunggulan komparatif dan sekaligus kompetitif yang diharapkan mampu meningkatkan kunjungan wisatawan kalangan muda sekaligus meningkatkan lama waktu tinggal di Dewi Tinalah.

PAKET BELAJAR : MENGENAL EKOSISTEM CAPUNG
LOKASI : Sungai Tinalah atau kolam-kolam buatan khusus untuk budidaya nimfa capung
JUMLAH PEMANDU : 1-5 pemandu
KAPASITAS PENGUNJUNG : 10-100 pengunjung
RASIO IDEAL PEMANDUAN : 1:10
LAMA WAKTU SESI : 45 menit observasi
MEDIA PERALATAN : aplikasi AI
METODE : discovery

TUJUAN PEMBELAJARAN

1. mempelajari pengetahuan tentang Capung sebagai bioindicator kesehatan ekosistem perairan
2. mencari tahu aneka jenis Capung yang berada diseputar sungai Tinalah

PERSIAPAN

1. disiapkan ranting ranting kering yang ditancapkan dibebatuan sepanjang aliran sungai yang terbuka dan diperkirakan terdapat banyak populasi Capung
2. disiapkan aplikasi AI untuk mengenal jenis jenis Capung melalui pemotretan
3. disiapkan cadangan berupa insectarium jenis jenis capung yang dapat ditemukan di ekosistem desawisata Tinalah

PELAKSANAAN

1. pemandu menjelaskan maksud dan tujuan kegiatan pengamatan
2. pemandu menceritakan kehidupan capung dan cara mengamati jenis jenis capung
3. pengunjung dipersilakan untuk mempraktikan tehnik mengidetifikasi capung melalui aplikasi AI yang sudah di download
4. pemandu mengajak untuk mencoba tehnik lain jika tidak dapat ditemukan oleh pengunjung (dapat melalui awetan capung yang sudah teridentifikasi jenisnya untuk dikonfirmasi melalui tehnologi identifikasi berbasis AI)
5. pemandu membantu pengunjung berswafoto selama beraktivitas

PENUTUP

1. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan konservasi melalui IG @dewitinalah

PAKET BELAJAR : BEBATUAN BERCERITA EKOSISTEM TINALAH
LOKASI : Sungai Tinalah
JUMLAH PEMANDU : 1-5 pemandu
KAPASITAS PENGUNJUNG : 10-100 pengunjung
RASIO IDEAL PEMANDUAN : 1:10
LAMA WAKTU SESI : 45 menit observasi
MEDIA PERALATAN : aplikasi AI
METODE : discovery

TUJUAN PEMBELAJARAN

1. mempelajari pengetahuan tentang aneka macam bebatuan sebagai pembentuk ekosistem sungai Tinalah
2. mengembangkan cerita evolusi geologi kawasan karst Tinalah (deretan Karst Jonggrangan) sebagai salah satu spot kawasan karst Kendeng
3. mengembangkan cerita evolusi geologi kawasan ekosistem lava andesit gunung api tersier Gajah, Jelok, Kaligesing, Purworejo yang berumur lebih dari 12juta tahun yang lalu
4. mencari tahu aneka jenis bebatuan yang berada diseputar sungai Tinalah

PERSIAPAN

1. disiapkan pembagian kelompok untuk belajar batuan vulkanik dan batuan karst dengan keunikan mengandung fosil biota laut
2. disiapkan aplikasi AI untuk mengenal jenis jenis batuan melalui pemotretan
3. disiapkan cadangan berupa koleksi jeni-jeni bebatuan karst dan vulkanik yang dapat ditemukan di ekosistem desawisata Tinalah

PELAKSANAAN

1. pemandu menjelaskan maksud dan tujuan kegiatan pengamatan
2. pemandu menceritakan asal mula sejarah geologi atau cerita turun temurun yang menggambarkan asal daerah aliran sungai Tinalah dan cara mengamati jenis jenis batuan dan ciri pembedanya
3. pengunjung dipersilakan untuk mempraktikan tehnik mengidetifikasi batuan melalui aplikasi AI yang sudah di download
4. pemandu mengajak untuk mencoba tehnik lain jika tidak dapat ditemukan oleh pengunjung (dapat melalui koleksi batuan karst dan vulkanik yang sudah teridentifikasi jenisnya untuk dikonfirmasi melalui tehnologi identifikasi berbasis AI)
5. pemandu membantu pengunjung berswafoto selama beraktivitas

PENUTUP

1. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan konservasi melalui IG @dewitinalah

PAKET BELAJAR : MENANAM PADI
LOKASI : Petak sawah warga
JUMLAH PEMANDU : 2 pemandu
KAPASITAS PENGUNJUNG : 10 pengunjung
RASIO IDEAL PEMANDUAN : 1:5
LAMA WAKTU SESI : 30 menit tanam padi
MEDIA PERALATAN : petak sawah, & bibit padi
METODE : discovery

TUJUAN PEMBELAJARAN

1. mempelajari pengetahuan menanam padi dan tatacaranya
2. mencari tahu cara pewarisan tradisi dan pemali-pemali yang menjadi kepercayaan warga
3. melatih kerjasama disawah melalui permainan lumpur sawah

PERSIAPAN

1. disiapkan petak penanaman padi yang sudah digenangi air
2. disiapkan semaian padi siap tanam untuk setiap peserta dengan mendapatkan satu genggam semaian
3. disiapkan petak permainan lumpur di lahan tanam padi yang sudah dibajag dan digenangi

PELAKSANAAN

1. pemandu mengawali dengan memberi contoh cara menanam padi
2. pengunjung dipersilakan untuk mempraktikan tehnik menanam
3. pemandu mengajak untuk mencoba tehnik lain yang dibebaskan
4. pemandu membantu pengunjung berswafoto selama beraktivitas
5. pengunjung diajak melihat hasil dan akibat yang terjadi ketika caranya keliru
6. pemandu memberikan cerita bagaimana cara tanam padi diwariskan

PENUTUP

1. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan nilai penting pewarisan tradisi melalui IG @dewitinalah

PAKET BELAJAR : BERMAIN LUMPUR
LOKASI : Petak sawah warga
JUMLAH PEMANDU : 2 pemandu
KAPASITAS PENGUNJUNG : 10 pengunjung
RASIO IDEAL PEMANDUAN : 1:5
LAMA WAKTU SESI : 15 menit tangkap ikan
MEDIA PERALATAN : petak sawah tergenang & ikan
METODE : kerjasama terbimbing & berburu

TUJUAN PEMBELAJARAN

1. menangkap ikan untuk lauk makan siang
2. melatih kerjasama disawah melalui permainan lumpur sawah

PERSIAPAN

1. disiapkan petak permainan lumpur di lahan tanam padi yang sudah dibajag dan digenangi
2. ditebarkan ikan nila siap tebar ukuran 1,5-2 ons diperkirakan 1-2 ekor per peserta
3. disiapkan ikan nila goreng untuk mereka yang tidak berhasil menangkap ikan

PELAKSANAAN

1. pemandu menghitung start pengunjung untuk masuk kelumpur dan menangkap ikan
2. setiap ikan yang tertangkap dimiliki oleh satu pengunjung dan dipersilakan untuk mencoba sekali lagi
3. setelah 5menit berlangsung, pemandu memberikan alternative bentuk kerjasama untuk menangkap ikan
4. setelah 15 menit permainan dihentikan oleh pemandu
5. pengunjung yang belum mendapatkan ikan bisa mendapatkan kejutan dari pemandu agar terkenang
6. selama kegiatan pemandu membantu pengunjung yang ingin berswafoto

PENUTUP

1. pemandu mengajak refleksi pengunjung makna kerjasama
2. pemandu menceritakan jerih payah warga lokal dahulu mencari ikan untuk mencukupi lauk pauk dalam sehari

PAKET BELAJAR : WIWITAN (agenda musiman)
LOKASI : Petak sawah warga
JUMLAH PEMANDU : 1-5 pemandu
KAPASITAS PENGUNJUNG : 100 pengunjung
RASIO IDEAL PEMANDUAN : 1:10
LAMA WAKTU SESI : 60-120 menit upacara
MEDIA PERALATAN : petak sawah, baju adat, fotografi dan aplikasi AI Tinalah
METODE : mangalami & partisipasi, inkuiri keanekaragaman hayati

TUJUAN PEMBELAJARAN

1. merasakan kebahagiaan saat warga memulai panen padi
2. belajar memahami maksud dan tujuan tatacara upacara wiwitan
3. belajar mengetahui keanekaragaman hayati (kehati) seputar tempat upacara wiwitan melalui tehnologi AI

PERSIAPAN

1. disiapkan upacara yang sudah disusun panitia lokal segala perlengkapan upacara wiwitan hingga koordinasi dengan peserta pengunjung atau wisatawan
2. disediakan asesoris atau baju adat sebagai syarat keikutsertaan pengunjung dalam upacara wiwitan
3. pengunjung dipersilakan mendownload aplikasi AI untuk mengidentifikasi kehati area persawahan yang diperlakukan dengan pola Bertani organik
4. disiapkan fotografer professional dan printer cetak foto

PELAKSANAAN

1. pemandu mengiformasikan kepada pengunjung untuk bersiap ikut serta dalam upacara wiwitan
2. pemandu membimbing pengunjung untuk memakai pakaian tradisional yang disewakan oleh panitia wiwitan agar dapat berswafoto atau memiliki foto cetak dari fotografer professional dengan mengganti biaya cetak
3. pemandu membimbing pengunjung menuju area upacara dan panitia wiwitan menyambut kehadiran pengunjung dengan percikan air dan taburan bunga atau kertas warna warni (hospitality panitia bisa dalam bentuk lain yang menggembirakan)
4. pemandu mempersilakan pengunjung bergabung dalam upacara sambil dijelaskan arti ucapan dan doa-doa dari pemimpin upacara wiwitan
5. sambal berjalan menuju peletakan sesaji, pengunjung diajak mulai memotret kehati disekitar sawah dengan aplikasi AI yang sudah didownload
6. selama upacara berlangsung pengunjung ditawari swafoto di spot yang menarik yang sudah disiapkan pemandu/ panitia
7. setelah ritual doa dan peletakan sesaji, pengunjung diajak berfoto bersama

PENUTUP

1. pemandu mengajak refleksi pengunjung makna upacara adat wiwitan
2. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan nilai penting pewarisan tradisi melalui IG @dewitinalah

PAKET BELAJAR : BARITAN (agenda musiman)
LOKASI : Sumber Mata air
JUMLAH PEMANDU : 1-5 pemandu
KAPASITAS PENGUNJUNG : 100 pengunjung
RASIO IDEAL PEMANDUAN : 1:10
LAMA WAKTU SESI : 60-120 menit upacara
MEDIA PERALATAN : baju adat, fotografi dan aplikasi AI Tinalah
METODE : mangalami & partisipasi, inkuiri keanekaragaman hayati

TUJUAN PEMBELAJARAN

1. merasakan syukuran warga melalui adat upacara pasca panen padi
2. memahami konservasi air melalui tradisi ritual baritan
3. belajar memahami maksud dan tujuan tatacara upacara baritan
4. belajar mengetahui keanekaragaman hayati (kehati) seputar tempat upacara baritan melalui tehnologi AI

PERSIAPAN

1. disiapkan upacara yang sudah disusun panitia lokal segala perlengkapan upacara baritan hingga koordinasi dengan peserta pengunjung atau wisatawan
2. disediakan asesoris atau baju adat sebagai syarat keikutsertaan pengunjung dalam upacara baritan
3. pengunjung dipersilakan mendownload aplikasi AI untuk mengidentifikasi kehati area sekitar sumber mata air yang dipelihara dan dirawat oleh warga
4. disiapkan fotografer professional dan printer cetak foto

PELAKSANAAN

1. pemandu mengiformasikan kepada pengunjung untuk bersiap ikut serta dalam upacara baritan
2. pemandu membimbing pengunjung untuk memakai pakaian tradisional yang disewakan oleh panitia baritan agar dapat berswafoto atau memiliki foto cetak dari fotografer professional dengan mengganti biaya cetak
3. pemandu membimbing pengunjung menuju area upacara dan panitia baritan menyambut kehadiran pengunjung dengan percikan air dan taburan bunga atau kertas warna warni (hospitality panitia bisa dalam bentuk lain yang menggembirakan)
4. pemandu mempersilakan pengunjung bergabung dalam upacara sambil dijelaskan arti ucapan dan doa-doa dari pemimpin upacara baritan
5. sambal berjalan menuju peletakan sesaji, pengunjung diajak mulai memotret kehati disekitar sumber mataair dengan aplikasi AI yang sudah didownload
6. selama upacara berlangsung pengunjung ditawari swafoto di spot yang menarik yang sudah disiapkan pemandu/ panitia
7. setelah ritual doa dan peletakan sesaji, pengunjung diajak berfoto bersama

PENUTUP

1. pemandu mengajak refleksi pengunjung makna upacara adat baritan

2. pemandu mengajak refleksi pengunjung makna ritual dalam langkah konservasi sumber mata air
3. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan nilai penting pewarisan tradisi melalui IG @dewitinalah

