



ONLINE LEARNING FOR ALL

Effective Online Learning for Design Pedagogy through

# S.O.L.E Methodology



Dr. Mohd. Zairul Mohd. Noor  
Faculty of Design and Architecture

15 APRIL 2020 (WEDNESDAY)  
3.00-4.00PM

Online Meeting via



<https://zoom.us/j/4171844070>

Meeting ID: 4171844070

Live Via YouTube

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WITH KNOWLEDGE WE SERVE



DISCUSSION  
CUSTOMIZED THEIR

Findings

Discuss your topical find.

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Comment

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# S.O.L.E MODULE

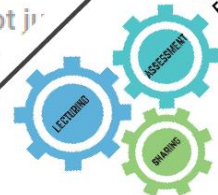
'SOLE (Studio Oriented Learning Environment) module that aim to empower students in their own studio learning (Zairul) (2019)

S.O.L.E Module is inspired by Davis & Ryan (2008), REA model by Grabinger & Dunlap (1996) and OLSI framework by Lee & Hammerlin (2016)



Zhe Hong 23m

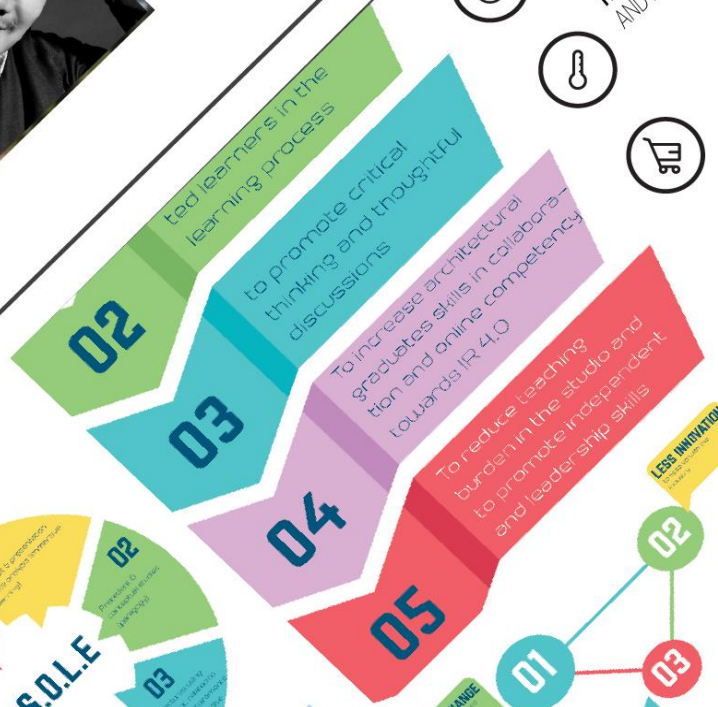
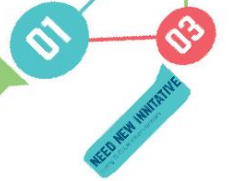
social patterns are not just personally sustainable locally and globally responsible.



FACULTY OF DESIGN AND ARCHITECTURE (FDSA)

