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# SUSTAINING EDUCATION THROUGH A FLIPPED LEARNING APPROACH

## 1 Introduction

- Technology-integrated learning is common in 21st-century of education. It provides rich sources for technology-based education.
- Globalized Online Learning (GOL) in Malaysia Education Blueprint for HE. Technology must be incorporated into T&L's instructions, concept, content & approach of T&L.
- In 2007, Jonathan Bergmann & Aaron Sams started FL, which has become a popular approach ever since.
- FL focuses on **before & during** class activities. Before: content knowledge. During: interactive activities for better understanding.

## 2 Issues

- More than **90%** agreed to improve their English in order to be more employable.
- Lecturers' lessons are not interactive. The tendency to use **Lower Order Thinking Skills**
- The evolution of technology got to keep up with **21st-century skills**.
- Technology has proven to enhance ESL T&L. But there's a **mismatch** between students' learning styles.
- Lecturers' hesitation in using technology. **Burdensome** & and preparation takes time.
- More work** to do at home, need to be prepared before coming to the class.

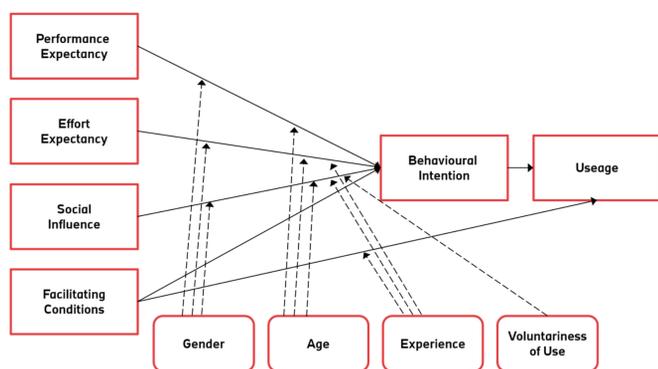
## 3 Objective

- Since technology is a major trend in assisting English as a Second Language (ESL), this study focuses on **exploring the factors affecting Malaysian English as a Second Language (ESL) lecturers' attitude and intention in using flipped learning.**

## 4 Methodology

- Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) were used to analyse the data. There were **206** respondents (ESL lecturers) from various universities all over Malaysia.

## 5 The Underpinning Theories



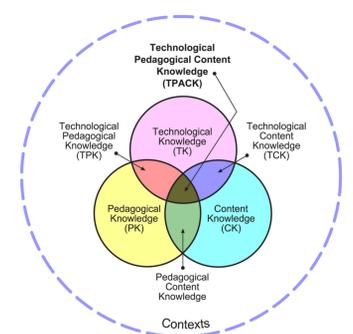
Unified Theory of Acceptance and Use of Technology (UTAUT)



Social Constructivism



Kolb's Experiential Learning Theory

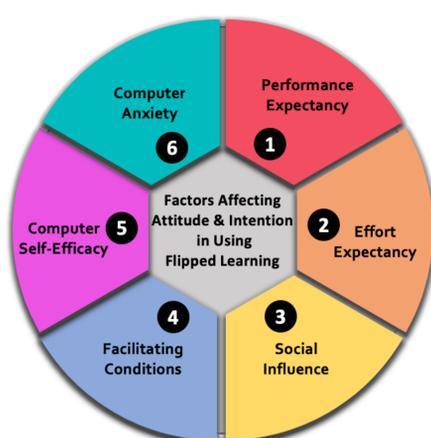


Technological Pedagogical Content Knowledge (TPACK) framework

## 6 Results

- FL provides **better engagement**, and educators' presence is not a must.
- High knowledge of technology & **positive attitude** towards technology.
- Students are learning from their own **experiences** and managing the technology well.
- Colleagues** play an essential role in influencing ESL lecturers' intention to adapt FL.
- Important to have a **positive society & setting**.
- Support from educators & **social influence** go hand in hand with applying technology in the ESL classroom.