PAKET BELAJAR : TEKNOLOGI OLAH PANGAN TRADISIONAL
LOKASI : MUSEUM PERTANIAN BUKIT KLECO
JUMLAH PEMANDU : 2 pemandu
KAPASITAS PENGUNJUNG : 10 pengunjung
RASIO IDEAL PEMANDUAN : 1:5
LAMA WAKTU SESI : 30 menit guiding museum pertanian + 60menit wisata kuliner
MEDIA PERALATAN : Aplikasi AI peralatan pertanian, seperangkat alat masak dan bahan pangan ketela, kelapa & pegagan (opsional)
METODE : inkuiri konsep pertanian kuno & eksperimen kuliner

TUJUAN PEMBELAJARAN

1. mempelajari pengetahuan sejarah pertanian kuno dengan artefak perlatan pertanian hingga olah paska panen di museum pertanian bukit Kleco
2. mempelajari pewarisan tatacara penggunaan peralatan untuk menghasilkan bahan pangan warga lokal
3. mempelajari cara olah aneka panganan tradisional warga seputar Dewi Tinalah dan nilai nilai warisan untuk mendapatkan pangan sehat tanpa pengawet dan bahan kimia tambahan
4. mengenal aneka jenis pengolahan pangan modern sebagai bentuk inovasi olahan pangan sehat

PERSIAPAN

1. disiapkan grup grup tracking bukit Kleco atau grup kunjungan langsung ke musium pertanian
2. disiapkan kendaraan angkutan wisatawan yang tidak memilih jalur tracking
3. disiapkan seperangkat alat memasak dan bahan yang akan diolah (berupa pilihan ketela, pegagan dan kelapa)
4. disiapkan paket hasil olahan per pengunjung
5. disiapkan instalasi aplikasi android AI peralatan pertanian kuno dari museum pertanian

PELAKSANAAN

1. pemandu menjelaskan proses penemuan peralatan pertanian kuno dan menjelaskan fungsinya
2. pengunjung dipersilakan untuk mengamati dan diperbolehkan untuk mengidentifikasi jenis dan fungsi perlatan secara mandiri melalui aplikasi android AI
3. pemandu mengajak pengunjung melihat produk-produk hasil olahan yang dapat dibeli langsung dan nantinya akan dipraktikan tehnik pembuatannya
4. pemandu membantu pengunjung untuk memasak jenis-jenis bahan pangan sesuai pilihan yang diarahkan pemandu (ketela, kelapa dan pegagan)
5. Pemandu menceritakan tahapan olahan dan tujuan dilakukan tatacara memasak yang mampu menghasilkan citarasa khas dan menjadi oleh-oleh khas dewi Tinalah
6. pemandu dapat membuat eksperimen dengan memasak sendiri beberapa hasil olahan yang belum dimasak untuk dicicipi ditempat
7. pengunjung dibantu berswafoto saat observasi di musium maupun saat memasak

PENUTUP

1. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan nilai penting menjaga kelestarian tatacara oleh kuliner tradisional dan mengajak mengembangkan konsep pangan organic yang berkelanjutan melalui IG @dewitinalah

PAKET BELAJAR : TEKNOLOGI ENERGI TERBAHARUKAN TEPAT GUNA UNTUK PERDESAAN
LOKASI : Instalasi Mikrohidro dan Pikohidro
JUMLAH PEMANDU : 2 pemandu
KAPASITAS PENGUNJUNG : 10 pengunjung
RASIO IDEAL PEMANDUAN : 1:5
LAMA WAKTU SESI : 60 menit eksperimen+ 30menit wisata air
MEDIA PERALATAN : lembar observasi, stopwatch, multitester, alat ukur debit air
METODE : eksperimen & observasi

TUJUAN PEMBELAJARAN

5. mempelajari pengetahuan sejarah pembangunan saluran irigasi pada jaman penjajahan Belanda
6. mempelajari hukum fisika perubahan potensial energi air menjadi energi kinetic dan menghasilkan energi listrik
7. mempelajari perbedaan instalasi mikrohidro dan pikohidro
8. mengenal konservasi DAS melalui pola pemanfaatan sumber daya air secara berkelanjutan

PERSIAPAN

6. disiapkan instalasi peralatan mikrohidro dan pikohidro
7. disiapkan alat ukur debit air sesuai jumlah kelompok pengunjung yang belajar (perwakilan)
8. disiapkan alat ukur arus listrik (minimal multitester) sesuai jumlah kelompok pengunjung yang belajar (perwakilan)
9. disiapkan peralatan keamanan untuk wisata air per pengunjung

PELAKSANAAN

8. pemandu menjelaskan lingkungan sekitar irigasi dan proses pembangunan irigasi pada jaman penjajahan Belanda
9. pengunjung dipersilakan untuk mengamati lingkungan sekitar yang ikut mendukung terjaganya bangunan saluran irigasi yang berumur lewat seabad
10. pemandu mengajak pengunjung melihat peralatan mikrohidro dan pikohidro serta menjalaskan prinsip kerjanya
11. pemandu membantu pengunjung untuk mengukur debit air untuk menjalankan prinsip kerja kincir mikrohidro.
12. pemandu dapat membuat eksperimen dengan membedakan ukuran debit air yang masuk ke kincir untuk beberapa kali pengukuran arus listrik (dipertimbangkan jumlah pengunjung dan antusiasme pengunjung)
13. pemandu mengajak perwakilan pengunjung untuk mengukur kuat arus dan tegangan yang dihasilkan oleh unit mikrohidro dalam aneka macam debit air dan membandingkan dengan unit pikohidro
14. pengunjung dibantu berswafoto di dekat kincir mikrohidro secara hati hati dan bergantian
15. pemandu mangajak pengunjung untuk berwisata air di saluran air keluar (*outlet*) dari unit mikrohidro

PENUTUP

2. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan nilai penting menjaga kelestarian air untuk menghasilkan energi listrik yang berkelanjutan bagi warga perdesaan melalui IG @dewitinalah

PAKET BELAJAR : PEMBENTUKAN ORNAMEN & SEJARAH GOA SRITI
LOKASI : Goa Sriti
JUMLAH PEMANDU : 2 pemandu
KAPASITAS PENGUNJUNG : 10 pengunjung
RASIO IDEAL PEMANDUAN : 1:5
LAMA WAKTU SESI : 30 menit tanam padi
MEDIA PERALATAN : aplikasi AI
METODE : discovery

TUJUAN PEMBELAJARAN

1. mempelajari nilai sejarah perjuangan Pangeran Diponegoro melawan penjajah Belanda
2. mempelajari terbentuknya ornament goa (stalagtit, stalagmite, doline (kolam-kolam), draperi (tirai tirai) yang membentuk keindahan batuan karst
3. mempelajari nilai konservasi Goa Sriti dalam menjaga sumber air dan ekosistem sekitar dengan adanya populasi kelelawar/ sriti sebagai bioindicator keseimbangan hama serangga di alam

PERSIAPAN

1. disiapkan jalur aman susur goa yang dapat dijangkau secara berombongan. Jalur harus dalam kondisi paling aman untuk pengunjung dan tetap terpantau keberadaannya. Perlu dihindari jalur yang bercabang agar tidak menggoda pengunjung lepas dari rombongan. Perlu diperhatikan keamanan jalur saat musim hujan agar dihindari jalur aliran sungai atau lumpur saat terjadi hujan
2. disiapkan peralatan senter dan topi helm proyek
3. disiapkan biji-biji tanaman ikon desawisata Tinalah untuk ditanam di lahan kenangan

PELAKSANAAN

1. pemandu mengajak pengunjung untuk mengamati mulut goa sambil menyiapkan diri dan mental sebelum masuk goa
2. Pemandu memperkenalkan lokasi lokasi penting yang bernilai sejarah dalam perjuangan pangeran Diponegoro melawan penjajah Belanda
3. Pengunjung yang telah memiliki perlengkapan dipersilakan untuk masuk susur goa didampingi pemandu.
4. Sesampai diarea gelap total, pengunjung diajak untuk berhenti dan mematikan semua lampu untuk beradaptasi dengan lingkungan goa. Sambil diajak berefleksi pengunjung diajak mengatur nafas lebih pelan dalam suasana hening
5. pemandu mengajak pengunjung mulai mengenal ornament Goa dan proses terjadinya stalagtit dan stalagmite yang berawal dari tetesan air kapur yang terus menerus mengendap menjadi batuan (dalam satu tahun stalagtit dan stalagmite bertambah Panjang hanya 1cm). Ornamen goa ini perlu dijaga kelestariannya
6. pemandu membantu pengunjung berswafoto pada spot ornament terpilih (ditentukan oleh pemandu agar selalu terjaga kelestariannya)
7. pengunjung diajak menampung air tetesan dari stalagtit dan merasakan kesegaran airnya

8. pemandu membagikan biji kepada setiap pengunjung untuk dibungkus dengan tanah di dasar goa yang mengandung kotoran kelelawar (guano). Sesampai di luar Goa biji dibawa ke area menanam berupa lahan kenangan. Petak tanah yang sudah ditanami pengunjung ditandai dengan tulisan daerah asal pengunjung atau nama pengunjung dan asalnya ketika tidak dalam rombongan besar atau juga pejabat dan tokoh tokoh masyarakat penting yang sedang berkunjung ke Goa Sriti

PENUTUP

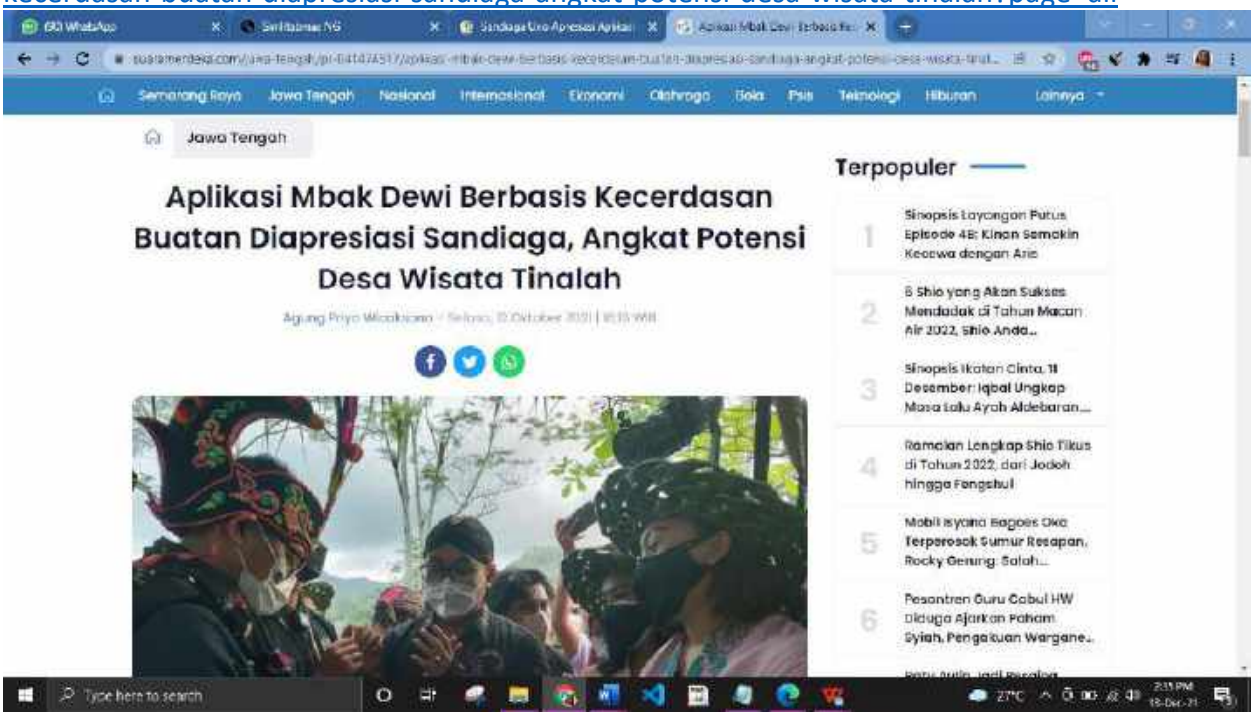
1. pemandu mengajak peserta memberikan komentar tanggapan dan pesan pesan nilai penting pewarisan tradisi melalui IG @dewitinalah

https://www.kompas.com/edu/read/2021/10/12/151700171/sandiaga-uno-apresiasi-aplikasi-dukung-desa-wisata-karya-uajy-ukrim?page=all

