

## PREFACE

This book is a serial collection of teaching and learning (TnL) innovation from the competition of *Teaching Enhancement & Learning Innovation Carnival 2020* (eTeLIC' 20). It is the first-ever virtual carnival organised by the Centre for Academic Excellence and Development (CAED), Deputy Vice-Chancellor (Academic & International) Office, Universiti Malaysia Kelantan (UMK) on 21 September 2020 through an online platform, Google Meet. One hundred fourteen (114) entries from higher educational institutions and schools all over Malaysia had participated in the carnival. The carnival fits with the current situation that encourages remote teaching due to the COVID-19 crisis with the theme of “New Norm: Cultivating Online Learning”. Educators are massively affected, and they critically need to learn, unlearn, and relearn to remain sustained and relevant in the inevitable paradigm shift to online learning. This book has 20 innovations, focusing on asynchronous online learning with constructive alignment that considers cluster determination following MQF 2.0. The book’s contributors share their current Teaching and Learning (TnL) innovations, ideas, and best practices that are critically needed to be adopted and adapted, especially amid the COVID-19 pandemic. The uniqueness of each approach is that combining various creative and interactive tools and techniques prepared on the online selected platforms asynchronously. These asynchronous approaches can be applied across all disciplines, either in Science or Social Science. This book hopes to be a guidebook not limited to lecturers and other educators in different education levels.

Editors

**Wan Ab Aziz Wan Daud**

**Mohamad Najmi Masri**

**Ahmad Zaki Amiruddin**

# TABLE OF CONTENT

Copyright UMK PRESS, 2021

All rights reserved. No part of this publication may be reproduced, stored in production transmitted in any form, whether electronic, mechanical, photocopying, recording or otherwise, without having permission from the UMK Press.

Perpustakaan Negara Malaysia Cataloguing-in-Publication Data

Online Teaching Enhancement And Learning Innovation Carnival (1st : 2021 : Online)

1st ONLINE TEACHING ENHANCEMENT AND LEARNING INNOVATION CARNIVAL (eTeLIC) BOOK SERIES : EMBRACING NEW NORMS WITH ASYNCHRONOUS ONLINE LEARNING / Editors: WAN AD AZIZ WAN DAUD, MOHAMAD NAJMI MASRI, AHMAD ZAKI AMIRUDDIN.  
ISBN 978-967-2912-76-7

1. Educational innovations--Malaysia.
2. Web-based instruction--Malaysia.
3. Educational technology--Malaysia.
4. Government publications--Malaysia.

I. Wan Ab Aziz Wan Daud, 1989-. II. Mohamad Najmi Masri, 1984-. III- Ahmad Zaki Amiruddin, 1984-. IV. Title.  
370.9595

Executive Producer: Azman Hashim. Copy Editor: Amirul Firdaus Zilah, Raihana Sulaiman. Acquisition Editor: Siti Asma Mohd Rozid. Art Director: Yusroyka Karim. Designer: Fatimah Ilias. Technical Assistant: Mohd Suhairi Mohamad.

Published by:

UMK Press

Universiti Malaysia Kelantan

Office of Library and Knowledge Management

16300 Bachok, Kelantan

(Member of Malaysian Scholarly Publishing Council (MAPIM))

(Member of Malaysian Book Publishers Association (MABOPA))

Membership Number : 201903)

Printed by:

Reka Cetak Sdn Bhd

No 12 & 14, Jalan Jemuju Empat 16/13D,

Seksyen 16, 40200 Shah Alam,

Selangor

List of Contributors	ix
List of Figures	xv
List of Tables	xvii
List of Abbreviation	xix
Preface	xxi
Acknowledgement	xxiii

<b>Chapter 1: INTRODUCTION</b>	1
<i>Wan Ab Aziz Wan Daud, Mohamad Najmi Masri, Ahmad Zaki Amiruddin, and Alia Nadhirah Mohd Kamal</i>	
<b>Chapter 2: PARADIGM SHIFT TOWARDS CULTIVATING ASYNCHRONOUS ONLINE LEARNING</b>	11
<i>Tan Wai Hong</i>	
<b>Chapter 3: HERE APPROACH FOR INSTRUCTIONAL STRATEGIES IN ASYNCHRONOUS GIS LAB-BASED TEACHING AND LEARNING</b>	17
<i>Farah Zaini and Adibah Yusuf</i>	
<b>Chapter 4: MANAGING ASYNCHRONOUS LEARNING USING E-LEARNING LESSON ACTIVITY IN ELECTRONIC SYSTEM COURSE: EXPLORATION OF STUDENT PERCEPTION</b>	23
<i>Zaharah Johari, Mastura Shafinaz Zainal Abidin, Noraini Ibrahim, Mohd Fairus Mohd Yusoff, and Fatin Aliah Phang</i>	
<b>Chapter 5: MOBILE INTERACTIVE EDUCATION: "MODULE 1.0 (FIBER OPTIC COMMUNICATION SYSTEM) ON INTERNAL AND EXTERNAL FIBER OPTIC INSTALLATION"</b>	31
<i>Erni Alina Hanim Abd Aziz</i>	

MAJLIS PUBLISHERS MALAYSIA  
KUALA LUMPUR, MALAYSIA  
TEL: 03-2619 3333

## Chapter 3

# HERE APPROACH FOR INSTRUCTIONAL STRATEGIES IN ASYNCHRONOUS GIS LAB-BASED TEACHING AND LEARNING

*Farah Zaini and Adibah Yusuf*

### Learning Outcome(s)

Cluster 2, 4A

### Course Area(s)

Geographical Information System (GIS)