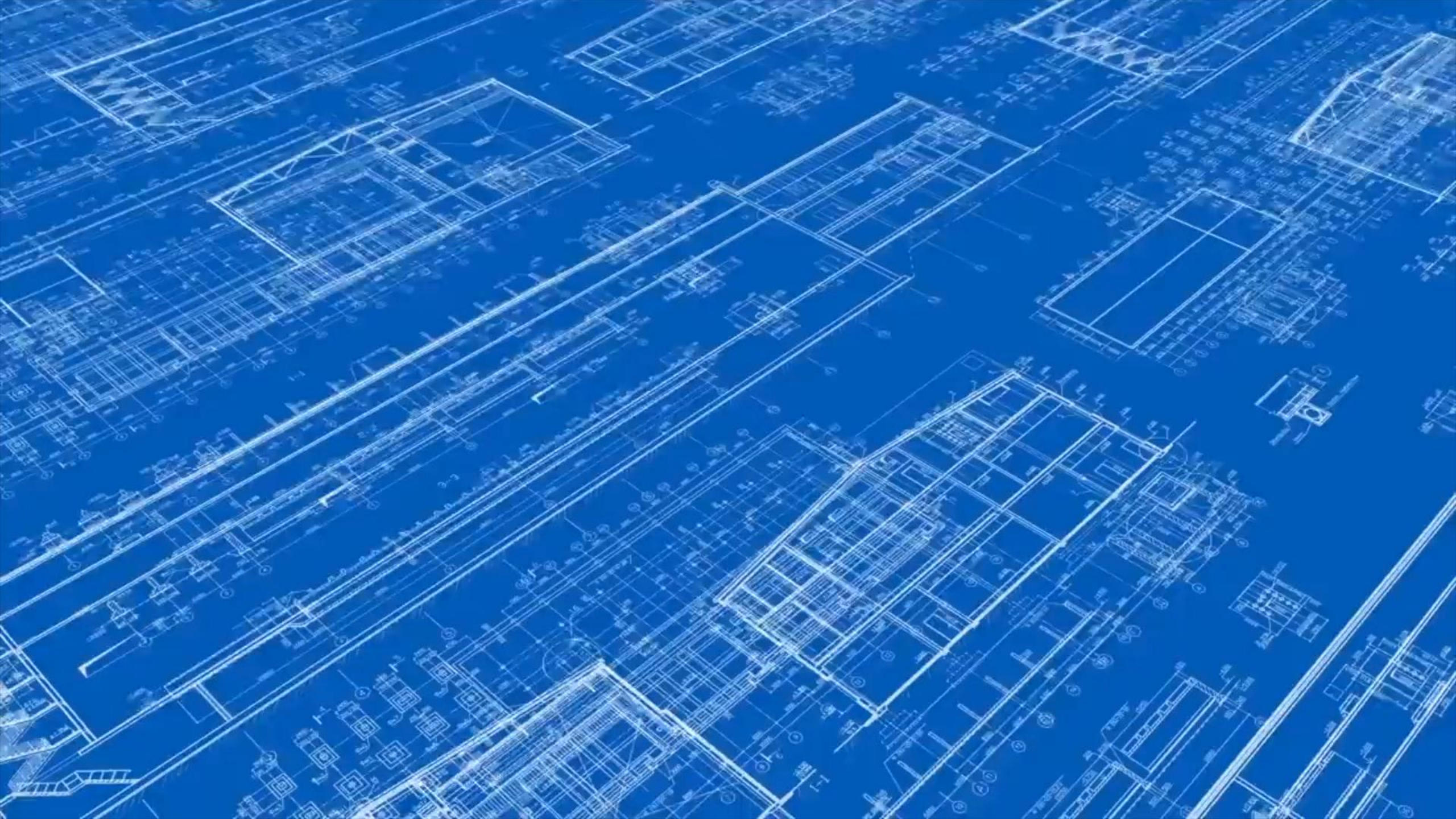


LITTLE CHANGE



PEERAGOGY + CYBERGOGY = STUDIOGOGY  
IMMERSIVE LEARNING THROUGH ONLINE TEACHING AND PEER TO PEER

INNOVATION BY DR ZACK ZAIRU



# About me

- Bachelor of Science in Arch Studies (Hbns) IIUM
- Bachelor of Architecture (Hbns) IIUM
- Master of Science in Arch Studies (UPM)
- PhD in Management in the Built Environment (TUDelft)
- MOOC coordinator for Malaysia
- Secretariat for Blended Learning and MOOC, UNESCO Asia Pacific (Education Chapter)
- Certified Professional Trainer for ATLASti for Asia Pacific
- Senior Lecturer, Department of Architecture, UPM Serdang, Malaysia



# What is studio education?

- Process of facilitating design learning
- Teachers and students weave together into a coherent conceptual framework the knowledge, skills, values, beliefs and habits that reflects the objective of the school
- Should shared set of understandings, meanings, and assumptions constructed by both educators, practitioners and students
- Hence, a studio education is a learning environment that fosters a set of conditions that are similar to those in which professional architect might work



# Problems in studio education?

- **Background study**
  - Studio represents significant departures from other pedagogic approaches
  - Studio is a casual place where meeting times are specified but students gather and disperse haphazardly (Kosidowski, 1996)
- **Problems statement**
  - The way we teach remains in the latent of “ I teach as I was taught attitude”
  - Ironically, most design educators and learners place high value on innovation, creativity and critical thinking but ignoring the innovative teaching methodologies
- **GAP**
  - Although studio remains a productive and place to gather ideas and works, it remains unknown on how it should response to the vast of technology nowadays



This suggests that the key to innovation in studio T&L is learning how to combine content and teaching innovation into an effective pedagogic framework

# **PEERAGOGY + CYBERGOGY** **STUDIOGOGY**

**PROBLEM BASED  
LEARNING ITSELF**

**EXPERIENTIAL  
LEARNING**

**ECHOING TWO  
FURTHER POINTS**



**SMALL GROUP  
WORK**

**CRITICAL  
REFLECTION**

The logo is set within a large white circle on a dark grey background. It features a teal arrow pointing right, containing the text 'S.O.L.E.' in dark blue. Below the teal arrow are three smaller arrows pointing right, colored red, yellow, and green from left to right.

**S.O.L.E.**

[studio oriented learning environment]

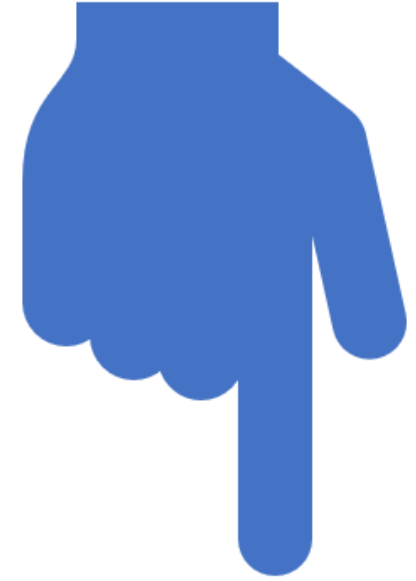
## Background

S.O.L.E Module is inspired by

Self-determination theory by Deci & Ryan, (2008),  
REAL model by Grabinger & Dunlap, (1995),

OLSit framework by Lee & Hannafin, (2016),and  
Self-regulated design learning by Powers (2017)

Emphasis on the aspect of engagement, support,  
scaffolding and guidance and coordinate them to  
create a more holistic studio experience.