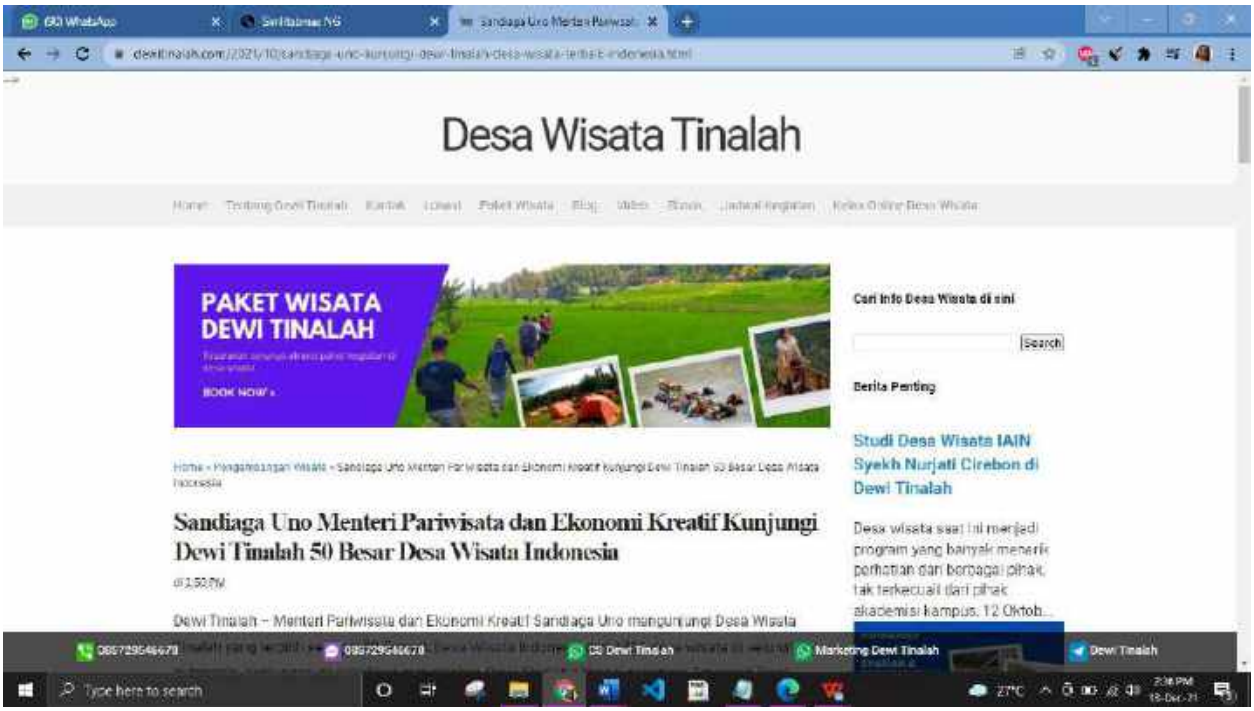
http://www.uajy.ac.id/berita/sandiaga-uno-apresiasi-aplikasi-ai-mbak-dewi-hasil-kolaborasi-abdimas-uajy-dan-ukrim/

https://lhokkuyun.desa.id/sandiaga-uno-apresiasi-aplikasi-dukung-desa-wisata-karya-uajy-ukrim/

https://www.suaramerdeka.com/jawa-tengah/pr-041474517/aplikasi-mbak-dewi-berbasis-kecerdasan-buatan-diapresiasi-sandiaga-angkat-potensi-desa-wisata-tinalah?page=all

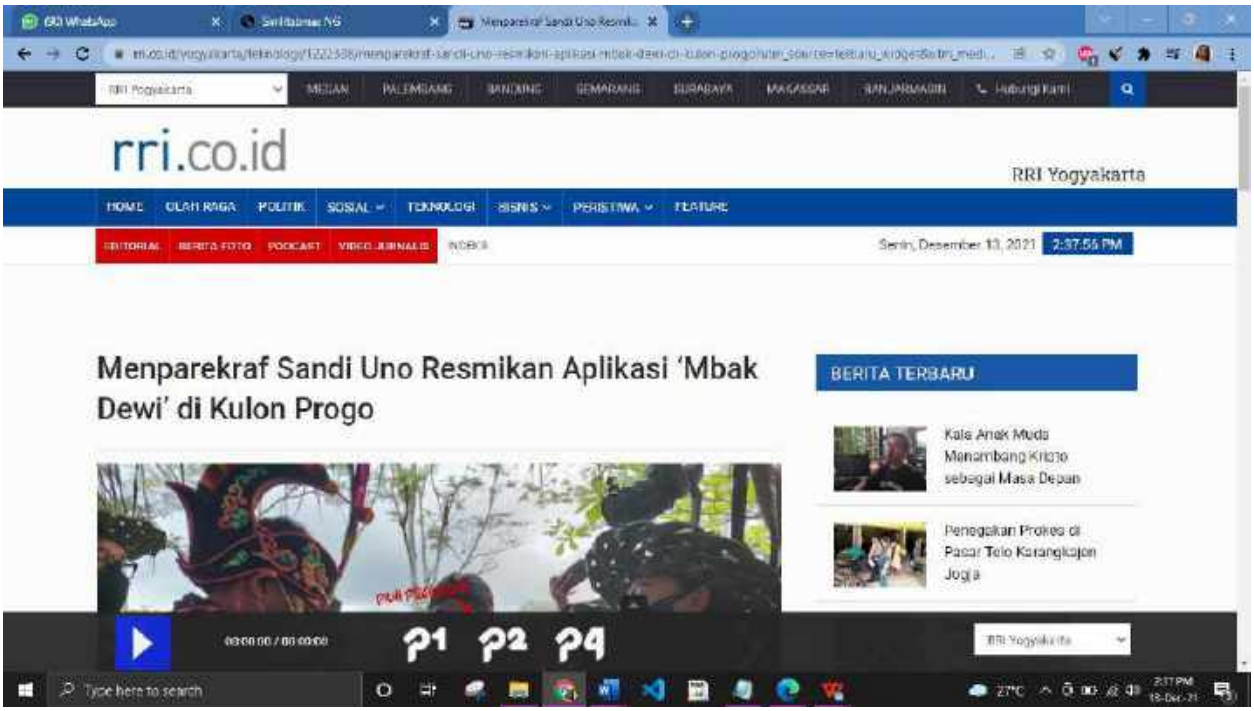


https://www.dewitinalah.com/2021/10/sandiaga-uno-kunjungi-dewi-tinalah-desa-wisata-terbaik-indonesia.html

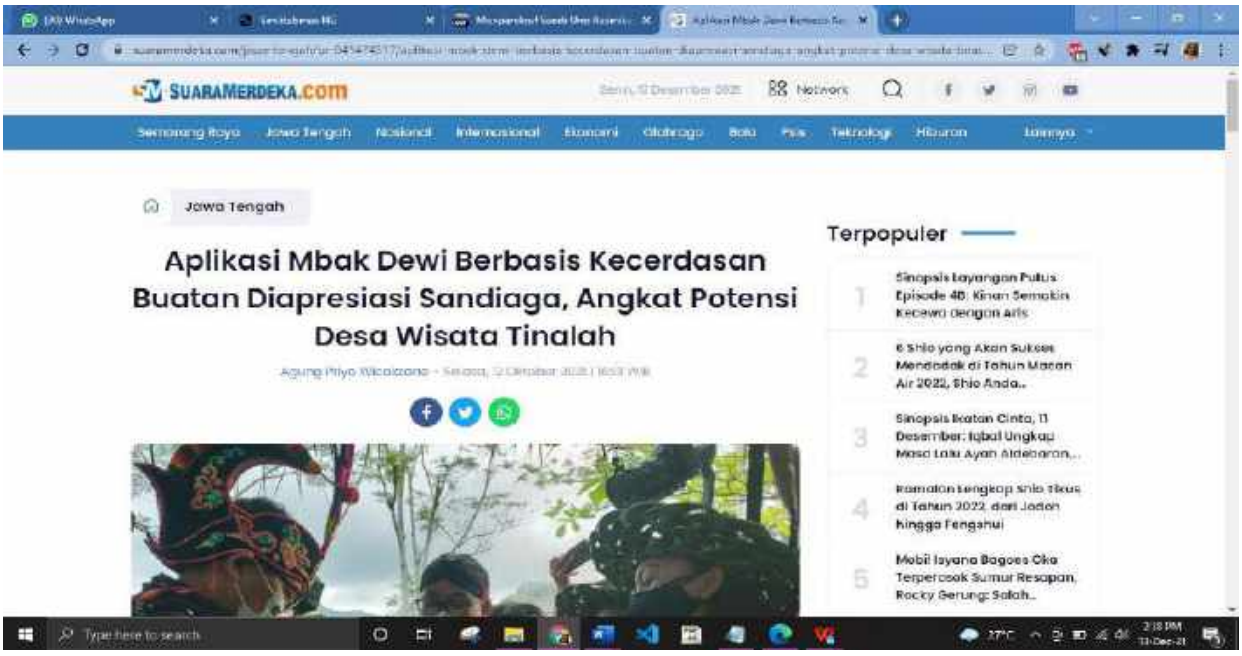


https://siapgrak.com/artikel/eLo9jwx

https://rri.co.id/yogyakarta/teknologi/1222338/menparekraf-sandi-uno-resmikan-aplikasi-mbak-dewi-di-kulon-progo?utm_source=terbaru_widget&utm_medium=internal_link&utm_campaign=General%20Campaign



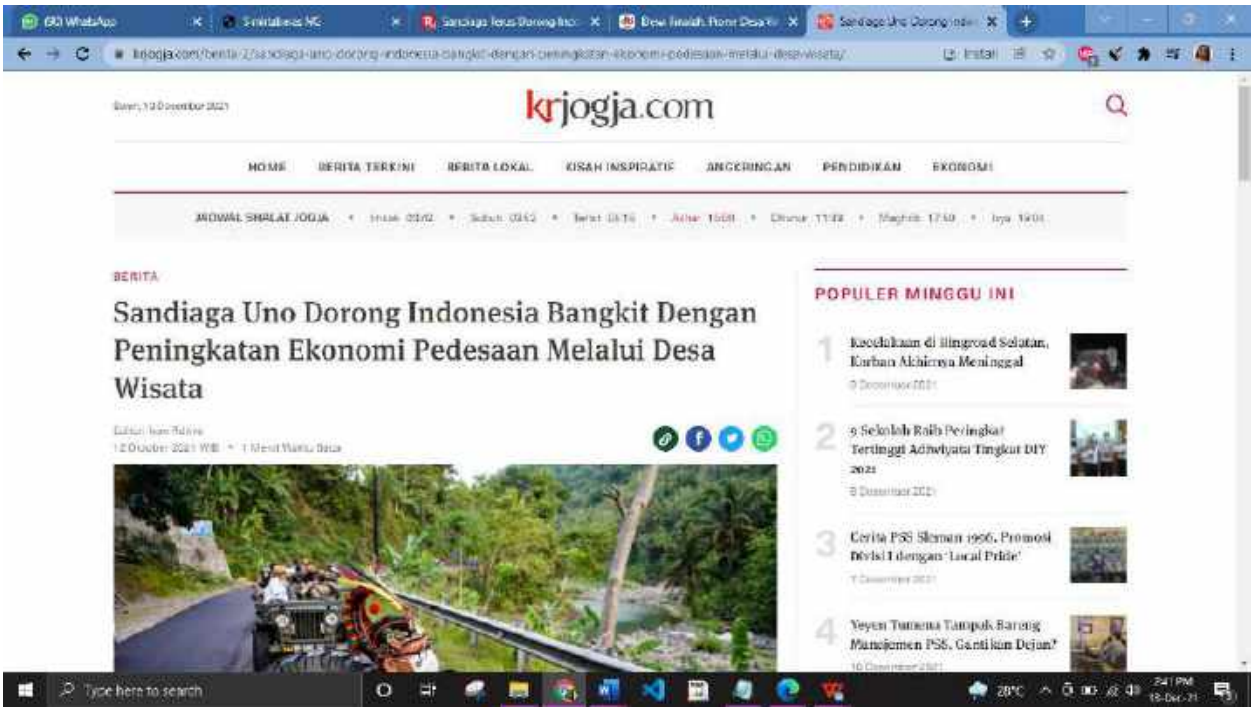
https://www.suaramerdeka.com/jawa-tengah/pr-041474517/aplikasi-mbak-dewi-berbasis-kecerdasan-buatan-diapresiasi-sandiaga-angkat-potensi-desa-wisata-tinalah?page=all



https://www.republika.co.id/berita/r0w1zf396/sandiaga-terus-dorong-indonesia-bangkit-melalui-desa-wisata

https://digitalbisa.id/artikel/dewi-tinalah-pionir-desa-wisata-digital-di-indonesia-n1ssW

https://www.krjogja.com/berita-2/sandiaga-uno-dorong-indonesia-bangkit-dengan-peningkatan-ekonomi-pedesaan-melalui-desa-wisata/



https://jogja.genpi.co/tag/desa-wisata-tinalah

https://www.medcom.id/nasional/daerah/RkjW66VK-sandiaga-dorong-indonesia-bangkit-dengan-tingkatkan-ekonomi-melalui-desa-wisata

https://radarjogja.jawapos.com/kulon-progo-gunung-kidul/2021/10/12/desa-wisata-tinalah-masuk-50-desa-wisata-terbaik/

https://www.wartajogja.id/2021/10/sandiaga-uno-indonesia-bangkit-dengan.html

https://headtopics.com/id/desa-wisata-tinalah-contoh-digital-tourism-punya-aplikasi-untuk-wisata-22137589

https://bernasnews.com/sandiaga-uno-peningkatan-ekonomi-pedesaan-melalui-desa-wisata/

https://mediaindonesia.com/humaniora/439588/sandiaga-uno-tingkatkan-ekonomi-perdesaan-untuk-indonesia-bangkit

https://www.penabicara.com/wisata/pr-2061477141/aplikasi-mbak-dewi-yang-dimiliki-desa-wisata-tinalah-solusi-bangkit-dari-keterpurukan-pariwisata

https://travel.tempo.co/read/1517434/desa-wisata-tinalah-contoh-digital-tourism-punya-aplikasi-untuk-wisata

ABDIMAS UAJY DAN UKRIM

MODUL PENULISAN NASKAH

KELAS ALAM

DESA WISATA TINALAH

Modul Penulisan Naskah Feature untuk Desa Wisata Tinalah

Apa itu feature?

