

# **DIVE: A Game-Development Approach For Creativity And Digital Literacy Enhancement**

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## **Abstract**

The Curriculum subject are perceived as boring, laden with facts to memorize, and less appealing to students who are increasingly drawn to games, emphasizing the need for a fresh approach. DIVE is an innovative project that employs game-development by integrating challenge-based, game-based, and authentic learning approaches. DIVE stands for Develop (D), Implement (I), eValuate (E) and Engage. It is a modified approach for game-based learning and a breakthrough strategy whereby students create their own games for their own learning in the subject. The objectives were to enhance students' understanding on the subject while boosting their creativity (C5 and C6), digital literacy skill (LOC3d), develop their teamwork, responsibility and leadership skills (PLO9). They designed a storyboard by playing roles as heroic characters to solve a conflict in educational scenario. The 'heroic character' is a metaphor for a 'curriculum developer'. While so doing, their understanding on the subject was boosted because they needed to relate with relevant curriculum theories. Under the aspiring mystery-mission theme "The Lost Books", students are immersed as game developers, curriculum developers and evaluators. The impact on their creativity, digital literacy skill and soft skills was observed in their increased performance after the project which was also evidenced in the game and videos they produced. This project is a manifestation for me to prepare my students for sustainable future-ready education in a lifelong learning process.

**Kata Kunci:** *digital literacy skill, heroic character*

# TEACHING AND LEARNING POSTER IDEAS TALPI 2023

"TOWARDS INNOVATIVE GLOBAL TRENDS IN EDUCATION"



## A GAME-DEVELOPMENT APPROACH FOR CREATIVITY AND DIGITAL LITERACY ENHANCEMENT

- DIVE stands for Design-Implement-evaluate-Engage is an extraordinary approach by which students become the developers of their own games for learning the Curriculum Subject.
- This approach leveraged students' inclination towards gaming via a motivational tagline: "Be the developer, not just a player" aligning with the current government policy to create more educational digital creators among citizen
- Previously students learnt through game-based learning tools created by the instructor, being 'passive' in terms of creating their own game-learning tools.
- Students' digital literacy (LOD3) and creativity skills are tapped, instilled and nurtured when they design a plot (storyboard) for the mission-mystery game, with agent-characters to solve the conflict that they chose based on educational issues like bullying, exam-oriented schooling, heavy school-bag etc.
- While creating the game they needed to study the syllabus to get the right issue as their game story board.
- This approach is a breakthrough for factual-contained subjects like Curriculum Studies which was previously taught using teacher-centered game-based learning tools such as Quizziz, Kahoot, ProProfs, ClassMarker, etc.
- The impact of their learning was obvious in the degree of creativity, critical thinking, teamwork, and leadership that they reflected and demonstrated before and after the intervention.

### OBJECTIVES

1. Analyse educational issues in a more meaningful fun learning way
2. Instill and nurture creativity (C5, C6), digital literacy skills (LOD3), and soft skills such as teamwork, leadership, professional responsibility (PLO9)
3. Solve learning problems in Curriculum subjects by being a creator of their learning through game-based learning

### ADVANTAGES

1. Zero-cost, free web-based, mutiple choices of game-learning tools
2. Fun and interactive learning
3. Use Gather Town- modern and advanced platform
4. Aesthetics, dynamic and creativity of the game-play
5. Portray teacher as role model in digital literacy and creativity

### USEFULNESS

**APPROACH D.I.V.E**  
DEVELOP, IMPLEMENT, EVALUATE, ENGAGE

- DESIGN**
  - Identify the concepts in the game
  - Demonstrate the game to the class
  - Give link for parents to play the game in Gather Town
- DEVELOP**
  - Identify the concepts of being a game developer
  - Identify the concepts of being a game developer
  - Identify the concepts of being a game developer
- EVALUATE**
  - Identify the concepts of being a game developer
  - Identify the concepts of being a game developer
  - Identify the concepts of being a game developer
- ENGAGE**
  - Students actively played the game in Gather Town
  - They captured the value of being a game developer and the value of being a game developer
  - Students actively played the game in Gather Town

**STEPS IN DIVE**

**THE 4 STEPS OF DIVE**

**Video teaser**  
The Lost Book  
Watch on YouTube

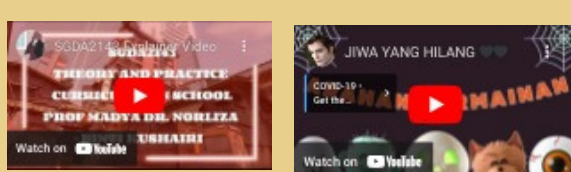
**Audio teaser**  
Kuliah Hubbi (Official Movement of IETLE)  
Watch on YouTube