**the implementation of S.O.L.E module**

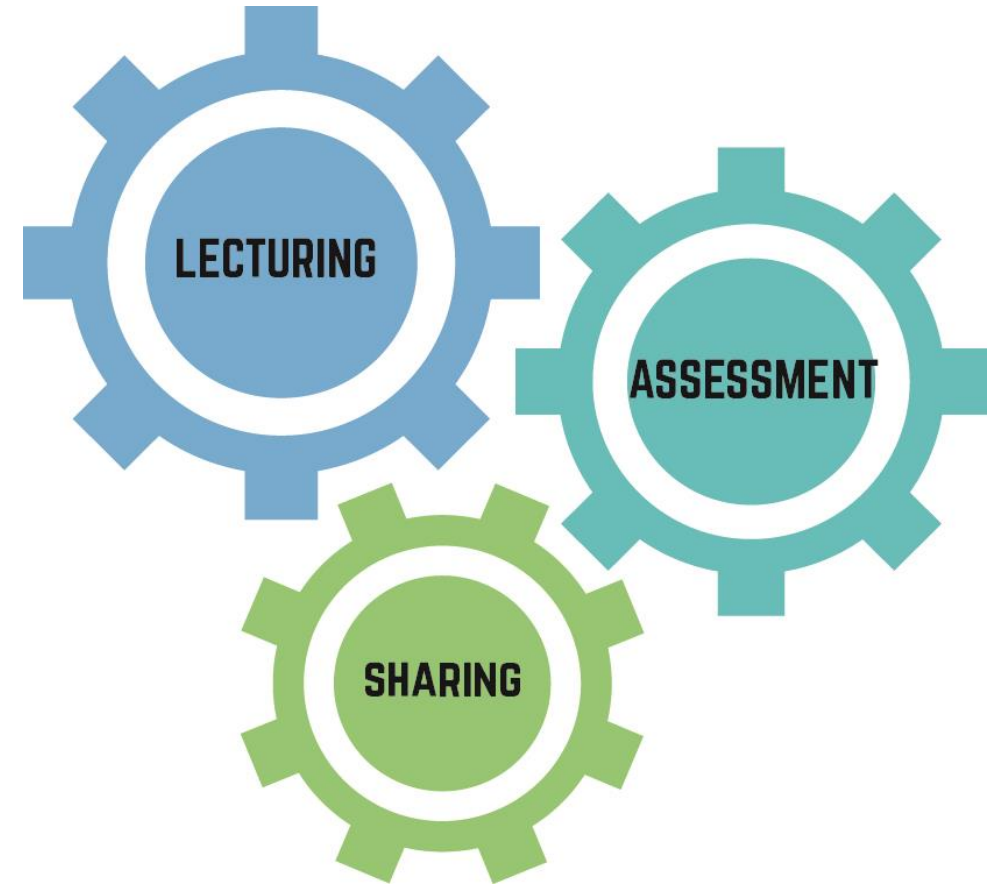






# The original and evolving goals of S.O.L.E module

- ✓ The SOLE module that encompasses lecturing, sharing, and assessment are inspired by self-regulated design learning by Powers (2017), and Zimmerman (1989)
- ✓ The self-regulated design learning assumed that students play an active role in the success of their own learning and understanding of the subject matter
- ✓ The students could gain more understanding and achieve objectivity while transferring the evaluation rubric into their work (Liu & Carless, 2006)
- ✓ The method has engaged both peer feedback and peer assessment at the same time supported by online tools. This strategy assists the cognitive and affective skills of the students for lifelong learning knowledge and thus aligned to the expected outcome of the subject.



# Conceptual framework

The SOLE module framework aspires to enhance

- the relationship between tutorial and sharing,
- the assessment and input lecture,
- facilitator guidance during the observation
- the expected outcome of the subject.



Figure 1 : SOLE Module Framework

# Towards a new theory of (STUDIOGOGY)

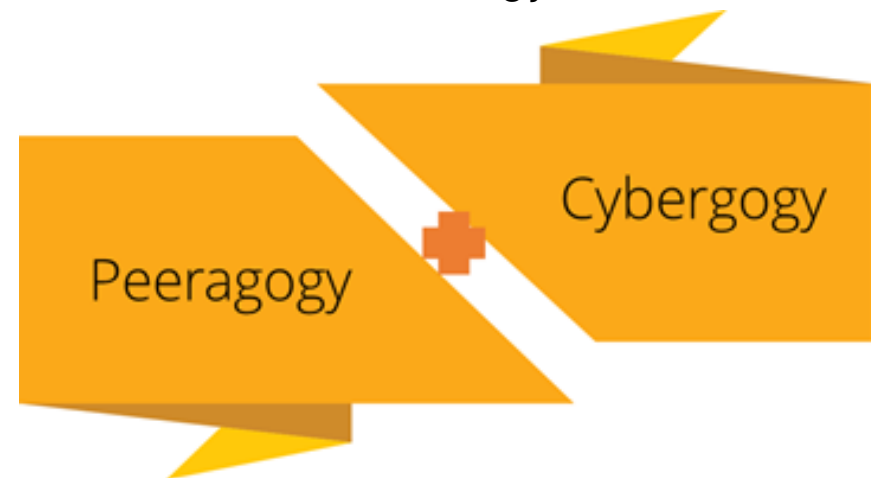
By definition, studiogogy is a combination of best practices in peer to peer learning that utilize technology and online learning.

The term studiogogy should reflect the new ways of designing the studio pedagogy. At the same time, the academics and practitioners need to improve and equip themselves with the latest technology and adept knowledge.

Among the suggestions for the innovations of studiogogy is to combine both cybergogy and peeragogy into the learning and teaching aspect in the architectural pedagogy (studiogogy).

Studiogogy = New T&L approach

S.O.L.E module = Methodology



# component A (LECTURE)

Facilitator



The facilitator is given the freedom to use alternative media such as ZOOM, YouTube, PADLET, KAH-DOOT, or any other forms of presentation method

Students' involvements are highly encouraged in this input lecture series and can be an opportunity for them to present the content based on their research or findings and share the outcome.