Feature adalah berita yang memiliki nilai berita "menarik" yang bisa membangkitkan simpati dan empati bagi pembaca. Feature ini merupakan salah satu jenis berita jurnalistik di mana tulisan jurnalistik lainnya meliputi *hardnews* (berita langsung), *soft news* (berita ringan), *indept* (berita mendalam), serta investigasi. *Hardnews* lebih menekankan berita terkini, penting, dan harus segera diberitakan pada masyarakat luas. Contohnya: kebakaran, kenaikan BBM, dan sebagainya. *Soft news* menenkankan berita ringan dan tidak harus segera diberitakan. Contoh: Kisah Pejuang Covid-19 sembuh dari penyakitnya. *Indept news* lebih membahas sebuah peristiwa dengan lebih mendalam. Contoh: Bagaimana ketersediaan bed di rumah sakit di Yogyakarta untuk pasien Covid-19. Sementara investigasi membahas peristiwa yang menjadi "borok" yang merugikan masyarakat. Contohnya: Korupsi oleh salah satu Caleg di daerah tertentu.

Feature berisi fakta (kejadian yang sebenarnya) bukan sesuatu yang bersifat fiksi (khayal). Karena berisi sebuah fakta, maka tulisan *feature* menganut prinsip kaidah penulisan jurnalitik yakni 5W+1H (*What, When, Where, Who, Why)+ How.* Tulisan *feature* pun tidak ada yang bersifat opini dari penulis karena benar-benar bercerita keadaan sebenarnya.

Nilai berita dalam *feature*

Sebuah tulisan jurnalistik memiliki sebuah nilai berita. Nilai berita adalah kelayakan sebuah peristiwa untuk dijadikan sebuah berita. Artinya, tidak semua peristiwa bisa dimuat oleh media. Misalnya: seorang nenek jatuh dari becak. Peristiwa ini tidak akan diangkat oleh media karena nenek itu tidak terkenal. Tetapi kalau yang jatuh dari becak adalah pak Jokowi, maka media akan memberitakan karena Jokowi adalah seorang *public figure*.

Feature memiliki nilai berita (Ricketson, 2004), yaitu

1. *Impact*/Dampak : tulisan feature berdampak bagi banyak orang. Misal: menulis soal keunikan daerah Patuk Yogyakarta yang khas dengan sentra bakpianya. Penulis memilih salah satu gerai yakni bakpia 234. Karena belum terkenal seperti bakpia 75, maka dengan tulisan feature, akan membantu masyarakat luas pada bakpia 234. Ini memberi dampak bagi pengusaha lokal bakpia 234 untuk memasarkan produknya dan meningkatkan citra dari daerah Patuk serta Yogyakarta.
2. *Relevance*: nilai berita yang berkaitan dengan isu yang tengah marak. Misalnya: saat ini tengah ada isu Covid-19, lalu ada peneliti UGM yang menemukan Genose untuk mendeteksi virus ini. Maka tulisan *feature* bisa mengangkat peneliti UGM tersebut.
3. *Proximity*: nilai berita yang berkaitan dengan kedekatan baik kedekatan geografis maupun kedekatan emosional. Contohnya: Saya tinggal di Sleman, maka saya akan mencari *feature* soal objek wisata di daerah Sleman.
4. *Prominence*: nilai berita keterkenalan, bisa orang, tempat wisata, kuliner, dsbnya. Misal: *feature* soal sosok tokoh adat di suatu daerah

5. *Timeliness*: nilai berita kebaruan. Misalnya: peluncuran desa wisata A, maka siapa desa A dan seperti apa potensinya bisa ditulis sebagai feature
6. *Unusual:* nilai berita yang tidak biasa, aneh. Misalnya: feature soa kuliner bakso berukuran raksasa.

Perlu diketahui, bahwa dalam sebuah tulisan, bisa terdapat satu atau lebih nilai berita.

Apa saja jenis *feature* ?

Menurut Wolseley dan Campbell, terdapat enam jenis Feature:

1. Feature minat insani (*human interest* Feature): Feature yang langsung menyentuh keharuan, kegembiraan, kejengkelan atau kebencian, simpati. Contoh: kisah inspiratif dari Anggiasari, penyandang disabilitas yang terjun ke dunia politik

2. Feature sejarah (*hystorical* Feature): feature yang menceritakan masa lalu. Contoh: sejarah dari Kampung Pajeksan di Yogyakarta

3. Feature biografi (*biografical* Feature): feature yang menuliskan riwayat hidup seseorang. Biasanya dia adalah public figure dan memiliki karya

4. Feature perjalanan (*travelogue* Feature): feature yang menuliskan pengalaman perjalanan, bisa perjalanan ke tempat wisata, perjalanan kuliner

5. Feature yang mengajarkan keahlian (*how-to-do* Feature): *Feature* yang menjelaskan tentang bagaimana suatu perbuatan atau aktivitas dilakukan. Meski seperti tips yang disampaikan ke pembaca, namun tips tetap harus mencantumkan sumbernya. Contoh: feature tentang cara mengolah kopi pegunungan

6. Feature ilmiah (*scientific Feature*): feature mengenai hal yang berhubungan dengan ilmiah, riset, teknologi terbaru. Contohnya: feature tentang riset terbaru tentang kopi Menoreh

Bagaimana memulai menulis feature?

1. Mengidentifikasi topik peliputan

   Topik peliputan ini bisa datang dari banyak sumber seperti pengamatan lingkungan sekitar, pembicaraan warga atas sebuah topik, potensi wisata, penelitian, dan sebagainya. Sebelum dijadikan topik untuk tulisan, penulis perlu memverifikasi (mengecek) ulang topik tersebut, caranya misalnya dengan wawancara singkat serta mencari referensi yang berkaitan dengan topik tersebut. Bila setelah proses verifikasi penulis yakin bahwa topik tersebut layak tulis, maka topik bisa dikembangkan menjadi tulisan.

2. Melihat nilai berita atas topik

   Penulis perlu melihat kelayakan dari topik yang akan ditulis. Ingat kembali akan nilai berita yang sudah dijelaskan di atas. Nilai berita ini penting karena akan bermanfaat bagi pembaca, seperti manfaat informasi, pendidikan, hiburan, dan sebagainya. Pemilihan topik yang sesuai nilai berita pun berguna juga untuk kepentingan penulis seperti menaikkan citra.

3. Mencari sumber referensi untuk memperkaya tulisan

   Sumber referensi bisa diperoleh dengan berbagai cara seperti dari buku, searching google (jurnal, media massa online, dsbnya—dengan catatan, bila mengutip dari tulisan orang lain perlu diberikan sumber. Misal. Pisang berguna untuk kesehatan (Kompas.com, 7 Juni 2020, atau bila jurnal dengan mengetikkan nama penulis (misal nama penulis adalah Tika Dewi, maka mengutipnya adalah (Dewi, 2020)—nama belakang yang dikutip). Sumber referensi kalau dimungkinkan bisa lebih dari satu supaya data lebih valid (terpercaya).

4. Menentukan angle (sudut pandang)

   Sudut pandang (*angle*) wajib ada dalam sebuah tulisan feature. Sudut pandang akan menmbantu penulis untuk fokus pada satu topik. Cara menentukan sudut pandang adalah dengan melihat nilai berita atau tujuan dari tulisan tersebut. Setiap penulis wajib memiliki tujuan dalam tulisannya. Misalnya mau menulis feature bakpia 56, maka sudut pandang itu akan berisi informasi soal bakpia 56. Selanjutnya tubuh tulisan hanya akan bercerita soal asal muasal bakpia 56, apa keistimewaanya, cara pembuatan, dan sebagainya.

5. Mulai menulis

   a. Memulai dengan *lead* (pembuka)

      Lead adalah kalimat pembuka yang biasanya memancing pembaca untuk membaca tulisan secara terus menerus. Agar pembaca mau membaca terus, maka tulisan pembuka harus menarik.

      Ada berbagai macam *lead* dalam *feature*, seperti:

      - *Lead* ringkasan : *lead* yang berisi inti berita di mana pembaca langsung mengetahui isi tulisan tanpa membaca lebih dalam. Contoh: Walaupun hanya sebagai pemungut sampah, Jubaidi dengan tangan terbukanya, mau mengembalikan uang Rp 20 juta itu ke pemiliknya.
      - *Lead* bercerita: *Lead* ini menggambarkan cerita bersisian dengan situasi di lokasi. Contoh: Sesosok perempuan bersijingkat keluar kamar. Napas yang memburu sedemikian rupa ditahannya. Tidak lama berselang, menggema erangan panjang. Lampu panggung pun seluruhnya padam
      - *Lead* kutipan: Sumber *lead* berasal dari pernyataan menarik dari narasumber atau referensi tertulis yang dekat pembaca. Misal: “Bakpia pathuk 88 sangat enak,” kata seorang wisatawan

- *Lead* bertanya : *lead* dengan menggunakan pertanyaan yang menimbulkan rasa penasaran pembaca. Misal: Benarkah desa wisata X sudah mendapatkan rekor MURI?

b. Mengembangkan topik ke dalam paragraf

Untuk memudahkan pengembangan topik, penulis perlu membuat outline kecil terlebih dahulu. Misalnya paragraf 1 akan diisi dengan cerita apa, paragraf 2 akan diisi cerita apa, dstnya. Kesinambungan isi antarparagraf perlu diperhatikan, jangan sampai antarparagraf satu dan yang lain tidak berkaitan.

c. Menutup tulisan

Penutup tulisan biasanya merangkum kembali hal-hal yag sudah dituliskan. Berbagai macam penutup dalam *feature*,

- Penutup ringkasan: meringkas isi cerita. Contoh: Dari banyak fungsi tumbuhan padi, ternyata padi memang tidak bisa dilepaskan dari kehidupan manusia.
- Penutup penyengat: penutup yang membuat kaget pembacanya karena sama sekali tidak diduga. Contohnya: Membahas soal pisang ambon, lalu di tubuh tulisan berbicara soal manfaat pisang ambon. Lalu di akhir cerita, penulis menutup dengan penemu pisang ambon ternyata adalah warga Bantul.
- Penutup tanpa penyelesaian: Cerita mengambang dan membiarkan pembaca memberikan kesimpulan sendiri. Contoh: Manfaat buah pisang mungkin bisa menyembuhkan stroke. Namun, sampai sekarang belum ada penelitian tentang ini.

d. Membuat judul

Judul tidak harus dibuat setelah tulisan selesai. Judul bisa dibuat di awak tulisan.

6. Jangan lupa dalam menulis memerhatikan SPOK (Subjek Predikat Objek Keterangan) dan mengacu pada KBBI (Kamus Besar Bahasa Indonesia) dan PUEBI (Pedoman Umum Ejaan Bahasa Indonesia). Usahakan menulis kalimat dengan kata aktif (me), misal: menulis bukan ditulis.Kalimat aktif lebih mudah dicerna oleh pembaca.

Contoh Penulisan *Feature*

Feature soal potensi desa wisata Ngliggo di Kabupaten Kulonrogo

1. Sebelum menulis *feature*, penulis akan memetakan dahulu topik apa yang kira-kira bisa ditulis dari Desa Nglinggo. Penulis bisa melakukan observasi langsung ke lapangan, atau melakukan riset dokumentasi (melihat sumber referensi dari jurnal, web Pemkab, berita media online, dan sebagainya)

Berdasar hasil penelusuran, penulis menemukan fakta-fakta soal desa wisata Nglinggo. Fakta ini diperoleh dengan cara mengidentifikasi potensi-potensi desa Nglinggo dari berbagai sumber referensi.

Fakta/potensi dari Desa Nglinggo

Potensi desa wisata	Jenis potensi	nilai berita
Sejarah desa wisata Nglinggo	Wisata pendidikan	Unsual, proximity, impact
Perkebunan teh dan kopi	Wisata alam	Unsual, proximity, impact
Air Curug Watu Jonggol	Wisata alam	Unsual, proximity, impact
Kesenian lengger dan tepeng	Wisata budaya	Unsual, proximity, impact
Teh Sangrai	Wisata kuliner	Unsual, proximity, impact
Criping tales	Wisata kuliner	Unsual, proximity, impact
Penderesan gula aren	Wisata kuliner dan edukasi	Unsual, proximity, impact
Pengolahan teh	Wisata kuliner dan edukasi	Unsual, proximity, impact
Peternakan kambing etawa	Wisata edukasi	Unsual, proximity, impact
Kesenian Jathilan	Wisata budaya	Unsual, proximity, impact
Pembuatan topeng	Wisata edukasi	Unsual, proximity, impact
Puncak suroloyo	Wisata alam	Unsual, proximity, impact
Kopi Nglinggo	Wisata kuliner	Unsual, proximity, impact

2. Tentukan topik dan tujuan tulisan. Tulisan ini akan memilih topik perkebunan teh Nglinggo. Perkebunan teh Nglinggo dipilih karena potensi wisata yang berbeda dengan dengan desa lainnya. Selain itu, perkebunan teh ini menawarkan kesegaran alam bagi pengunjung. Tujuan utama adalah untuk meningkatkan citra desa Nglinggo, memberikan informasi bagi calon wisatawan, serta memberikan alternatif wisata alam yang berbeda
3. Setelah menentukan topik, buatlah sub topik. Sub topik ini akan sebagai inti dari paragraf yang akan ditulis. Topik1 : Pengenalan utama perkebunan teh Nglinggo (lokasi, karakter geografis). Topik 2: Gambaran perkebunan teh Nglinggo. Usahakan memilih sub topik yang berbeda dengan tulisan lain. Carilah sub-sub topik yang memang hanya diketahui penduduk sekitar, sehingga keunikan tersebut bisa menjadi alternatif tulisan lain bagi pembaca.
4. Memulai menulis

Contoh tulisan

Perkebunan Teh Nglinggo Tawarkan Kesegaran Alam Alami

Siapa yang ingin merasakan kesegaran alam alami? Datanglah ke perkebunan teh di desa wisata Nglinggo Kulonprogo. Perkebunan teh ini terletak di Kelurahan Pagerharjo, Kecamatan Samigaluh. Perkebunan teh ini terletak pada ketinggian 800mdpl dan menyajikan hamparan pemandangan hijau *Camellia sinensis*. Perkebunan Nglinggo pun menawarkan sensasi udara dingin khas pegunungan.