## 7 Contributions of The Study



A Modified Flipped Learning Model for ESL Teaching & Learning (Abd Rahman et al., 2020)

## 8 Implications

- Helps to implement or to improve existing FL in Malaysian universities.
- Helps to **understand the determinants** or predictors of FL acceptance.
- Lecturers: **create & compile** sources of FL materials.
- FL should be introduced to all educational institutions.
- Consider the flexibility of evaluation and infrastructure in **accommodating learning spaces**.
- Able to train educators to use FL.
- Create a **strategy** to warrant the success of FL.

## 9 Publications & Intellectual Property

- Kindly scan the QR Code to see the list of publications and the Intellectual Property registered for this framework.





# CERTIFICATE OF PARTICIPATION

*This is to acknowledge*

**DR. SITI FATIMAH ABD. RAHMAN**

For participating in "International MACEE Melaka State-Led Conference (IMMELC) 2023 : Re-discussing Teaching & Learning and Promoting Sustainability in Education" on 4 November 2023

A handwritten signature in black ink that reads 'Curtis Johnson'. Below the signature, the word 'MACEE' is printed in a small, sans-serif font.

MACEE

***Curtis Johnson***  
Executive Director

Malaysian-American Commission on Educational Exchange  
(MACEE)



# CERTIFICATE OF PRESENTATION

*This is to acknowledge*

**DR. SITI FATIMAH ABD. RAHMAN**

has successfully presented at the "International MACEE Melaka State-Led Conference (IMMELC) 2023: Re-discussing Teaching & Learning and Promoting Sustainability in Education" on 4 November 2023

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**Curtis Johnson**  
Executive Director

Malaysian-American Commission on Educational Exchange  
(MACEE)

## INTERNATIONAL MACEE MELAKA STATE-LED CONFERENCE (IMMELC) 2023: Presentation Schedule

TIME	SPEAKER	TITLE
8.15 – 8.30 am	<b>DR. NUR SYAFIQAH YACCOB</b>	Introduction Welcoming the guest speakers, presenters, and participants
8.30 – 8.50 am	<b>DR. SANGEETH RAMALINGAM</b> UNIVERSITY POLY-TECH MALAYSIA	LEVERAGING TECHNOLOGIES IN TEACHING AND LEARNING FOR SUSTAINABLE HIGHER EDUCATION
8.50 – 9.10 am	<b>ASSOCIATE PROFESSOR DR HILLARY PARKHOUSE</b> DEPARTMENT OF TEACHING AND LEARNING, VIRGINIA COMMONWEALTH UNIVERSITY, UNITED STATES OF AMERICA.	A SELF-REFLECTION TOOL FOR GLOBALLY COMPETENT TEACHING
9.10 – 9.30 am	<b>MOHD AZMANUDDIN BIN AZMAN</b> LECTURER, DEPARTMENT OF PLANNING, RESEARCH AND INNOVATION, INSTITUTE OF TEACHER EDUCATION INTERNATIONAL LANGUAGES CAMPUS	<b>FLTA</b> CATCHING THE GLIMPSE OF THE LAND OF THE RED, WHITE AND BLUE: THE INSIGHTS AND STORIES OF FLTA EXPERIENCE
9.30 – 9.40 am	<b>IYLIA NUR ATTIEKA BINTI AHMAD AZHAR</b> ACADEMIC TEACHER, SEKOLAH MENENGAH KEBANGSAAN SERI BERA, PAHANG	<b>FTEA</b> parTEA IN THE USA
9.50 -10.20 am	<b>MR. CURTIS JOHNSON</b> EXECUTIVE DIRECTOR, MACEE	
10.20 – 10.30 am	<b>SHORT BREAK</b>	

**Chairperson: DR. NUR SYAFIQAH YACCOB (SMK DATO' ABDUL RAHMAN YA'KUB)**  
**Fulbright TEA 2020-2021 University of Arkansas, USA**

### Theme 1: Cultural and Language Studies

	Name (Team Leader)	Affiliation	Team Member(s)	Title
1	10.30 – 10.35 AM LIAN JUNXIANG	SJKC PIN MIN		INTEGRATION OF VIRTUAL ASSISTANTS AS CONVERSATIONAL AGENTS TO PROMOTE A RICH ENGLISH LEARNING ENVIRONMENT IN YEAR 5 ESL CLASSROOM
2	10.35 – 10.40 AM SITI NOOR HASLINA BINTI MD LATIP	UPM	JULIE MARLINA BINTI HASSAN	MyVoR : YOUR ONE-STOP TO VOCABULARY AND READING
3	10.40 – 10.45 AM FARAHIS NUR AZREEN MOHD RAMLI (TL)	KOLEJ VOKASIONAL DATO, Ö LELA MAHARAJA	FARAHIS NUR AZREEN MOHD RAMLI	GRAMMAR SENPAI