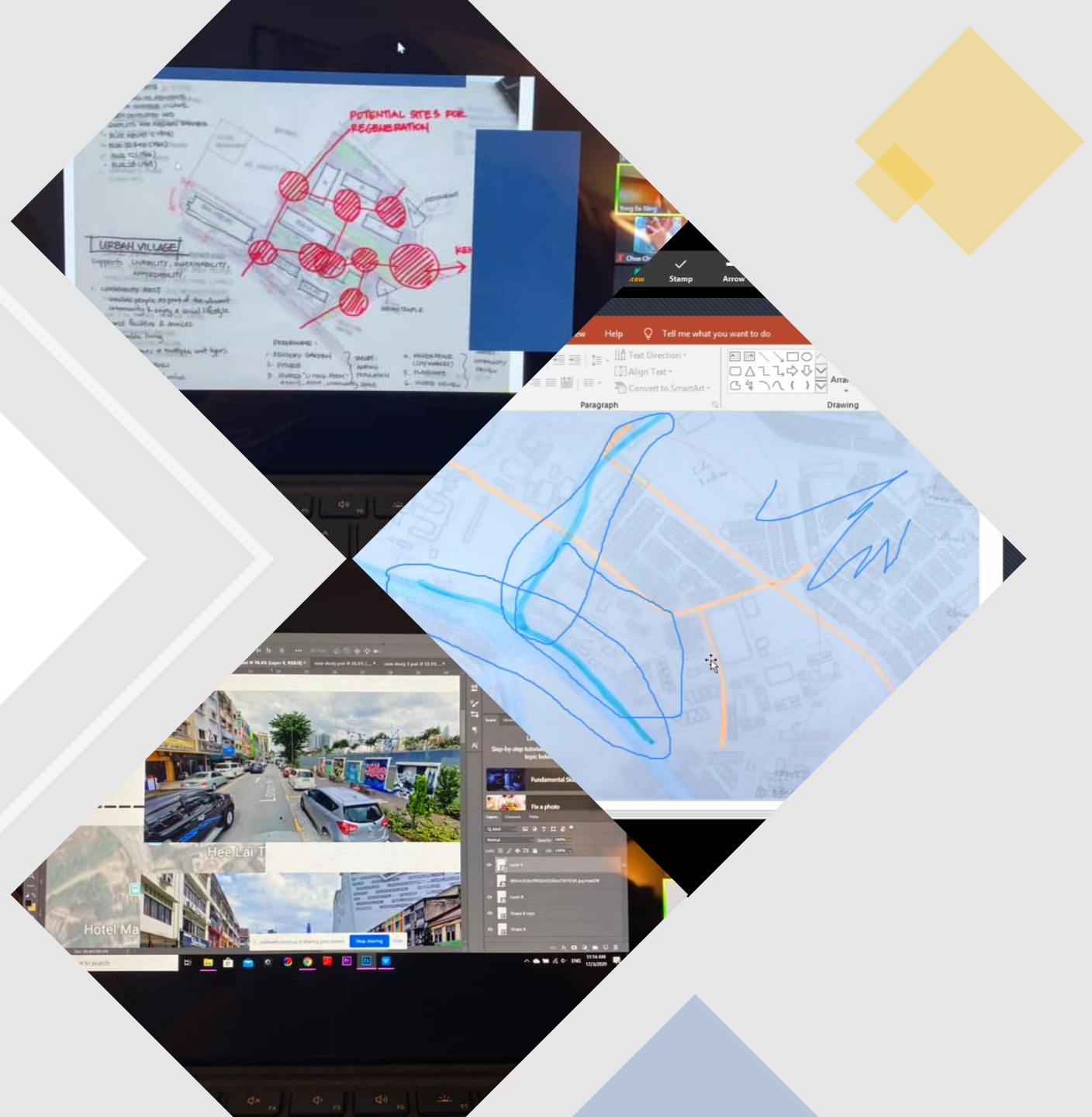
Initiate and explore different ways of presenting ideas or information (e.g., forum debate, role-play, wheel of fortune gameplay, video shoot, etc.)  
Student will be given earlier the topic for discussion prior to the class session

Before the input lecture, the students are required to perform self-learning by familiarising themselves with the lecture topic and provide sufficient reading materials during the class for discussion.

STUDENT



Online lecture  
using ZOOM,  
WEBEX etc.



# PADLET monitoring

## Literature Review



Huiyih Low 1mo

### Community Participation

-The importance of ensuring the level of involvement of individuals  
-How low-income housing projects can be made more relevant and efficient to the needs of urbanizing communities  
-Involvement of community in planning and decision-making processes, people's desires, expectations, needs and aspiration



## Case Study



Hui Tian 1mo

### A Case of Village/City Coexistence and Regeneration



Exhibition Venue Design Concept  
Nantou, A City Or A Village? For a long ti...  
urbanus

0 0

Add comment

Ti Ming Lim 1mo

### Silodam

## Site Visit



F Foo Yoong Yieeh 2mo

### Questionnaire draft 02

ARC5002 : Advanced Architecture Studio 02

Questionnaire: Public Housing Loke Yew

Name : \_\_\_\_\_

Gender:  female  male

What is your age?

18-30  31-50  51 and above

How many years have you been staying in this area?

0-10  11-20  21-30  31-40  >40

What is your combined household monthly income?

below RM3000  
 above RM3000-RM4500  
 above RM4500-RM6000  
 above RM6000-RM7500  
 above RM7500-RM9000  
 above RM9000

How many person per household?

1  2  3  4  5

Did any of these crimes happen in this area?

theft  robbery  murder  drugs  
 suicide  no  others: \_\_\_\_\_

Is this a good place to live with the family?

1  2  3  4  5

Disappointing Exceptional

Is this area convenient for your daily need?

1  2  3  4  5

Disappointing Exceptional

Which transportation mode that you frequently use around this area? (pick choice not more than 3)

driving  motorcycling  public bus  grab  
 MRT  cycling  walking

What are the popular activities among the residents? (pick choice not more than 5)

night market  local market  
 playground  gathering at community hub

Questionnaire 02  
PDF document  
padlet drive

2 0

Add comment

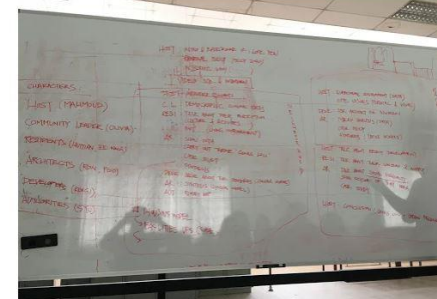
F Foo Yoong Yieeh 2mo

## Group Discussion



C CHUA KIM HONG / UPM 1mo

### Forum discussion



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Add comment

F Foo Yoong Yieeh 1mo

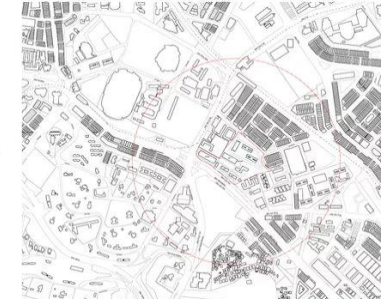
### 3 March 2020 meeting

## Files & Documents



T TEOH XIN YIN / UPM 1mo

### 500m radius with road nam



Loke Yew + Sri Sarawak\_kl map A3 5  
PDF document  
padlet drive

0 0

Add comment

T TEOH XIN YIN / UPM 1mo

# component B (sharing)

Facilitator



To create an online discussion or sharing platform (online or offline) in which it is segregated by the tutorial groups as assigned earlier.  
To monitor the students' participation.