Perkebunan teh ini menyajikan pemandangan yang berbeda dari setiap sudutnya. Dari sisi barat, pengunjung bisa melihat hamparan perkebunan teh. Dari sisi utara, puncak dari Gunung Kukusan pun dapat terlihat. Perkebunan teh ini memiliki dua puncak yaitu Puncak Dempok dan Puncak Kendeng. Puncak Kendeng ini merupakan petilasan berupa batu. Konon ceritanya, puncak Kendeng ini berkaitan dengan Pangeran Diponegoro. Puncak tersebut dipercaya warga sebagai makam kerabat Pangeran Diponegoro yang bernama Pangeran Kendeng. Untuk mencapai puncak-puncak inipun, pengunjung harus melewatinya dengan *trekking*. Penasaran dengan sensasinya?

Struktur tulisan

a. Angle: gambaran deskripsi soal perkebunan teh Nglinggo

b. Judul provokatif dengan tujuan membuat pembaca penasaran

c. Menggunakan *lead* bertanya dan penutup tanpa penyelesaian

d. Kaidah jurnalistik: What (apa) (merujuk pada perkebunan teh Nglinggo), Where (di mana)(lokasi perkebunan), Why(mengapa) (mengapa perkebunan teh ini menarik), How (bagaimana) (penjelasan tentang deskripsi apa saja yang ada di perkebunan Nglinggo.

Latihan

Buatlah tulisan feature dari desa wisata Dewi Tinalah

1. Carilah potensi desa wisata Dewi Tinalah
2. Cari satu topik untuk ditulis
3. Cari referensi berhubungan dengan topik tersebut
4. Buatlah sub topik
5. Mulailah menulis dengan sudut pandang tertentu

CONTOH HASIL

1. Batu Karang
   • Batu karang adalah batu yang berasal dari karang di laut.
   • Nama latin dari batu karang adalah dendrogyra cylindricus.
   • Batu karang termasuk jenis batu yang besar.
   • Batu karang ini dimanfaatkan sebagai bahan bangunan di Desa Wisata Tinalah, khususnya sebagai pondasi bangunan
   • Batu karang ini banyak ditemukan di Puncak Kleco Desa Wisata Tinalah

2. Batu Kapur
   • Batu Kapur adalah material yang berasal dari batuan sedimen berwarna putih halus, yang mengandung mineral kalsium.
   • Tiga senyawa utama yang mewujudkan kapur adalah kalsium karbonat, kalsium oksida dan kalsium hidroksida.
   • Kapur adalah bahan yang sangat bermanfaat dalam segala bentuk aktivitas manusia dengan harga yang relatif lebih murah.
   • Pada zaman dahulu masyarakat Desa Wisata Tinalah menggunakan batu kapur untuk sikat gigi, caranya adalah dengan ditumbuk halus dan digunakan pada gigi.
   • Masyarakat Desa Wisata Tinalah juga menggunakan batu kapur sebagai campuran zat untuk pupuk dan pembasmi hama.

3. Batu Hitam
   • Batu hitam merupakan salah satu jenis batuan yang memiliki warna hitam.
   • Batu ini biasanya digunakan untuk hiasan maupun cinderamata seperti akik.
   • Batu hitam dipercaya dapat menjadi sarana pengobatan bagi orang yang sedang sakit.
   • Batu karang ini dimanfaatkan sebagai bahan bangunan di Desa Wisata Tinalah, khususnya sebagai pondasi bangunan.
   • Di Desa Wisata Tinalah, batu hitam juga dimanfaatkan untuk alas kereta api.

4. Lukisan Wayang
   • Seni lukis merupakan karya seni rupa berwujud dua dimensi yang dalam penciptaannya mengolah unsur titik, garis, bidang, tekstur, warna, gelap-terang, dan lain-lain melalui pertimbangan estetik.
   • Lukisan wayang merupakan karya seni yang mengangkat berbagai kisah pewayangan maupun tokoh-tokoh pewayangan yang terlibat di dalam kisah tersebut.
   • Pada lukisan wayang, beberapa kisah yang sering diangkat yaitu kisah Ramayana, Mahabarata, Panji dan Sotasoma.
   • Lukisan wayang ini dapat ditemui di Desa Wisata Tinalah.

• Dewi Tinalah beberapa kali mengadakan pameran lukisan wayang. Misalnya pameran lukisan wayang yang mengangkat tema ‘Wahyu Catur Menoreh’.

5. Telik
   • Telik ini terbuat dari bambu
   • Telik biasanya digunakan untuk menangkap ikan
   • Masyarakat Desa Wisata Tinalah menggunakan telik untuk menangkap ikan kecil di tepi sungai

6. Tanah Sandi
• Tanah sandi berasal dari museum sandi
• Tanah asli ini berasal dari zaman perjuangan dan masih dirawat hingga saat ini oleh masyarakat Dewi Tinalah
• Tanah sandi ini dirawat sehingga menghasilkan semen yang merupakan semen asli dari zaman perjuangan

7. Dandang Tumpeng
• Dandang tumpeng adalah alat masak tradisional yang sering digunakan untuk menanak nasi setengah matang / nasi tim / nasi aron).
• Dandang biasanya terbuat dari tembaga, berwarna kuning keemasan dan memiliki bentuk seperti topi pesulap yang dibalik.
• Masyarakat Desa Wisata Tinalah menggunakan dandang tumpeng untuk memasak nasi.

8. Stalaktit
• Stalaktit adalah batuan yang runcing dan berlubang- lubang lancip dengan ujungnya mengarah ke bawah.
• Stalaktit terbentuk dari kalsium karbonat yang mengendap serta mineral-mineral lainnya, yang terendap dalam larutan air bermineral.
• Kumpulan stalaktatit dapat menimbulkan bunyi yang sangat unik.
• Masyarakat memanfaatkan stalaktit untuk menambahkan keindahan di Dewi Tinalah.
• Stalaktit bisa ditemukan di Goa Sriti Desa Wisata Tinalah.

9. Pohon Tela
• Pohon ketela, ubi kayu, atau singkong adalah tumbuhan tahunan tropika dan subtropika dari suku *Euphorbiaceae*.
• Tumbuhan ini memiliki nama latin *Manihot utilissima*.
• Saat ini, Indonesia masuk dalam tiga besar negara di dunia yang paling banyak memproduksi ketela.

• Masyarakat Dewi Tinalah memanfaatkan pohon ketela untuk membuat berbagai olahan yang dikonsumsi sehar-hari.
• Ketela yang dalam bahasa jawa disebut *pohung* ini digunakan untuk menjadi bahan utama dalam makanan tradisional yaitu geblek, tiwul, dan gatot.

10. Pohon Pisang
• Pohon pisang memiliki nama latin *Musa paradisiaca*.
• Buah pisang sebagai bahan pangan merupakan sumber energi (karbohidrat) dan mineral, terutama kalium.
• Buah pisang dapat diolah menjadi berbagai produk makanan ringan, seperti sale, kue, dan arak.
• Masyarakat Desa Wisata Tinalah memanfaatkan seluruh bagian pohon pisang mulai dari buah, daun untuk bungkus makanan, dan juga jantung pisang.
• Masyarakat Desa Wisata Tinalah juga membuat keripik dari bonggol pisang.

11. Pohon Kelapa
• Pohon kelapa memiliki nama latin *Cocos nucifera*.
• Tanaman yang mempunyai batang tinggi ini biasanya tumbuh di pesisir pantai. Namun, pohon kelapa juga dapat tumbuh di wilayah perkebunan bahkan di permukiman warga.
• Kelapa adalah pohon serba guna bagi masyarakat tropika. Hampir semua bagiannya dapat dimanfaatkan.
• Pohon kelapa ini dapat dengan sangat mudah ditemukan di Dewi Tinalah.
• Masyarakat Dewi Tinalah memanfaatkan pohon kelapa untuk membuat makanan. Beberapa makanan khas Kulon Progo yang menggunakan kelapa adalah cenil dan growol.

12. Penjalinan
• Pohon penjalinan memiliki nama latin *Daemonorops melanochaetes.*
• Pohon penjalinan menjadi salah satu pohon yang khas di Desa Wisata Tinalah.
• Di Desa Wisata Tinalah, pohon penjalinan dapat ditemukan di Puncak Kleco.
• Pohon penjalinan biasanya juga digunakan untuk berteduh bagi masyarakat Desa Wisata Tinalah.

13. Padi
• Padi merupakan bagian penting dalam budaya masyarakat Asia Tenggara dan Asia Timur.
• Tanaman yang memiliki nama latin *Oryza sativa L* ini, tersebar hampir di seluruh Indonesia.

• Di Dewi Tinalah, tanaman padi akan mudah ditemukan. Beras yang diperoleh dari tanaman padi dimanfaatkan oleh masyarakat Dewi Tinalah untuk diolah menjadi makanan pokok.
• Masyarakat Desa Wisata Tinalah juga mengolah beras menjadi tepung beras dan digunakan sebagai bahan utama untuk membuat makanan tradisional.

14. Mikrohidro
• Mikrohidro atau yang dimaksud dengan Pembangkit Listrik Tenaga Mikrohidro (PLTMH), adalah suatu pembangkit listrik skala kecil yang menggunakan tenaga air sebagai tenaga penggeraknya
• Mikrohidro terletak di perbatasan antara Dusun Kedungrong dengan Dusun Banjararum.
• Masyarakat Desa Wisata Tinalah, khususnya di wilayah Pedukuhan Kedungrong dan sekitarnya sangat terbantu dengan mikrohidro yang dapat menghasilkan energi listrik ini.

15. Kemuning
• Kemuning yang memiliki nama latin *Murraya paniculata* biasanya tumbuh hingga 12 meter, tetapi biasanya kemuning ditemui tumbuh berkisar 2 hingga 3 meter.
• Kemuning berbunga sepanjang tahun. Berbentuk semak atau pohon kecil, bercabang banyak, batangnya keras dan beralur.
• Tanaman yang sudah cukup langka ini, memiliki nilai budaya untuk masyarakat Yogyakarta. Masyarakat Yogyakarta masih sering menggunakan kemuning sebagai salah satu komponen untuk upacara-upacara adat.
• Kemuning adalah tanaman kode sandi pengikut Pangeran Diponegoro. Setiap Pangeran Diponegoro bergerilya di menoreh, Pangeran Diponegoro menanam tanaman kemuning untuk memberi tahu pengikutnya bahwa Pangeran Diponegoro ada di sekitar lokasi tersebut.
• Kemuning yang saat ini tumbuh besar di Desa Wisata Tinalah adalah kemuning yang ditanam oleh Pangeran Diponegoro

16. Gejok
• Dalam Bahasa Jawa, "gejog" atau "kothekan" artinya memukul.
• Pada awalnya, gejok lesung merupakan kegiatan menumbuk padi. Seiring berjalannya waktu, kegiatan ini menjadi sebuah kesenian.
• Gejog Lesung dimainkan oleh 4-5 orang atau lebih tergantung besar lesung yang digunakan.
• Di Kulon Progo terdapat sebuah festival gejok lesung yang diadakan secara rutin setiap tahunnya.

• Gejok lesung dapat ditemukan di Dewi Tinalah. Alat ini masih digunakan untuk menumbuk padi, tetapi lebih sering digunakan untuk acara kesenian oleh masyarakat Desa Wisata Tinalah.

17. Lesung

• Lesung merujuk pada alat pertanian berupa wadah untuk menumbuk padi.
• Lesung terbuat dari kayu gelondong yang dipahat hingga berceruk atau berongga seperti bentuk perahu.
• Lesung tidak dapat dilepaskan dari kesenian khas Daerah Istimewa Yogyakarta yaitu gejog lesung. Gejog lesung menjadi ekspresi kegembiraan para petani atas melimpahnya hasil panen (padi) dan sekaligus ungkapan syukur kepada Dewi Sri yang dipercayai sebagai Dewi Padi.
• Gejok lesung dapat ditemukan di Dewi Tinalah. Alat ini masih digunakan untuk menumbuk padi, tetapi lebih sering digunakan untuk acara kesenian oleh masyarakat Desa Wisata Tinalah.

18. Duwet

• Tanaman duwet atau jamblang memiliki nama latin *Syzygium cumini*.
• Tanaman duwet juga dikenal dengan nama anggur Jawa.
• Saat ini duwet telah ditanam diseluruh kawasan tropika dan subtropika.
• Di Desa Wisata Tinalah juga terdapat Dusun Duwet, dimana dusun ini dahulu memiliki banyak sekali tanaman duwet.
• Masyarakat Dewi Tinalah memanfaatkan duwet sebagai obat tradisional. Selain itu, masyarakat juga menanam duwet agar pekarangan mereka teduh.