	SITI NABILAH BINTI MUHAMAD ZIN			
4	10.45 – 10.50 AM SITI NABILAH BINTI MUHAMAD ZIN	KOLEJ VOKASIONAL DATO' LELA MAHARAJA		PICTURE-PERFECT ESSAYS
5	10.50 – 10.55 AM NURASMAH BINTI ABDUL HAMID	SK UNICO DESA LAHAD DATU SABAH		WRITING WIZARDRY: YOUR ESSAY WRITING SOLUTION
6	10.55 – 11.00 AM SURAYAHANIM BINTI ALI	POLITEKNIK METrO Kuantan		STUDY OF ADVENTURE ATTRACTION IN MALAYSIA FOR DISABLED PEOPLE
7	11.00 – 11.05 AM ONG MA VIN	SMK TELOK KUMBAR		THE EFFECTIVENESS OF USING SONGS TO PRACTISE LISTENING IN SECONDARY SCHOOL
8	11.05 – 11.10 AM NAJIHAH BINTI TALAHA	SMK BADRUL ALAM SHAH		POSTCARD EXCHANGE PROJECT IN ESL CLASSROOM
9	11.10 – 11.15 AM ALYAA ATHIRAH BINTI ZAINAL	INSTITUT PENDIDIKAN GURU KAMPUS PEREMPUAN MELAYU, MELAKA	NORSIAH BINTI BAHARI	TAHAP KESEDIAAN PENGETAHUAN, KEMAHIRAN DAN EMOSI GURU PELATIH PENDIDIKAN ISLAM TERHADAP PENGAJARAN BIDANG JAWI
10	11.15 – 11.20 AM NOR AKASHAH BINTI KASSIM	POLITEKNIK METrO Kuantan		GASING TASTIC AS A NEW INNOVATION OF GASING PANGKAH TRADITIONAL GAMES
11	11.20 – 11.25 AM NOR ATIKAH BINTI AZNAN	INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA		SYSTEMATIC INSTRUCTION USING GRAPHIC ORGANISER TO PROMOTE WRITING INTEREST AMONG ESL LEARNERS IN SECONDARY SCHOOL

<b>11.25-11.40 pm</b>	<b>Panel Discussion</b>
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**Chairperson: MISS NANCIE SAW**

**Fulbright TEA 2019-2020 University of Arkansas, USA**

## Theme 2: Educational Studies

	Name (Team Leader)	Affiliation	Team Member(s)	Title
1	11.40 – 11.45 AM SADARIAH BINTI MOHD ARIFF	POLITEKNIK METrO Kuantan		FOOPY – TRIANGLE PATTY (HEALTHY FOOD INNOVATION)
2	11.45 – 11.50 AM SHIRLEY LING JEN	SEKOLAH MENENGAH KEBANGSAAN TAMAN UNIVERSITI	DR. ABDUL RAHIM HJ. SALAM UNIVERSITI TEKNOLOGI MALAYSIA	WSAP BLENDED LEARNING
3	11.50 – 11.55 AM FIFY NAJWA BINTI ABD KARIM	INSTITUT PENDIDIKAN GURU MALAYSIA	DR MOHD NASRI BIN ABDULLAH	STRATEGI PENGAJARAN BERPUSATKAN MURID OLEH GURU PENDIDIKAN ISLAM DI SJKC DALAM BIDANG IBADAH: SATU KAJIAN KES