To assign the students into several groups for design critiques which is facilitated by the assigned facilitator/tutor and the students participated in both group and individual tutorial.

To create a peer discussion session during the studio session. The students reviewed their peers' works (Crit session, group tutorial, etc.)

The facilitator(s) have to encourage the students to participate in class and team discussions.  
The facilitator has to observe the students' participation, and at the same time, assess the students' performance

To share and present the books and reference materials in the group (during studio discussion and PADLET).

To make use of the online sharing platform (e.g., PADLET) created for discussion, giving feedback, and comment among the group members on their findings and research

To practise rotating tutorial group that allowed the students to receive more exposure from several tutors (minimum two tutors).

Each student will gather peer to peer learning and comments from each tutor(s) and make informed decision about their own project.

STUDENT





# Sharing session

- Peers sharing session among their peers
- Each student bring at least 3 references and discuss in the group
- Atutor will facilitates the discussion in a group



# component C (assessment)

To participate in peer 'Project Assessment', to evaluate their peer's work in the given group base on assessment criteria/rubric provided by the facilitator

STUDENT



FACILITATOR



To allow students to participate in peer 'Project assessment'. Ideally is to conduct the peer assessment as progress assessment e.g. progress crit

## ONGOING OBSERVATION

Facilitator will observe the student's participation in the class and how they give feedback each other and peer involvement that involves intellectual engagement and dialogues even through online, that relate to rubrics and requirements of the 'Integrated Assessment'



# Assessment in the Google Classroom

Master of Architecture Studio  
Dr Zack

Instructions Student work

Due 13 Apr, 23:59

## PHASE 2- PROPOSAL OF URBAN REGENERATION STRATEGIES - (20%)

100 points

Phase 2

Zack Zainul 3 Apr (Edited 3 Apr)

Based on the Research and Urban Analysis in the 1st Phase, students are required to formulate an urban regeneration strategies by taking into account physical, economic, social, environment, and urban fabric. The Urban Regeneration Strategies should consider:

- i. The adaptation of existing buildings and new buildings.
- ii. Redesign of open spaces and common areas.
- iii. Identification of public amenities, services, and facilities including: open such as kindergarten, sports and leisure, religious activities, business spaces, and community center.
- iv. To redesign green areas to promote livability for existing and future inhabitant.
- v. To preserve sense of belonging & place of the existing community.

2. Assessment / Submission Format:

- i. Presentation board(s) consist of: Conceptual and design development(s), layout plan(s) of URBAN REGENERATION PROPOSALS around the site neighborhood (coverage areas depending on research and urban synthesize). The submission should include (contextual site plan(s), section(s), street façade(s), and 3D illustrations.)
- ii. Softcopy of design works to be compiled together with the whole studio scheme in a report format with design statement (200 words).

3. Learning outcome - To discuss and propose sustainable URBAN REGENERATION PROPOSAL strategies by taking into account the physical, economic environment and socio-cultural aspects. (PA,TS)

Phase 2- 20% Phase 2- 20% Google Slides

File Edit View Insert Format Slide Arrange Tools Add-ons Help All changes saved in Drive

Background Layout Theme Transition

1 Phase 2- 20% PROPOSAL OF URBAN REGENERATION STRATEGIES - (20%)

2

3

4

5

Chee Wing Soo  
G345623

Master of Architecture Studio  
Dr Zack

Instructions Student work

Return 100 points

All students

Sort by status

Assigned

syu adah	Missing
mahmoud baghdadi	Missing
NORASNANI BAKAR	Missing
Ronn Chua	Missing
sien cse	Missing
xin yun ho	Missing

## PHASE 2- PROPOSAL OF URBAN REGENERATION STRATEGIES - (20%)

0 Handed in 11 Assigned

All

syu adah	mahmoud baghdadi	NORASNANI BAKAR	Ronn Chua
No attachments Missing	No attachments Missing	No attachments Missing	No attachments Missing
sien cse	xin yun ho	Chua Kim Hong	Kew LMin
No attachments Missing	No attachments Missing	No attachments Missing	Kew LMin - PHASE 2 - Missing

## Facilitator module



### GUIDELINE

In the SOLEbased learning tutor is not authoritarian. In SOLE, the tutor facilitates or activates the group to ensure that students' progress satisfactorily through the design problem, conveying ideas, critics critically their peer's ideas and express their suggestions. In the SOLE, the tutor play roles by "questioning, probing, encouraging critical reflection, suggesting and challenging in helpful ways—but only where necessary." Most new tutors in SOLEbased learning are challenged by the "where necessary" (deciding when and how) part of intervention.

### Ways of intervening

How to intervene and when to do that?

### Custodian and guide

Each tutor is therefore the custodian of the group process and guide for discovery, rather than an information dispensing model of perfection or an overenthusiastic educational cheerleader.