19. Diorama

• Diorama adalah miniatur tiga dimensi untuk menggambarkan suatu pemandangan atau suatu adegan.
• Pencinta miniatur sering membuat diorama untuk memamerkan model kendaraan militer, miniatur figur publik, ataupun miniatur pesawat terbang.
• Saat ini, diorama banyak digunakan untuk menggambarkan keadaan sesungguhnya dari landskap keadaan sejarah, kejadian alam, dan keadaan kota untuk kebutuhan pendidikan atau pertunjukan.
• Diorama akan ditemukan di Dewi Tinalah. Diorama ini memberikan gambaran keadaan alam dan juga kisah sejarah.

20. Cangkring

• Cangkring adalah nama dari pohon sejenis dadap-dadapan (*Erythrina*). Nama lain dari pohon ini adalah dadap duri, dadap rangrang, dadap ri, dadap cucuk, cengkering, dan lainnya.

- Cangkring merupakan pohon yang meluruhkan daunnya. Tinggi pohon cangkring bisa mencapai 10-20 m.
- Cangkring tumbuh di kaki atau sekitar sungai Desa Wisata Tinalah
- Masyarakat Desa Wisata Tinalah menggunakan cangkring sebagai obat untuk penyakit cacar air.
- Cangkring juga dipercaya oleh masyarakat Desa Wisata Tinalah dapat mengusir makhluk halus

21. Ketapang Kencana

- Ketapang kencana (Terminalia mantaly) adalah sejenis pohon peneduh yang mendatar dan berlapis-lapis.
- Pohon ini dipakai sebagai hiasan taman dan rumah
- Ketapang merupakan tumbuhan asli dari Asia Tenggara yang mudah ditemukan di negara seperti Indonesia.
- Salah satu bagian dari ketapang yang memiliki banyak manfaat untuk kesehatan adalah bagian daun.
- Banyak masyarakat desa wisata tinalah memanfaatkan rebusan daun ketapang untuk pengobatan herbal pada penyakit tertentu.

22. Kalpataru berduri

- Kalpataru Berduri atau yang biasa disebut Buah roda (Hura crepitans.L) merupakan salah satu jenis dari suku Pohon Euphorbiaceae.
- Jenis ini disebut dengan buah roda karena buahnya mirip dengan roda.
- Tumbuhan ini di jawa tengah dan jawa timur disebut kuku macan karena pada buahnya terdapat sekat-sekat yang mirip kuku harimau.
- Buah roda biasanya ditanam di pinggir-pinggir jalan sebagai tanaman peneduh, tanaman hias dan tanaman obat.
- Buah roda sangat mirip dengan buah pohon mitologi Kalpataru yang banyak terdapat di relief candi kuno peninggalan agama Hindu maupun Budha.
- Masyarakat Desa Wisata Tinalah yang tinggal di wilayah Menoreh dan dekat dengan Candi Borobudur, Jawa Tengah seringmenyebut pohon ini sebagai pohon Kalpataru.

Buku Petunjuk Penggunaan Aplikasi (User Manual)

APLIKASI ANDROID

TINALAH EDU

UKRIM – ATMAJAYA

YOGYAKARTA

2021

PENDAHULUAN

Aplikasi tinalahEdu merupakan aplikasi yang dibuat untuk tujuan pembelajaran alam di Desa Wisata Tinalah Kulon Progo Daerah Istimewa Yogyakarta. Tujuan pembuatan aplikasi ini adalah selain sebagai brand produk pariwisata di Desa Wisata Tinalah adalah sebagai media pemebelajaran mengenai potensi alam di desa wisata tersebut. Aplikasi ini dibuat atas hasil kerjasama pengelola desa wisata Tinalah dengan Universitas Kristen Immanuel Yogyakarta dan Universitas Atma Jaya Yogyakarta. Untuk menggunakan aplikasi ini user harus sudah mengunduh dan menginstall aplikasi TinalahEdu.apk di handphone yang menggunakan sistem operasi Android.

PENGENALAN APLIKASI

Berikut ini adalah tampilan user interface dan beberapa fungsi kegunaan dari setiap fitur yang ada pada aplikasi android TinalahEdu :

1. Tampilan Menu Splash Screen

Tampilan pertamakali yang disajikan oleh system Ketika user membuka adalah splash screen. Setelah splash screen terbuka maka secara otomatis system akan mengarahkan user ke tampilan login. Berikut ini adalah tampilan dari splash screen :

2. Tampilan Menu Login

Tampilan login merupakan sebuah tampilan yang berfungsi untuk memverifikasi setiap user. Pada tampilan login, user diharuskan mengisi data beberapa inputan seperti alamat email dan password. Berikut ini adalah tampilan dari login :

Keterangan :

- Untuk login user harus mengisi email dan password
- Format inputan untuk form email harus berupa format email.
- Password dapat dilihat dengan cara menekan tombol mata pada inputan password.

3. Tampilan Menu Register

Tampilan register merupakan sebuah tampilan yang digunakan oleh user baru yang belum pernah mendaftar untuk mengakses tiap menu di aplikasi. Pada tampilan register user diharuskan mengisi data diri seperti nama user, email user, password user, nomor telephone user dan foto profile. Berikut ini adalah tampilan dari register :

Keterangan :

- Semua inputan data harus diisi dan tidak boleh ada inputan yang kosong.
- Format inputan untuk form email harus berupa format email.
- Format inputan password minimal 8 kombinasi karakter baik huruf, simbol atau angka.
- Untuk inputan foto profile user harus menekan tombol bingkai foto kosong kemudian secara otomatis system akan membuka kamera. Setelah kamera terbuka user dapat mengambil gambar foto profile kemudian menekan tombol centang.

4. Tampilan Menu Home

Tampilan home akan muncul ketika user berhasil login. Pada tampilan ini ada 4 menu yang disajikan diantaranya adalah new game (permainan baru), identifikasi, history scan dan highscore (poin tertinggi di setiap kelompok). Berikut ini adalah tampilan dari home :

5. Tampilan Menu Profile

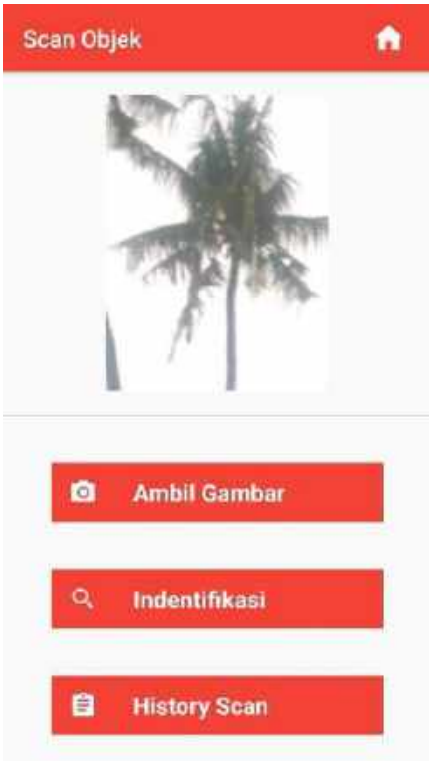
Tampilan profile merupakan sebuah tampilan yang berfungsi untuk menampilkan data diri user yang sedang login seperti nama, email, nomor telephone dan foto profile. Selain data user yang sedang login, pada tampilan ini juga terdapat fitur logout untuk keluar dari sesi login. Berikut ini tampilan dari halaman profile :

6. Tampilan Fungsi Permainan

Berikut ini adalah tahapan user untuk menggunakan fungsi permainan pada aplikasi TinalahEdu dimana sebelumnya user menekan tombol new game pada halaman home:

1) Pertama user melakukan verifikasi token dimana token akan diberikan oleh pemandu/guide dari tinalah berupa 5 kombinasi angka dan huruf.

2) Setelah berhasil melakukan verifikasi maka sistem akan menampilkan tampilan scan gambar permainan. Kemudian user akan membuka kamera untuk melakukan scan gambar dengan cara menekan tombol ambil gambar.



3) Setelah gambar berhasil diambil user akan mengidentifikasi gambar tersebut dengan cara menekan tombol identifikasi.
4) Setelah menekan tombol identifikasi system akan menampilkan halaman detail scan gambar.

5) Pada halaman detail scan gambar user dapat memilih untuk melakukan scan gambar kembali atau melihat history scan atau keluar dari permainan. Untuk melakukan scan gambar kembali user menekan tombol kamera. Untuk melihat history scan gambar user menekan tombol list.
6) Terakhir untuk keluar dari game user harus menekan tombol rumah. Ketika menekan tombol rumah akan muncul pop up apakah yakin keluar dari permainan. Jika user memilih ya maka akan keluar jika tidak maka akan kembali ke detail scan gambar.

7. Tampilan Fungsi Identifikasi

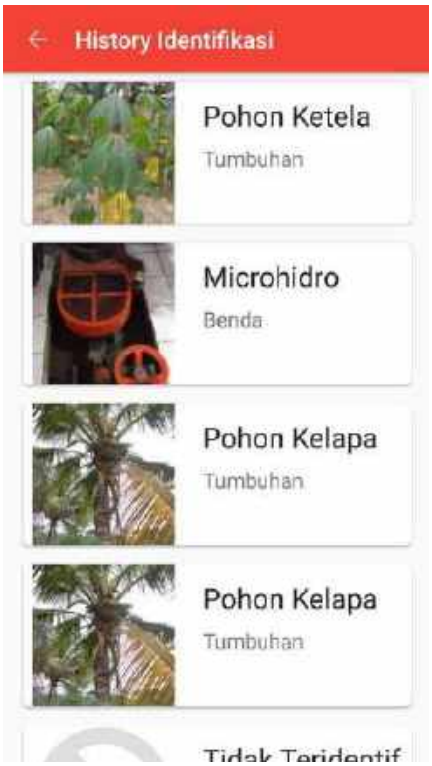
Berikut ini adalah tampilan untuk mngidentifikasi sebuah objek pada aplikasi TinalahEdu dimana sebelumnya user menekan tombol identifikasi pada halaman home:

1) Pertama sistem akan membuka tampilan identifikasi kemudian user menekan tombol ambil gambar untuk mengambil gambar objek yang akan di identifikasi.
2) Setelah berhasil mengambil gambar objek user harus menekan tombol identifikasi untuk melihat informasi gambar yang telah diambil tadi.

3) Setelah menekan tombol identifikasi maka secara otomatis system akan menampilkan detail informasi dari objek yang telah di identifikasi.

4) Pada menu detail identifikasi user dapat memilih untuk melakukan identifikasi kembali atau melihat history identifikasi atau keluar dari menu identifikasi.

Untuk melakukan identifikasi kembali user menekan tombol kamera. Untuk melihat history identifikasi user menekan tombol list.



5) Terakhir untuk keluar dari identifikasi user harus menekan tombol rumah. Ketika menekan tombol rumah akan muncul pop up apakah yakin keluar dari identifikasi. Jika user memilih ya maka akan keluar ke menu home, jika tidak maka akan kembali ke detail identifikasi.

8. Tampilan Fungsi History Scan Gambar Permainan

Berikut ini adalah fungsi untuk menampilkan history scan gambar pada permainan yang sebelumnya pernah dilakukan dimana user untuk mengakses menu ini harus menekan menu history scan pada halaman menu :

1) Ketika user menekan tombol history scan pada menu home maka secara otomatis system akan menampilkannya dalam bentuk list.

2) User juga dapat menampilkan detail informasi history scan gambar yang pernah diambil sebelumnya dengan cara menekan salah satu data pada list tersebut.

9. Tampilan Fungsi Highscore

Berikut ini adalah fungsi untuk menampilkan highscore atau peroleh poin tertinggi pada setiap kelompok dimana sebelumnya user menekan tombol highscore pada tampilan home :

1) Pertama hal yang haru silakukan user adalah memasukkan token permainan kelompok mana yang akan dilihat peroleh poin tertinggi.

2) Setelah berhasil verifikasi maka system akan menampilkan peroleh poin tertinggi berdasarkan token kelompok yang di inputkan tadi.

APLIKASI KELAS ALAM "MBAK DEWI"

DIGITALISASI DESA DENGAN INTEGRASI TEKNOLOGI KECERDASAN BUATAN DAN PAKET WISATA

Pendahuluan

Kegiatan pengabdian ini bertujuan melaksanakan pemberdayaan masyarakat berupa program pengembangan Desa Wisata Tinalah (Dewi Tinalah), Kulon Progo sebagai desa wisata dengan potensi wisata alam, budaya, sejarah, dan edukasi di masa pandemi Covid 19 tahun 2021. Program pengembangan pengabdian masyarakat merupakan kerjasama antara Universitas Atma Jaya Yogyakarta dengan Universitas Kristen Immanuel beserta dengan pengurus Dewi Tinalah dengan mengembangkan digitalisasi kelas alam dengan teknologi image recognition

Masyarakat mempunyai kreatifitas dalam pengembangan keberagaman usaha dan pengelolaan alam supaya tetap terus berlangsung dan lestari. Kelas alam adalah salah satu potensi yang bisa dikembangkan untuk pendidikan pengenalan alam dan lingkungan bagi Sekolah Menengah Pertama (SMP) dan Sekolah Menengah Atas (SMA) yang sedang berkemah ataupun mengadakan kegiatan komunitas di Dewi Tinalah.