4	11.55 – 12.00 PM DR. MAHANI BINTI ISMAIL	IPGKPM	SITI AISHAH MOHAMMAD FAUZI	AFILIASI TAHAP STRES DENGAN KEPUASAN KERJA DALAM KALANGAN GURU PENDIDIKAN KHAS DI DAERAH MELAKA TENGAH
5	12.00 – 12.05 PM ANIS SOFIAH BINTI ZULKIFLEE	IPG KAMPUS PEREMPUAN MELAYU MELAKA	NORSIAH BINTI BAHARI	TAHAP PENGGUNAAN BAHAN BANTU MENGAJAR DIGITAL DALAM KALANGAN GURU PELATIH PENDIDIKAN ISLAM IPG
6	12.05 – 12.10 PM AZLINDA BINTI TUAH	KOLEJ MATRIKULASI LABUAN		AKTIVITI MY VECTOR DALAM MENINGKATKAN KEMAHIRAN PENYELESAIAN VEKTOR DALAM KALANGAN PELAJAR MATRIKULASI
7	12.10 – 12.15 PM PREMALATHA SATHIANARAYANAN	FAKULTI PEMBANGUNAN MANUSIA (FPK)		IMPLEMENTATION OF i-THINK PROGRAM AMONG TEACHERS IN SCHOOLS: AN EVALUATION
8	12.15 – 12.20 PM PUTRI ZAIDILA BINTI MOHD ZAID	INSTITUT PERGURUAN KAMPUS PEREMPUAN MELAYU MELAKA	NUR LIYANAH BINTI RAZMAN, NADHRATUN NAIM BINTI MUHAMAD SHUBKI	TAHAP KESEDIAAN PENGETAHUAN, KEMAHIRAN DAN SIKAP GURU PELATIH PENDIDIKAN ISLAM AMBILAN JUN 2020 TERHADAP PELAKSANAAN PROGRAM PENDIDIKAN INKLUSIF BAGI MURID BERKEPERLUAN KHAS
9	12.20 – 12.25 PM NURUL AIN BINTI SAIPUDIN	UNIVERSITI TEKNOLOGI MALAYSIA	DR. NORNAZIRA BINTI SUHAIROM, DR. NUR HUSNA BINTI ABD. WAHID	FRAMEWORK OF FOOD SKILLS COMPETENCIES IN ADDRESSING FOOD NEOPHOBIA FOR PUBLIC PRESCHOOL EDUCATORS: MEASUREMENT MODEL USING PARTIAL LEAST SQUARE-STRUCTURAL EQUATION MODELING
10	12.25 – 12.30 PM PUTRI ZAIDILA BINTI MOHD ZAID	INSTITUT PERGURUAN KAMPUS PEREMPUAN MELAYU MELAKA	NUR LIYANAH BINTI RAZMAN, NADHRATUN NAIM BINTI MOHD SHUBKI	TAHAP KESEDIAAN GURU PELATIH PENDIDIKAN ISLAM AMBILAN JUN 2020 TERHADAP PELAKSANAAN PROGRAM PENDIDIKAN INKLUSIF (PPI) BAGI MURID BERKEPERLUAN KHAS (MBK)
11	12.30 – 12.35 PM DR. SITI FATIMAH ABD. RAHMAN (Asst. Prof.)	INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA	PROF. DR. MELOR MD. YUNUS AP. DR. HARWATI HASHIM DR. NOORLILA AHMAD (Asst. Prof.)	SUSTAINING EDUCATION THROUGH A FLIPPED LEARNING APPROACH

<b>12.35-12.45 pm</b>	<b>Panel Discussion</b>
<b>12.45-2.00 pm</b>	<b>BREAK</b>
<b>2.00-2.10 pm</b>	<b>Introduction to Fulbright Programs (Dr. Nur Syafiqah Yaccob)</b>

**Chairperson: DR. LEE CHIEN SING (SUNWAY UNIVERSITY)**

**Fulbright Visiting Scholar Program 2009 – EECS Department, Lehigh University, PA & Interactive Computing Department, Georgia Tech, GA**

### Theme 3: Sciences and STEAM Studies

	Name (Team Leader)	Affiliation	Team Member(s)	Title
1	2.10 – 2.15 PM DR. LEE CHIEN SING	SUNWAY UNIVERSITY		AI IN EDUCATION
2	2.15 – 2.20 PM NURFARAH DINA BINTI KAHAR	SMK BUKIT GARAM II		THE EFFECTIVENESS OF INTERACTIVE SMART BBC MICROBIT ACTIVITY BOARD (ISB-MAB) : GAME-BASED INQUIRY LEARNING KIT FOR CHEMISTRY SUBJECT