### Students' attitudes to learning

The tutor can explain to students what is expected of them SOLE is founded on constructivism

### Development of tutors

SOLE believed that only as teachers in studio free themselves from their traditional teacher tasks—boss, cop, judge—will they be able to learn enough about their students to see how best to be of use to them Tutors used to didactic (lecturer to student transmission) teaching need reorientation away from dispensing information

	COURSE LEARNING OUTCOMES (CLO)	PO	PRESENTATION & REPORT	SITE ANALYSIS PRESENTATION	CONCEPTUAL MODEL	INTERIM CRIT (PEER ASSESSMENT)	FINAL INTERIM CRIT	FINAL PROJECT	PARTICIPATION
1	Produce building design w hich considers urban context and design of space for multiple activities. (C6, EM, LS) (P06, P07)	PO5			10%	5%		10%	
2	Combination of architectural communication techniques in various media comprehensively in leading project and supporting complex design ideas presentation. (P7, LL, LS) (P05, P07, P09)	PO6					10%	20%	
3	Demonstrate the ability to balance between technological and design requirements in achieving aesthetics and technical requirements. (A5,TS,LL, LS) (P07,P09)	PO7					10%	10%	
4	Making decision while leading a project and respecting others (TS,EM,LS) (P06,P07)	PO9	10%	10%					10%
			10%	10%	10%	10%	10%	40%	10%

Figure 2: Sample of learning outcome for the course

# ASSESSMENT RUBRIC

## ARCHITECTURAL DESIGN ASSESSMENT

Peer assessment criteria					
01	Inadequate 1 pts	Adequate 2.5 pts	Accomplished 3.5 pts	Mastery 5 pts	Total Marks
Name of peer:					
<b>Design Process</b> 40 % Originate successful design solutions to fundamental architectural problems by integrating concepts, formal/visual principles and techniques. Integrating site synthesis as part of the site solutions	<b>Inadequate</b> Does not attempt or is unable to complete design solutions. Unsuccessful design solution due to lack of creative use of concept, limited exploration of technique and/or application of principles. Little effort to challenge creative boundaries resulting in obvious or poorly developed solution.	<b>Adequate</b> Fundamentally sound design solution with moderately creative use of concept, fundamentally appropriate technique, and adequate application of principles. Solution shows some effort to challenge creative boundaries with limited or uneven success.	<b>Accomplished</b> Interesting design solution showing consistently creative development of concept, original development of technique and original application of principles. Solution shows ongoing creative inquiry and exploration of design potential with largely effective results.	<b>Mastery</b> Compelling design solution showing highly original creative development of concept, innovative application of techniques and exemplary use of principles. Solution shows rigorous creative inquiry and investigation throughout design process with highly successful results.	
<b>Formal &amp; Spatial Principles</b> 20 % Demonstrate fundamental understanding and application of architectural formal + spatial principles as they relate to human experience.	<b>Inadequate</b> Does not attempt or is unable to complete design solutions. Limited understanding of experiential quality of architectural form and space resulting in largely unsuccessful architectural solutions. Significant problems with scale, materiality, sequence, circulation, enclosure or visual perception.	<b>Adequate</b> Basic functional understanding of experiential quality of architectural form and space resulting in fundamentally sound architectural solutions. Moderate problems with scale, materiality, sequence, circulation, enclosure and or visual perception.	<b>Accomplished</b> Clear understanding of experiential quality of architectural form and space resulting in successful architectural solutions. Minor problems with scale, materiality, sequence, circulation, enclosure and or visual perception.	<b>Mastery</b> Advanced understanding of experiential quality of architectural form and space resulting in exemplary architectural solutions. Effective use of scale, materiality, sequence, circulation, enclosure and visual perception.	
<b>Design Process</b> 20 % Demonstrate a rigorous design process through critical iterative production.	<b>Inadequate</b> Does not attempt or is unable to complete critical iterative production. Inconsistent levels of critical iterative production resulting in a flawed and uneven design development process. Regularly fails to meet daily progress, attendance and participation requirements. Does not document or respond to critical input from class presentations in design iterations.	<b>Adequate</b> Consistent levels of critical iterative production resulting in a basic design development process. Regularly meets daily progress, attendance and participation requirements. Usually shows evidence of critical response through basic level of continued research, sketchbook documentation and iterative design development.	<b>Accomplished</b> High levels of critical iterative production resulting in a mostly successful, thorough design development process. Consistently meets all daily progress, attendance and participation requirements. Consistently shows evidence of critical response through regular research, sketchbook documentation and iterative design development.	<b>Mastery</b> Excellent levels of critical iterative production resulting in a highly successful, comprehensive design development process. Reliably fulfills and exceeds all daily progress, attendance and participation requirements. Unfailingly shows evidence of self-disciplined critical response through sustained, relevant research, rigorous sketchbook use and exemplary iterative design development.	
<b>Communication</b> 20 % Communicate design solutions effectively using architectural presentation materials and techniques.	<b>Inadequate</b> Does not attempt, or is unable to complete design solutions. Significant problems with presentation materials and/or techniques resulting in unsuccessful level of design communication. Major errors, omissions, consistency or quality problems in drawings, process and models. Poor verbal communication inhibiting discussion beyond rudimentary level.	<b>Adequate</b> Basic competence in presentation materials and techniques resulting in an acceptable level of design communication of general completeness. Presentation materials showing basic elements of design organized and comprehensible. No major errors, omissions, consistency or quality problems in drawings, process or models. Verbal communication understandable resulting in basic discussion of design solution.	<b>Accomplished</b> Advanced achievement in presentation materials resulting in successful design communication of systematic consistency. Presentation materials comprehensive, detailed and well organized with minimal minor errors and requiring no further explanation. Verbal communication well planned and executed and effective resulting in further discussion of design solution.	<b>Mastery</b> Exemplary presentation in materials and verbal presentation resulting in highly effective design communication of clarity, detail and precision. Presentation materials at portfolio quality suitable for transfer. No errors or omissions. Verbal communication highly effective resulting in advanced discussion of design solution and successful results.	
Sketch / comments					