Team Pengabdian Masyarakat

Desideria Cempaka Wijaya Murti, S.Sos., MA., Ph.D. **(UAJY)**
Dr. Victoria Sundari Handoko, S.Sos. M.Si. **(UAJY)**
Antonius Bima Murti Wijaya, S.T., M.T. **(UKRIM)**

Pengabdian bagi masyarakat dilaksanakan karena permasalahan yang dihadapi pengurus wisata yaitu:

Pertama, kurangnya kurangnya eksplorasi kekayaan alam yang belum diolah secara maksimal. Kekayaan alam di desa wisata ini seperti jenis bebatuan, sungai, flora, landscape, dan jenis burung-burung.

Kedua, minimnya pengetahuan tentang pembuatan kurikulum kelas alam

Ketiga, minimnya sumber daya manusia dalam mengintegrasikan paket kelas alam dengan teknologi berbasis apps sebagai bagian inovasi desa wisata.

Metode pengabdian masyarakat dilaksanakan dengan cara mengadakan diskusi (rembug desa) melalui Focus Group Discussion, pelatihan, dan pendampingan.

Kegiatan

Kegiatan pertemuan dan pelatihan dilakukan secara offline melibatkan 10 orang pengurus Dewi Tinalah dengan protokol kesehatan (prokes) yang ketat bertempat di joglo Dewi Tinalah. Kegiatan tersebut terdiri dari:

- Pertama, pertemuan mencari potensi Dewi Tinalah untuk pembuatan aplikasi teknologi berbasis Artificial Intelligent. Di sini warga diminta untuk melakukan identifikasi benda-benda alam yang merupakan kekhasan di desa wisata Tinalah, misalnya batu, tanaman, fauna, dan lain-lain.

- Kedua, pelatihan penyusunan kurikulum kelas alam. Pada pelatihan ini, warga diminta untuk mengidentifikasi paket-paket wisata yang bisa dijadikan satu dalam kurikulum kelas alam. Paket wisata kelas alam ini nantinya akan dipasarkan untuk siswa SMA dan SMP untuk berpetualang, menjelajah alam, sambil memahami informasi seputar alam dari aspek sains.

- Ketiga, pelatihan penulisan naskah feature mengenai kekayaan alam Dewi Tinalah. Pada pelatihan ini, warga dilatih untuk menulis sehingga dihasilkan penjelasan yang berbasis pengetahuan lokal (local knowledge) yang berupa tulisan. Naskah-naskah ini yang akan masuk dalam aplikasi kelas alam Dewi Tinalah sebagai konten produksi lokal dan bersumber dari pengetahuan warga (local genius).

- Keempat, pengembangan aplikasi Image Recognition. Pada tahap ini, dikembangkan aplikasi Kelas Alam Dewi Tinalah yang berfungsi untuk mengidentifikasi obyek alam melalui foto dan secara otomatis dengan teknologi image recognition, mengenali obyek tersebut dan menjelaskan informasi terkait yang berasal dari naskah buatan warga lokal. Hal ini mengintegrasikan antara teknologi, pengetahuan lokal, dan partisipasi warga

- Kelima, uji coba penggunaan apps untuk paket wisata kelas alam. Warga dapat membawa wisatawan berpetualang di desa dengan berbekal teknologi kecerdasan buatan dari ponselnya. Warga dapat pula membuat games-games berbasis pengetahuan dan teknologi untuk pengembangan kelas alam dan paket-paket wisatanya.


Pesona 16 Desa Wisata Joglosemar

Digitalisasi Dewi Tinalah Menuju Kelas Dunia

Oleh Janu Muhammad

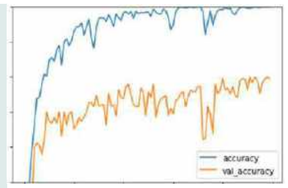
Hasil

Hasil kegiatan berupa:

- kurikulum kelas alam,
- tulisan cerita-cerita penduduk tentang Dewi Tinalah yang akan di upload di apps Dewi Tinalah, d
- aplikasi teknologi AI untuk mengidentifikasi flora dan fauna Dewi Tinalah.

Pengurus Dewi Tinalah dapat membuka kembali paket wisata di desanya dengan menawarkan kurikulum kelas alam berbasis teknologi. Siswa-siswa SMP dan SMA dapat mengamati bebatuan, flora, dan burung yang ada di sekitar desa dengan teknologi kecerdasan buatan. Siswa dapat mendownload aplikasinya di google apps store. Teknologi image recognition menggunakan Artifical Intelligent diintegrasikan dengan desain apps Dewi Tinalah. Melalui teknologi ini, peserta kelas alam dapat melakukan foto pada benda alam dan secara otomatis, informasi akan muncul pada apps Dewi Tinalah. Teknologi akan membaca data foto benda alam (batu, burung, atau flora) tersebut, dan mengintegrasikan informasinya dengan aplikasi yang telah dibuat.

Jaringan syaraf tiruan merupakan basis teknologi yang digunakan untuk pengenalan obyek-objek pembelajaran pada Dewi Tinalah. Algoritma Convolution Neural Network dengan arsitektur LeNet digunakan karena memiliki kemampuan rekognisi yang tinggi. Algoritma ini dijalankan menggunakan Bahasa pemrograman python, yang kemudian diintegrasikan ke aplikasi android melalui web service flask. Algoritma dibangun dengan menggunakan bantuan library tensorflow untuk meningkatkan kemampuan kecepatan belajar. Dua fase algoritma, yaitu fase belajar dan fase rekognisi atau fase evaluasi. Sistem akan belajar dari gambar-gambar objek yang ada di Dewi Tinalah yang sudah dipilih berdasarkan nilai historis objek tersebut bagi masyarakat. Berikut ini adalah hasil dari 2 fase algoritma.



- Aplikasi berbasis AI dengan keakuratan 80%

Penutup

Teknologi AI menciptakan fasilitas interaksi baru bagi wisatawan yang berkunjung di Dewi Tinalah menggunakan mobile phone menjadi media pembelajaran alam yang aman bagi wisatawan dengan interaksi yang berjarak antar wisatan. Penduduk sebagai subjek pengembang teknologi akan berinteraksi dengan teknologi tersebut secara terus menerus sehingga bisa menjadi bagian dari kehidupan mereka. Melalui proyek pengabdian ini diharapkan proses digitalisasi Desa Wisata dengan Dewi Tinalah sebagai pilot dapat berdampak baik bagi desa wisata sehingga bisa maju, lestari, dan inovatif.

Keterangan asal pembiayaan

Pembiayaan pengabdian kepada masyarakat berasal dari Direktorat Riset dan Pengabdian Masyarakat Deputi Bidang Penguatan Riset dan Pengembangan, Kementrian Riset dan Teknologi/Badan Riset dan Inovasi 2021.

APLIKASI KELAS ALAM "MBAK DEWI"

DIGITALISASI DESA DENGAN INTEGRASI TEKNOLOGI KECERDASAN BUATAN DAN PAKET WISATA

Team Pengabdian Masyarakat

Desideria Cempaka Wijaya Murti, S.Sos., MA., Ph.D. **(UAJY)**
Dr. Victoria Sundari Handoko, S.Sos. M.Si. **(UAJY)**
Antonius Bima Murti Wijaya, S.T., M.T. **(UKRIM)**

Pendahuluan

Kegiatan pengabdian ini bertujuan melaksanakan pemberdayaan masyarakat berupa program pengembangan Desa Wisata Tinalah (Dewi Tinalah), Kulon Progo sebagai desa wisata dengan potensi wisata alam, budaya, sejarah, dan edukasi di masa pandemi Covid 19 tahun 2021. Program pengembangan pengabdian masyarakat merupakan kerjasama antara Universitas Atma Jaya Yogyakarta dengan Universitas Kristen Immanuel beserta dengan pengurus Dewi Tinalah dengan mengembangkan digitalisasi kelas alam dengan teknologi image recognition

Masyarakat mempunyai kreatifitas dalam pengembangan keberagaman usaha dan pengelolaan alam supaya tetap terus berlangsung dan lestari. Kelas alam adalah salah satu potensi yang bisa dikembangkan untuk pendidikan pengenalan alam dan lingkungan bagi Sekolah Menengah Pertama (SMP) dan Sekolah Menengah Atas (SMA) yang sedang berkemah ataupun mengadakan kegiatan komunitas di Dewi Tinalah.

Pengabdian bagi masyarakat dilaksanakan karena permasalahan yang dihadapi pengurus wisata yaitu:

Pertama, kurangnya kurangnya eksplorasi kekayaan alam yang belum diolah secara maksimal. Kekayaan alam di desa wisata ini seperti jenis bebatuan, sungai, flora, landscape, dan jenis burung-burung.

Kedua, minimnya pengetahuan tentang pembuatan kurikulum kelas alam

Ketiga, minimnya sumber daya manusia dalam mengintegrasikan paket kelas alam dengan teknologi berbasis apps sebagai bagian inovasi desa wisata.

Metode pengabdian masyarakat dilaksanakan dengan cara mengadakan diskusi (rembug desa) melalui Focus Group Discussion, pelatihan, dan pendampingan.

Kegiatan

Kegiatan pertemuan dan pelatihan dilakukan secara offline melibatkan 10 orang pengurus Dewi Tinalah dengan protokol kesehatan (prokes) yang ketat bertempat di joglo Dewi Tinalah. Kegiatan tersebut terdiri dari:

- Pertama, pertemuan mencari potensi Dewi Tinalah untuk pembuatan aplikasi teknologi berbasis Artificial Intelligent. Di sini warga diminta untuk melakukan identifikasi benda-benda alam yang merupakan kekhasan di desa wisata Tinalah, misalnya batu, tanaman, fauna, dan lain-lain.

- Kedua, pelatihan penyusunan kurikulum kelas alam. Pada pelatihan ini, warga diminta untuk mengidentifikasi paket-paket wisata yang bisa dijadikan satu dalam kurikulum kelas alam. Paket wisata kelas alam ini nantinya akan dipasarkan untuk siswa SMA dan SMP untuk berpetualang, menjelajah alam, sambil memahami informasi seputar alam dari aspek sains.

- Ketiga, pelatihan penulisan naskah feature mengenai kekayaan alam Dewi Tinalah. Pada pelatihan ini, warga dilatih untuk menulis sehingga dihasilkan penjelasan yang berbasis pengetahuan lokal (local knowledge) yang berupa tulisan. Naskah-naskah ini yang akan masuk dalam aplikasi kelas alam Dewi Tinalah sebagai konten produksi lokal dan bersumber dari pengetahuan warga (local genius).

- Keempat, pengembangan aplikasi Image Recognition. Pada tahap ini, dikembangkan aplikasi Kelas Alam Dewi Tinalah yang berfungsi untuk mengidentifikasi obyek alam melalui foto dan secara otomatis dengan teknologi image recognition, mengenali obyek tersebut dan menjelaskan informasi terkait yang berasal dari naskah buatan warga lokal. Hal ini mengintegrasikan antara teknologi, pengetahuan lokal, dan partisipasi warga

- Kelima, uji coba penggunaan apps untuk paket wisata kelas alam. Warga dapat membawa wisatawan berpetualang di desa dengan berbekal teknologi kecerdasan buatan dari ponselnya. Warga dapat pula membuat games-games berbasis pengetahuan dan teknologi untuk pengembangan kelas alam dan paket-paket wisatanya.

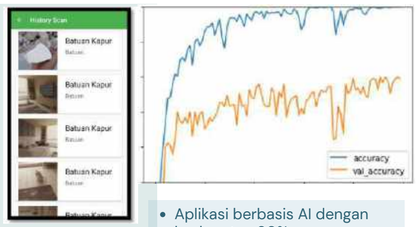
Hasil

Hasil kegiatan berupa:

- kurikulum kelas alam,
- tulisan cerita-cerita penduduk tentang Dewi Tinalah yang akan di upload di apps Dewi Tinalah, d
- aplikasi teknologi AI untuk mengidentifikasi flora dan fauna Dewi Tinalah.

Pengurus Dewi Tinalah dapat membuka kembali paket wisata di desanya dengan menawarkan kurikulum kelas alam berbasis teknologi. Siswa-siswa SMP dan SMA dapat mengamati bebatuan, flora, dan burung yang ada di sekitar desa dengan teknologi kecerdasan buatan. Siswa dapat mendownload aplikasinya di google apps store. Teknologi image recognition menggunakan Artifical Intelligent diintegrasikan dengan desain apps Dewi Tinalah. Melalui teknologi ini, peserta kelas alam dapat melakukan foto pada benda alam dan secara otomatis, informasi akan muncul pada apps Dewi Tinalah. Teknologi akan membaca data foto benda alam (batu, burung, atau flora) tersebut, dan mengintegrasikan informasinya dengan aplikasi yang telah dibuat.

Jaringan syaraf tiruan merupakan basis teknologi yang digunakan untuk pengenalan obyek-objek pembelajaran pada Dewi Tinalah. Algoritma Convolution Neural Network dengan arsitektur LeNet digunakan karena memiliki kemampuan rekognisi yang tinggi. Algoritma ini dijalankan menggunakan Bahasa pemrograman python, yang kemudian diintegrasikan ke aplikasi android melalui web service flask. Algoritma dibangun dengan menggunakan bantuan library tensorflow untuk meningkatkan kemampuan kecepatan belajar. Dua fase algoritma, yaitu fase belajar dan fase rekognisi atau fase evaluasi. Sistem akan belajar dari gambar-gambar objek yang ada di Dewi Tinalah yang sudah dipilih berdasarkan nilai historis objek tersebut bagi masyarakat. Berikut ini adalah hasil dari 2 fase algoritma.