				AMONG SCIENCE STUDENTS IN SMK BUKIT GARAM II, KINABATANGAN, SABAH, MALAYSIA
3	2.20 – 2.25 PM AFEEQAH QAISARA BINTI AKMAL	KOLEJ PERMATA INSAN	SITI HAZIZAH BINTI ADNAN NUR ALLEYA NATASHA BINTI MOHAMAD SUWARDI	SUSTAINACROP
4	2.25 – 2.30 PM HUSNA KAMILA BINTI ADISAFUAN	SEKOLAH MENENGAH KEBANGSAAN TUN MAMAT	LUQMANUL HAQEEM BIN SAIFUL RIZAL	THE ROLE OF SCIENCE IN STEAM
5	2.30 – 2.35 PM DR. MOHD FADLY BIN LAMRI	POLITEKNIK METRO KUANTAN	SAHILAH ABDUL MUTALIB, MA, AÖARUF ABDUL GHANI, AMINAH A.	ISOLATION OF SPECIES SPECIFIC BACTERIA FROM RAW NATURE FOR PORCINE GELATIN DETECTION
6	2.35 – 2.40 PM FARIZAH BINTI MOHAMAD	POLITEKNIK METRO KUANTAN		KAJIAN KEBERKESANAN PROGRAM KONSERVASI PENYU DI PANTAI TELUK MAK NIK, KEMAMAN, TERENGGANU
7	2.40 – 2.45 PM ASSOC PROF DR TSAN FUI YING (TL)	UiTM	NUR MARINI FATINI BINTI MOHAMAD ALIAS	PRELIMINARY STUDY ON SPROUTING FROM PREDATED SEEDS OF SYZYGium MALACCENSE
8	2.45 – 2.50 PM ASSOC. PROF. DR. CHOO YUN HUOY	UNIVERSITI TEKNIKAL MALAYSIA MELAKA	DR. CHOOG SHIN HORNG, PROF. DR. AZAH KAMILAH MUDA, PROF. DR. LEE CHIEN SING, ASSOC. PROF. DR. YONG SU TING	FORMATION OF ENHANCED EXPLAINABILITY DEEP LEARNING MODEL USING REGULATED FUZZY-ROUGH METHOD FOR EEG-BASED ACTIVITY RECOGNITION
9	2.50 – 2.55 PM NURHIDAYAH BINTI RAFIE	POLITEKNIK METRO KUANTAN, PAHANG		COCONUT DREGS NOODLES
10	2.55 – 3.00 PM NURRUL HASANAH BINTI MD TENI	POLITEKNIK METRO KUANTAN		HEART OF PALM OIL AND PEGAGA FINGER

<b>3.00-3.15 pm</b>	<b>Panel Discussion</b>
<b>3.15-3.30 pm</b>	<b>Introduction to Fulbright Programs (Miss Nancie Saw)</b>

**Chairperson: MISS NANCIE SAW**

**Fulbright TEA 2019-2020 University of Arkansas, USA**

#### **Theme 4: Global and Social Studies**

	<b>Name (Team Leader)</b>	<b>Affiliation</b>	<b>Team Member(s)</b>	<b>Title</b>
1	3.30 – 3.35 PM ZHANG LEI	SCHOOL OF EDUCATIONAL STUDIES	LI FEIFEI	THE INFLUENCE OF POWER ON THE SENSE OF COOPERATION: THE MEDIATING EFFECT OF EMPATHY AND THE MODERATING EFFECT OF GENDER
2	3.35 – 3.40 PM SYED MOHD HAFIZAL BIN SYED ALI	POLITEKNIK METRO Kuantan	AHMAD SAIFUL BIN ABDUL MANAF &	CRISPY CHICKEN FEET AS ALTERNATIVE SNACK IN MARKET