# Facilitator Assessment

## Introduction of Integrated Assessment

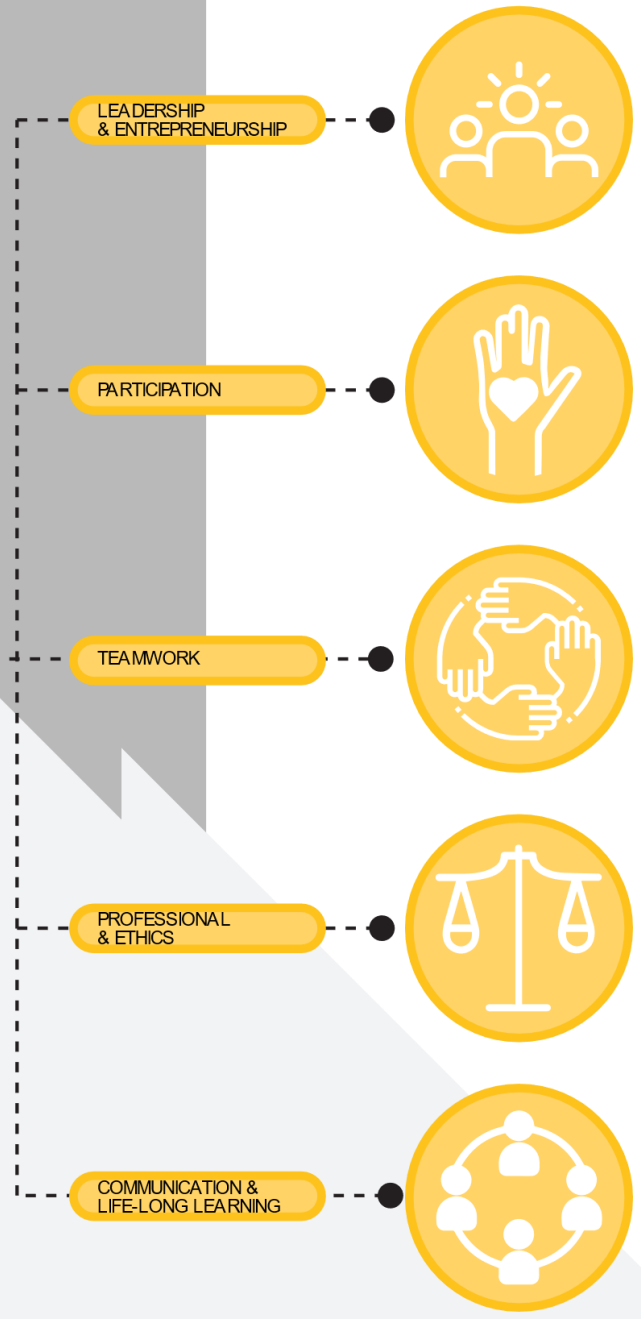
Integrated Assessment is introduced by Ministry of Higher Education (MOHE) as mechanism for assessing and reporting of students' development and performance as well as learning gains of their ethics, knowledge and abilities. The reporting illustrates attainment of attributes outlined in the six student aspirations stipulated in the MEB (HE) as well as the eight domains of learning outcomes listed in the Malaysian Qualifications Framework. It is an integrated assessment mechanism that is aimed to assist various stakeholders in making decisions or planning for improvement. The purpose of this mechanism is to drive development and alignment in curriculum design, delivery and assessment at programme level and at course level focussing on student's learning experience towards development of a holistic and balanced human being.



<b>HIGHER EDUCATION</b>	Ethically and morally upright, spiritually grounded, caring; appreciates sustainable development and a healthy lifestyle	Is an effective communicator emotionally intelligent and able to work across cultures; is socially responsible, competitive, resilient, and confident	Has pride in Malaysia and an understanding of Malaysia in relation to the world	Proficient in Bahasa Melayu and English, and encouraged to learn one additional global language	Appreciates diverse views is able to think critically and be innovative, has problem solving initiative, and entrepreneurial mindset	Has mastery of own disciplines, is able to harness connect and apply knowledge learnt and has an appreciation of culture, Technology, Engineering and Mathematics (STEM)
<b>PRE-SCHOOL TO POST-SECONDARY EDUCATION</b>	Possesses solid moral foundation and courage to make right decisions	Has strong communication skills, is entrepreneurial, resilient, can lead and work in team	Proudly identifies as Malaysia and embraces diversity	Operationally proficient in at least Bahasa Melayu and English	is inquisitive and innovative, can apply and create knowledge and connect to provide solutions	Has mastery of core subjects and general knowledge about the world