**Gather Town Space**

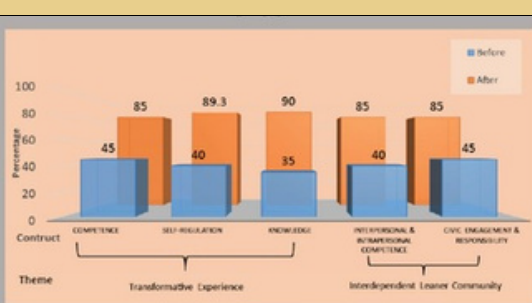
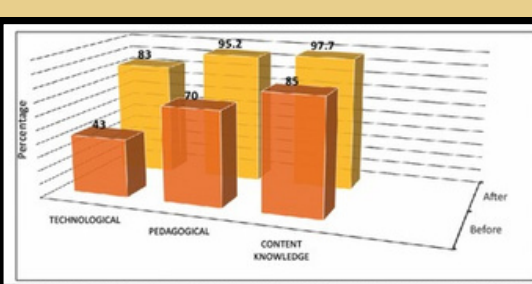
### NOVELTY

1. A breakthrough in game-based learning: students create their own games in Gather Town to solve their own learning problems
2. Combines multiple learning domains in one gameshow: HOTs (create/synthesis), affective, and psychomotor (practically develop the game)
3. Combines multiple approaches: problem-based, challenge-based, game-based and authentic learning in four practical steps : D-I-V-E
4. Cognitive-laden: Allows students to feel like curriculum developers, evaluators as well as game-players
5. Aesthetic-laden: students feel like heroes (eg: Mission Impossible)
6. Applicable to any subject at any educational level
7. Manifest reflective practitioner for both teacher and students

#### EVIDENCE ON STUDENTS' LEARNING



#### IMPACT ON STUDENTS' LEARNING



#### PUBLICATION

<https://www.nst.com.my/opinion/columnists/2023/07/926431/murturing-scholarly-teachers-challenge>

**NST Online**  
Nurturing scholarly teachers a challenge | New Straits Times  
MALAYSIA needs more scholarly teachers, those who are not just lifelong learners, but also practise scholarly teaching, making decisions based on experience and discussions with colleagues, ...



#### STUDENTS' TESTIMONY

**OM Stay In...** 4G 9:06 PM 18%

**Sem 3 Anis Zafira**

...umpulan. Permainan ni nbuatkan kita untuk berfikir/ geluarkan idea dalam ipulan tu sekaligus dpt igeratkan silaturrahim even 2 bangsa, agama, dan budaya. jk group assignment or rething that we need to do a arch Dr.Eyja bagi banyak tips ang laman sesawang mana g boleh di ambil untuk buat sarch, contoh macam google polar, eric, academia, mandeley more. Then, ajar kami mcm ia untuk tidak ada plagirism, the best part is Dr.Eyja ajar i cara yang terbaik untuk lkan research dengan membuat um2 supaya saya lebih nampak senang untuk buat research. i sgt sgt berguna untuk saya bukan sahaja subjek Dr.Eyja i suka sebab maknanya baik

#### WIDER COMMUNITY'S TESTIMONY

**Flipped Classroom**  
51 members, 12 online

Ini teasers yg saya buat utk trigger students buat mystery-mission game mereka sendiri sebagai asajmen

**KMPP Shami** admin  
👍👍👍👍 bagusnya Dr... nnti kena berguru ni. Dah lm xmengadap org2 hebat ni.

**Fatin Hasmah Mohd Nadi**

...Theme: Transformative Experience

...Theme: Inspiring

...I am so glad to see you in your teaching and sharing by the way the experience and knowledge is well... I can be so good on you.

### COMMERCIALISATION POTENTIAL

**RECOGNITION**

**JURI ANUGERAH PENDIDIKAN DIGITAL KPM**

**UCAPUTAMA DIGITAL LANDSCAPE IAB**

**MIYPO**

**JURI INOVASI KOLEJ MATRIK**

**PENCERAMAH INOVASI PUSAT PENGAJIAN SAPSP, UUM**

**2020 FINALIS ANUGERAH PENGAJARAN INOVATIF**

**2022 ANUGERAH INOVASI E-LEARNING**

**2023 FINALIS ANUGERAH PENGAJARAN INOVATIF UUM**

**ACHIEVEMENT**

**ITA Pitching Session 2023**

#### INVENTOR'S DETAIL

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Tuan,

**PERMOHONAN KELULUSAN MEMUAT NAIK PENERBITAN UiTM CAWANGAN PERAK  
MELALUI REPOSITORI INSTITUSI UiTM (IR)**

Perkara di atas adalah dirujuk.

2. Adalah dimaklumkan bahawa pihak kami ingin memohon kelulusan tuan untuk mengimbas (*digitize*) dan memuat naik semua jenis penerbitan di bawah UiTM Cawangan Perak melalui Repositori Institusi UiTM, PTAR.

3. Tujuan permohonan ini adalah bagi membolehkan akses yang lebih meluas oleh pengguna perpustakaan terhadap semua maklumat yang terkandung di dalam penerbitan melalui laman Web PTAR UiTM Cawangan Perak.

Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

“BERKHIDMAT UNTUK NEGARA”

Saya yang menjalankan amanah,

**SITI BASRIYAH SHAIK BAHARUDIN**  
Timbalan Ketua Pustakawan

nar

Setuju.

27.1.2023

PROF. MADYA DR. NUR HISHAM IBRAHIM  
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