			FATKHURRAHMAN BIN MANANI	
3	3.40 – 3.45 PM DR. MOGANASHWARI A/P KANDASAMY	IPGK TUANKU BAINUN		THE PERSPECTIVE OF HUMAN RIGHTS IN ISLAM TOWARDS RIGHTS TO EDUCATION
4	3.45 – 3.50 PM LI FEIFEI	UNIVERSITI SAINS MALAYSIA		RESEARCH ON MANDALA ART THERAPY COMBINED WITH HYPNOSIS GROUP COUNSELING FOR HIGH-RISK UNIVERSITY STUDENTS
5	3.50 – 3.55 PM NURHIDAYAH BINTI HILIMI	POLITEKNIK METrO KUANTAN, PAHANG		PENILAIAN TAHAP REFLEKSI PELAJAR TERHADAP AKTIVITI KELESTARIAN DI SMK PAYA BESAR DAN SK BUNUT RENDANG, KUANTAN
6	3.55 – 4.00 PM DR NOSIAH BINTI BAHARI (TL)	IPG KAMPUS PEREMPUAN MELAYU MELAKA	ANIS SOFIAH BINTI ZULKIFLEE	TAHAP PENGGUNAAN BAHAN BANTU MENGAJAR (BBM) DIGITAL DALAM KALANGAN GURU PELATIH PENDIDIKAN ISLAM IPG
7	4.00 – 4.05 PM NASHARIL NAZRIN RAMLI	THE UNIVERSITY OF MANCHESTER		CONTRASTING THE EXPERIENCES OF STUDENTS FROM THE THREE INCOME TIERS IN MALAYSIA (B40, M40 & T20) AT A MALAYSIAN ELITE BOARDING SCHOOL: LOOKING FROM BOURDIEU'S PERSPECTIVE
8	4.05 – 4.10 PM LI RUI	QUEST INTERNATIONAL UNIVERSITY		EFFECTS OF ACADEMIC STREAMING ON TERTIARY EDUCATION CHOICE AMONG MALAYSIAN CHINESE SECONDARY STUDENTS
9	4.10-4.15 PM NUR IZZATY QAMARINA AHMAD	SMK DATO' ABDUL RAHMAN YA'KUB	NURIN AZWINA FARAH MD RUSLI, NURALYA ANISHAH MOHD NOR SAHARIN, NURUL AIN HANISAH HISAMMUDDIN, HARYATI ABDULLAH, NUR SYAFIQAH YACCOB	TOYOTA ECO YOUTH PROJECT: FIGHT AEADES FIGHT DENGUE

<b>4.15-4.30 pm</b>	<b>Panel Discussion</b>
<b>4.30-4.40 pm</b>	<b>Closing</b>

## SUSTAINING EDUCATION THROUGH A FLIPPED LEARNING APPROACH

Siti Fatimah Abd. Rahman<sup>1</sup>, Melor Md Yunus<sup>2</sup>, Harwati Hashim<sup>3</sup>, Noorlila Ahmad<sup>4</sup>

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### ABSTRACT

21<sup>st</sup>-century education makes educators constantly explore the best teaching style to improve students' experiences and engagement in the classroom. The interest in flipped learning has risen aggressively in the past decades as this unique approach allows educators to provide more meaningful learning to students. Understanding the factors affecting Malaysian English as a Second Language (ESL) lecturers' attitudes and intention in using flipped learning is crucial in ensuring its successful execution. Based on the Unified Theory of Technology Acceptance and Use of Technology (UTAUT), this research studied the six factors, including (1) Performance Expectancy, (2) Effort Expectancy, (3) Social Influence, (4) Facilitating Conditions, (5) Computer Self-Efficacy and (6) Computer Anxiety. A data collection instrument was developed to quantify the factors and test the hypotheses. Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) were used to analyse the data. There were 206 respondents from various universities all over Malaysia. The results indicated that the significant factors in the ESL lecturers' attitude toward flipped learning are Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Computer Self-Efficacy and Computer Anxiety. This study provides a modified model to help educators and stakeholders implement flipped learning in planning and designing phases for English as a Second Language teaching and learning purposes. Our model is registered under the intellectual property with the licence number: LY2021E04255.

**Keywords:** *Flipped Learning, Technology Acceptance Model, Technology-Enhanced Language Learning, Higher Education, ESL.*