## INTRODUCTION

Geographical Information System (GIS) is one of the courses offered under the Development Planning and Management Program in the Faculty of Social Sciences and Humanities in Universiti Malaysia Sarawak (UNIMAS). The teaching modes for this course are hands-on in GIS lab also fieldwork by integrating the concept of Social Impact Assessment and Sociology Development. However, the transition of teaching and learning mode from offline to online forces the instructor to derive the instructional strategies. Based on a short survey, 40.5% of students in the class are living in the rural area and facing internet connection problems, and 58% of students prefer a pre-recorded lecture (asynchronous). Thus, to ensure the learning can be continued, the instructional strategy for asynchronous learning is essential to cater to the teaching and learning needs for GIS lab-based teaching and learning virtually, where it is supposed to be done face-to-face. This strategy must fit the local context of online teaching and learning, especially for students in rural and remote areas in Sabah and

Sarawak, where the Internet connection always be a challenge in online learning.

\* Short survey was done by the course lecturer to all students in the class (74 students) to capture their learning environment during online classes (MCO period).

### INNOVATION/INTERVENTION

The HERE Approach: Nowadays, online learning is the educational approach that applies in tertiary education innovatively. Online learning also becoming a more flexible and diversely distributed learning environment (Madathil et al., 2017). The HERE approach is derived as instructional strategies to teach GIS lab-based teaching and learning in this new era. This approach is considered highlighted element for spell out the instructional strategies to students for asynchronous online learning. As an educator, the course plan for GIS includes the hands-on and fieldwork were prepared before the semester start. However, the sudden transition from offline to online learning makes the educator come out with a strategic approach to ensure the achievement of learning objectives. This strategy aims to provide the online content delivery at par with the face-to-face learning experience even though it was done asynchronously. Also, it is vital that students and lecturers can have an engagement, especially in remote learning to establish a good learning environment (Martin and Boligger, 2018).

### DESCRIPTION OF APPROACH

The GIS course in the Development Planning and Management Program in the Faculty of Social Sciences and Humanities in UNIMAS is for final year students in their last semester. They never have any similar/related courses of this in previous years. This course is essential for skills and

knowledge in applying the GIS tools in the social sciences-related field. Thus, teaching and learning methods are fully hands-on in the GIS lab. To ensure they are still capable of acquiring all skills and knowledge for this course, the idea of the HERE approach comes to light. Even though it seems impossible to give the hands-on task to students (due to limitation of Internet connection and absence of GIS software), the asynchronous lab simulation through pre-recorded lecture will assist the learning. Among the initiatives was applying the concept of the HERE approach to ensure all elements are not left behind when we decide to do our lecture asynchronously.

Element	Honest	Engagement	Relevance	Empowerment
Description	i. Relationship between lecturer-students	i. Supportive learning environment	i. Relevant learning tools for teaching and learning	i. Student's empowerment towards learning experience
	ii. Safety and trust to teach and learn/share opinions	ii. Designing learning activities	ii. Authentic learning material	ii. Evaluation and feedback
	iii. Ensure students know where to seek help and who to seek help from	iii. Responsive interaction between lecturer and students	iii. Understanding the students' condition and access to online learning	iii. Encourage student to learn and where to apply the new knowledge

Figure 3.1: HERE approach

Figure 3.1 summarise the details of the HERE approach. There are four (4) main elements in this instructional strategy; Honest, Engagement, Relevance and Empowerment, or in short, it is summarising as HERE.

Honest is the relationship that needs to be built between lecturer and students in online teaching and learning to ensure there is no confined space between both. It is to build trust in this online learning. In this case, GIS is considered a new course they must learn. Thus, trust between both parties is needed to teach and learn also shares opinions.

**E**--Engagement is the next step in this approach. The instructional strategies must include the engagement strategy by providing a supportive learning environment. Since GIS is supposed to be delivered in the form of hands-on, the instructor must create a supportive learning environment virtually. This will encourage students to participate actively in an online session of teaching and learning. In designing learning activities, the instructors need to understand the student's background, what platform they use for an online class, what learning tools they can use, what resources nearby, and their prior knowledge of GIS applications in social sciences. Thus, the survey was made and distributed to students to answer those questions.

**R**- Relevance comes after the engagement, where instructors need to provide relevant learning tools and authentic materials to fit the students' needs. In the case of GIS class, most of the students are from a rural area in Sabah and Sarawak, and Internet connection is a significant issue, apart from learning tools. Thus, the chosen learning tools and learning management system must be relevant. Most of the students did not have access to ArcGIS software (the main software for the GIS lab). Creativity is needed here to ensure students receive almost similar skills in GIS but with a limited resource (for example, lab simulation).

**E** - Empowerment is the fourth element in the HERE approach for instructional strategies. Transition offline to online teaching and learning has created independent learning for students. Not all students manage to cope with this sudden change. Thus, the instruction given for learning must help to empower students to learn a new skill and know-how to utilise it. The feedback and evaluation from them are essential to evaluate their level of understanding and performance.

HERE approach applies in the context of teaching and learning in Sarawak, where the limitation of online teaching and learning exists. The location of students throughout Sabah and Sarawak, especially in the rural and remote areas, limited the online learning activities. However, this limitation does

not limit the knowledge to be disseminated to students. This approach can be modifying to fit the purpose of any courses that need to be done asynchronously.

#### **Acknowledgement**

We are grateful to the Centre of Applied Learning and Multimedia (CALM) UNIMAS for financial support and the opportunity to participate in the 1<sup>st</sup> eTeLIC '20.