- Aplikasi berbasis AI dengan keakuratan 80%

Penutup

Teknologi AI menciptakan fasilitas interaksi baru bagi wisatawan yang berkunjung di Dewi Tinalah menggunakan mobile phone menjadi media pembelajaran alam yang aman bagi wisatawan dengan interaksi yang berjarak antar wisatan. Penduduk sebagai subjek pengembang teknologi akan berinteraksi dengan teknologi tersebut secara terus menerus sehingga bisa menjadi bagian dari kehidupan mereka. Melalui proyek pengabdian ini diharapkan proses digitalisasi Desa Wisata dengan Dewi Tinalah sebagai pilot dapat berdampak baik bagi desa wisata sehingga bisa maju, lestari, dan inovatif.

Keterangan asal pembiayaan

Pembiayaan pengabdian kepada masyarakat berasal dari Direktorat Riset dan Pengabdian Masyarakat Deputi Bidang Penguatan Riset dan Pengembangan, Kementrian Riset dan Teknologi/Badan Riset dan Inovasi 2021.

Rekapitulasi Penggunaan Dana Pengabdian Kepada Masyarakat

Judul	:	Pengembangan Kelas Alam Berbasis Teknologi di Desa Wisata Tinalah, Kulon Progo
Skema Hibah	:	Program Kemitraan Masyarakat
Peneliti / Pelaksana		
Nama Ketua	:	DESIDERIA CEMPAKA WIJAYA MURTI S.Sos, M.A, PhD
Perguruan Tinggi		Universitas Atma Jaya Yogyakarta
NIDN	:	0517028703
Nama Anggota (1)	:	Dr. VICTORIA SUNDARI HANDOKO S.Sos, M.Si
Nama Anggota (2)	:	ANTONIUS BIMA MURTI WIJAYA S.T, M.T
Tahun Pelaksanaan	:	Tahun ke 1 dari rencana 1 tahun
Dana Tahun Berjalan	:	Rp 46.800.000,00
Dana Mulai Diterima Tanggal	:	2021-11-25

Rincian Penggunaan

1. HONOR OUTPUT KEGIATAN

Keterangan Pengeluaran	Tanggal	Jumlah (Rp)
1. Honor Pelatih Dan Pembuatan Modul Pelatihan	12-06-2021	1.500.000
2. Honor Guide Lokal Untuk Penunjuk Arah	01-07-2021	500.000
3. Honor bagi Pembicara lokal	11-03-2021	1.000.000
4. Honorarium Dokumentasi	11-03-2021	1.000.000
5. Honorarium Narasumber Ahli	01-06-2021	2.000.000
6. Honorarium Seksi Dokumentasi	01-06-2021	2.000.000
7. honor asisten dalam penulisan 20 naskah feature (editing)	01-06-2021	1.000.000
8. honor tim dokumentasi pelaksanaan	01-06-2021	1.000.000
9. Honor Pembicara Lokal	01-06-2021	1.000.000
10. Pembuatan aplikasi 6 orang asisten	01-06-2021	9.000.000
11. Honor Pelatih dan Pembuatan Modul Pelatihan	01-06-2021	1.500.000
	Sub Total (Rp)	21.500.000,00

2. BELANJA BAHAN

Keterangan Pengeluaran	Tanggal	Jumlah (Rp)
1. Pembelanjaan Alat Tulis	01-05-2021	100.000
2. Konsumsi Rapat untuk pembuatan Jurnal	01-05-2021	625.000
3. Biaya Konsumsi Rapat	25-05-2021	580.000
4. Konsumsi 2 kali makan untuk 10 orang (pagi dan siang)	01-07-2021	1.000.000

5. Konsumsi 10 kali rapat untuk pembuatan aplikasi untuk 10 orang	01-07-2021	1.000.000
6. Konsumsi Rapat Untuk Rencana HAKI	01-07-2021	500.000
7. Print BW	01-09-2021	36.500
8. Print BW, Materai	08-09-2021	41.000
9. Print warna, amplop	07-09-2021	81.500
10. Amplop	20-09-2021	12.500
11. Print warna, jilid	20-09-2021	216.500
12. Print, materai	28-09-2021	11.500
13. Print BW	29-09-2021	36.500
14. Paket Kuliner	20-09-2021	375.000
15. Dunkin	05-09-2021	165.000
16. Rocket Chicken	11-09-2021	53.000
17. Mc'Donald's	12-09-2021	149.000
18. Wr Makan Vinso	14-09-2021	250.000
19. Bebek Pondok Galih	19-09-2021	324.000
20. Wr Makan Vinso	21-09-2021	250.000
21. The Manglung Resto	25-09-2021	276.750
22. Print warna, Jilid	05-10-2021	41.000
23. Print warna dan hitam	04-10-2021	6.000
24. Redwood Coffe House	02-10-2021	51.000
25. BPK Ola Kisat	02-10-2021	90.000
26. Pawon Mbah Gito (makanan)	06-10-2021	124.000
27. Almond Bakery	07-10-2021	78.200
28. Print warna, Jilid	08-10-2021	99.000
29. Almond Bakery	08-10-2021	78.200
30. Ivory, HVS,Jilid Spiral.	09-10-2021	385.000
31. Wr Makan Mang Engking	09-10-2021	412.000
32. Parsley	09-10-2021	576.150
33. Teras Manoreh	11-10-2021	86.000
34. Almond Bakery	11-10-2021	123.600
35. Roti dan Kue Bu Tatik	11-10-2021	256.500

36. Jilid, print warna	26-10-2021	68.400
37. Pempek Ulu Bundar	16-10-2021	207.000
38. Ekstens Coffe	21-10-2021	53.000
39. Restorant Simpang	21-10-2021	202.400
40. Eplus.co	21-10-2021	58.000
41. Sinergi	21-10-2021	93.000
42. Mc'Donalds	23-10-2021	181.000
43. Restoran Simpang	23-10-2021	210.100
44. Koperasi PPAU	28-10-2021	55.500
45. Toko Ny. pang	30-10-2021	260.000
46. Papa Ron'z Pizza	31-10-2021	158.000
47. Kopi Joglo	10-10-2021	72.600
48. Koperasi PPAU	10-10-2021	138.200
49. Print warna, Jilid	04-11-2021	156.500
50. Print warna, jilid	23-11-2021	15.000
51. Joy Kitchen	06-11-2021	66.000
52. Koperasi PPAU	13-11-2021	67.300
53. Cimoll Nasi Timbel	14-11-2021	371.800
54. Papa Ron,s Pizza	21-11-2021	237.000
55. Print warna, jilid, BW	01-12-2021	259.000
56. Biaya Rapat Pmebuatan Laporan Akhir	03-12-2021	940.000
57. Konsumsi FGD	11-03-2021	1.000.000
58. Pembelian konsumsi makan berupa snack dua kali dan makan siang	01-06-2021	1.000.000
59. Belanja Sewa Tempat dan kebersihan	01-06-2021	300.000
60. Konsumsi makan untuk 20 orang	01-06-2021	1.000.000
61. Biaya Transport Warga	01-06-2021	500.000
62. Pulsa kepada 5 orang peserta	04-06-2021	250.000
63. Print warna, hitam putih, jilid	30-11-2021	799.000
	Sub Total (Rp)	17.209.200,00
3. BELANJA BARANG NON OPERASIONAL LAINNYA		

Keterangan Pengeluaran	Tanggal	Jumlah (Rp)
1. Seragam Batik	10-10-2021	349.500
2. Alat tulis FGD	01-03-2021	200.000
3. Sewa Tempat dan pembersihan	01-06-2021	500.000
	Sub Total (Rp)	1.049.500,00

4. BELANJA PERJALANAN LAINNYA

Keterangan Pengeluaran	Tanggal	Jumlah (Rp)
1. SPBU, Pertamax	05-09-2021	165.000
2. SPBU, Pertamax	12-09-2021	200.000
3. SPBU, Pertamax	30-09-2021	200.000
4. SPBU, Pertamax	20-09-2021	200.000
5. SPBU, pertamax	08-10-2021	250.000
6. SPBU, Pertamax	16-10-2021	250.000
7. SPBU, Pertamax	21-10-2021	364.860
8. SPBU, Pertamax	23-10-2021	300.000
9. SPBU, Pertamax	11-11-2021	15.000
10. SPBU, Pertamax	19-11-2021	250.000
11. SPBU, Pertamax	29-11-2021	250.000
12. Transportasi warga yang hadir	01-03-2021	500.000
13. Honorarium 2 narasumber lokal	01-06-2021	1.000.000
14. Pemberian transport warga yang hadir	01-06-2021	500.000
15. Biaya sewa mobil dan bensin untuk 2 mobil	01-06-2021	800.000
16. Persewaan dan isi bensin 2 mobil	01-06-2021	800.000
17. Sewa mobil untk transport ke desa wisata tinalah	01-06-2021	800.000
	Sub Total (Rp)	6.844.860,00
	Total Pengeluaran Dalam Satu Tahun (Rp)	46.603.560,00

Mengetahui,

, 14 - 12 - 2021
Ketua,

( )
NIP/NIK

(DESIDERIA CEMPAKA WIJAYA MURTI S.Sos, M.A, PhD)
NIP/NIK

Rekapitulasi Penggunaan Dana Pengabdian Kepada Masyarakat

Judul	:	Pengembangan Kelas Alam Berbasis Teknologi di Desa Wisata Tinalah, Kulon Progo
Skema Hibah	:	Program Kemitraan Masyarakat
Peneliti / Pelaksana		
Nama Ketua	:	DESIDERIA CEMPAKA WIJAYA MURTI S.Sos, M.A, PhD
Perguruan Tinggi		Universitas Atma Jaya Yogyakarta
NIDN	:	0517028703
Nama Anggota (1)	:	Dr. VICTORIA SUNDARI HANDOKO S.Sos, M.Si
Nama Anggota (2)	:	ANTONIUS BIMA MURTI WIJAYA S.T, M.T
Tahun Pelaksanaan	:	Tahun ke 1 dari rencana 1 tahun
Dana Tahun Berjalan	:	Rp 46.800.000,00
Dana Mulai Diterima Tanggal	:	

Rincian Penggunaan

1. HONOR OUTPUT KEGIATAN

Keterangan Pengeluaran	Tanggal	Jumlah (Rp)
1. Honor bagi Pembicara lokal	11-03-2021	1.000.000
2. Honorarium Dokumentasi	01-03-2021	1.000.000
3. Honorarium narasumber Ahli	01-06-2021	2.000.000
4. Honorarium seksi dokumentasi	01-06-2021	2.000.000
5. Honor Pelatih dan Pembuatan Modul Pelatihan	12-06-2021	1.500.000
6. Honor Asisten dalam penulisan 20 naskah feature (editing)	01-06-2021	1.000.000
7. Honor tim dokumentasi pelaksanaan	01-06-2021	1.000.000
8. honor pembicara lokal	01-06-2021	1.000.000
9. Honor guide lokal untuk penunjuk arah	01-07-2021	500.000
10. Pembuatan aplikasi 6 orang asisten @1.500.000	01-06-2021	9.000.000
Sub Total (Rp) 20.000.000,00		

2. BELANJA BAHAN

Keterangan Pengeluaran	Tanggal	Jumlah (Rp)
1. Konsumsi FGD	11-03-2021	1.000.000
2. Pulsa kepada 5 orang peseta	04-06-2021	250.000
3. Biaya Konsumsi Rapat	25-05-2021	580.000
4. Pembelanjaan alat tulis	01-05-2021	100.000
5. Pembelian konsumsi makan berupa snack dua kali dan makan siang.	01-06-2021	1.000.000
6. Belanja sewa tempt dan kebersihan	01-06-2021	300.000
7. Konsumsi makan untuk 20 orang	01-06-2021	1.000.000
8. Biaya transports warga	01-06-2021	500.000
9. Konsumsi 2 kali makan untuk 10 orang (pagi dan siang)	01-07-2021	1.000.000
10. Konsumsi 10 kali rapat untuk pembuatan aplikasi untuk 10 orang	01-07-2021	1.000.000
11. Konsumsi rapat untuk pembuatan jurnal	01-05-2021	625.000
12. Konsumsi rapat untuk rencana HAKI	01-08-2021	500.000
Sub Total (Rp) 7.855.000,00		

3. BELANJA BARANG NON OPERASIONAL LAINNYA

Keterangan Pengeluaran	Tanggal	Jumlah (Rp)
1. Alat Tulis FGD	11-03-2021	200.000
2. Sewa Tempat dan Pembersihan	01-06-2021	300.000
Sub Total (Rp) 500.000,00		

4. BELANJA PERJALANAN LAINNYA

Keterangan Pengeluaran	Tanggal	Jumlah (Rp)
1. Transportasi warga yang hadir	11-03-2021	500.000
2. honorarium 2 narasumber lokal	01-06-2021	1.000.000
3. Pemberian transports warga yang hadir	01-06-2021	500.000
4. Biaya Sewa mobil dan bensin untuk 2 mobil	01-06-2021	800.000
5. Persewaan dan isi bensin 2 mobil	01-06-2021	800.000
6. Sewa mobil untuk transports ke desa wisata tinalah	01-06-2021	800.000
Sub Total (Rp) 4.400.000,00		
Total Pengeluaran Dalam Satu Tahun (Rp) 32.755.000,00		