**AKHLAK (ETHICS & MORALITY)**

**ILMU (KNOWLEDGE & SKILLS)**



**Studio Oriented Learning Environment**

	<b>Leadership &amp; entrepreneurship</b> <b>How the student take charge of his/her own education?</b>	<b>Participation</b> <b>How the student actively participate in their own education?</b>	<b>Teamwork</b> <b>What the student do to help his/her peer to learn better?</b>	<b>Professional &amp; Ethics</b> <b>How the student discuss their work and others?</b>	<b>Communication &amp; life-long learning</b> <b>How the student develop discussion?</b>
<b>4</b>	<ul style="list-style-type: none"> <li>•Always takes initiative &amp; accepts responsibility for own actions. •Flexible, resilient learner who often helps others.</li> <li>•Self-motivated learner who is always prepared, on time, respectful &amp; follows class rules</li> <li>• Regularly helps motivate others get the best possible education.</li> <li>•Assignments on time, above standard work in quality and quantity.</li> <li>•Emphasizes threat and opportunity of the schemes and adopt aggressive posture with potential competition</li> </ul>	<ul style="list-style-type: none"> <li>•Positive influence who always actively &amp; passively participates.</li> <li>•Often encourages others to participate in class &amp; team discussions.</li> <li>•Able to explain purpose &amp; content of labs &amp; lessons to others.</li> <li>•Contributes ideas to help improve class discussions.</li> <li>•Focused on task at hand, changes between tasks easily, always helps others refocus on task.</li> </ul>	<ul style="list-style-type: none"> <li>•Actively helps the class &amp; team to work together to accomplish tasks on time.</li> <li>•Always builds trust &amp; helps resolve team &amp; partner conflicts.</li> <li>•Always keeps positive communications &amp; relationships in class/team.</li> <li>•Transitions between tasks easily.</li> <li>•Keeps teamwork safe &amp; at standard.</li> <li>•Gives positive recognition to peers</li> </ul>	<ul style="list-style-type: none"> <li>•Student thoughtfully consider perspectives of diverse relevant stakeholders and articulate these with great clarity, accuracy, and empathy.</li> <li>•Student convincingly and accurately frame the problem and parse it into sub-problems, providing justification.</li> <li>•Suggest detailed and viable approaches to resolve the problems</li> </ul>	<ul style="list-style-type: none"> <li>•Clearly encourage participation from all group members, generate ideas together and actively help each other clarify ideas.</li> <li>•Use self-regulation strategies to ensure a productive discussion.</li> <li>•Clearly work together to reach a consensus in order to clearly frame the problem and develop appropriate, concrete ways to resolve the problem</li> <li>•Examine not only information, but also information sources. Examples include, but are not limited to: discussing potential and probable biases of the information sources, distinguishing fact from opinion in order to determine levels of information validity, analyzing implied information</li> </ul>
<b>3</b>	<ul style="list-style-type: none"> <li>•Shows initiative often; takes responsibility for own actions.</li> <li>•Self-motivated learner who often helps others.</li> <li>•Always prepared, on time, on task, &amp; asks for help when needed.</li> <li>•Assignments on time, always redoes work to standard when needed.</li> <li>•Respects others and class rules</li> <li>•Strong inclination for competitive program in the UTC</li> </ul>	<ul style="list-style-type: none"> <li>•Actively &amp; passively participates in class &amp; team discussions, takes notes without prompting.</li> <li>•Encourages others to participate</li> <li>•Always knows purpose &amp; content of labs &amp; lessons.</li> <li>•Volunteers information appropriately.</li> <li>•Always on task, encourages others stay on task.</li> <li>•Listens well &amp; respects others</li> </ul>	<ul style="list-style-type: none"> <li>•Actively works with partner or team get the job done.</li> <li>•Helps team resolve conflicts.</li> <li>•Helps keep positive communications &amp; relationships in class &amp; team.</li> <li>•Keeps team on task &amp; safe</li> <li>•Team jobs done on time.</li> <li>•Assures work area cleaned to standards, helps others clean without being told.</li> </ul>	<ul style="list-style-type: none"> <li>•Generally successful in distinguishing primary and secondary problems with reasonable accuracy and with justification. There is evidence that the student have begun to formulate credible approaches to address the problems of others according to his understanding</li> </ul>	<ul style="list-style-type: none"> <li>•Regulate the discussion by identifying unproductive communication.</li> <li>•Make an attempt to reach consensus, but may find it challenging to implement strategies that equitably consider multiple perspectives.</li> <li>•The majority of students work to achieve consensus in order to frame the problem and propose approaches</li> </ul>
<b>2</b>	<ul style="list-style-type: none"> <li>•Sometimes shows initiative</li> <li>•Takes responsibility for own actions most of the time.</li> <li>•Motivated most of the time</li> <li>•Completes work redo's, but not always to standard.</li> <li>•Mostly respects others &amp; class rules.</li> <li>•On time / Prepared most all the time.</li> <li>•Careful about being introduced to new products/ services/ approach</li> </ul>	<ul style="list-style-type: none"> <li>•Engages in class/team discussions, takes notes when prompted.</li> <li>•Often knows purpose &amp; content of labs &amp; lessons.</li> <li>•Rarely needs reminder to be on task.</li> <li>•Listens to &amp; respects others most of the time.</li> <li>•Asks questions once in awhile</li> </ul>	<ul style="list-style-type: none"> <li>•Mostly works with partners or team to get the job done.</li> <li>•With minor exceptions, keeps positive communications &amp; relationships in class/team</li> <li>•Keeps team safe.</li> <li>•Will work with partners or teammates only when asked.</li> <li>•Team sometimes not done on time.</li> <li>•Work area not always clean</li> </ul>	<ul style="list-style-type: none"> <li>•Student somewhat pay attention to relevant ethical considerations and discuss them in context of the problem(s).</li> <li>•Student somewhat make linkages between ethical considerations and stakeholder interests.</li> <li>•Student somewhat may identify ethical dilemmas and possible trade-off</li> </ul>	<ul style="list-style-type: none"> <li>•Examine information presented in the scenario, but failed to questioning the validity and potential biases of information sources, distinguishing fact from opinion, recognizing what is implied and what is explicit</li> <li>•Not able to give meaningful contemporary political and/or geo-political issues.</li> <li>•No effort to show accurate understanding of how non-technical issues may affect framing the problem(s) and possible solutions.</li> </ul>



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Leadership & entrepreneurship  
How the student take charge of his/ her own education?

- Sometimes takes responsibility for own actions.
- Shows little motivation to improve their education.
- Assignments often low quality
- Often says they will redo work, but rarely does so.
- Rarely asks for help, respects others or class rules
- Sometimes late or unprepared
- Strong inclination for lower risk with normal & low return profits

Participation  
How the student actively participate in their own education?

- Rarely participates. Needs to be told to take notes
- Sometimes knows purpose & content of labs & lessons.
- Mostly on task, sometimes needs reminding to stay task.
- Doesn't listen to, or respect others often
- Blurts out in class once in awhile

Teamwork  
What the student do to help his/her peer to learn better?

- Sometimes works with partner & team to get the job done.
- Communications & relationships in class/team not always positive.
- Follows safety rules
- Will work with partners only when asked, often stops when instructor leaves.
- Rarely helps clean work area

Professional & Ethics  
How the student discuss their work and others?

- Begin to frame the problem, but have difficulty separating primary and secondary problems. If approaches to address the problem are advocated, they are quite general and may be naive.

Communication & life-long learning  
How the student develop discussion?

- Give limited consideration to contemporary political and/or geophysical issues. Non-technical issues may be treated in a condescending manner, or without understanding of why an engineer may need to consider non-technical issues.
- Dominate (inadvertently or on purpose), or become argumentative.
- Attempt to regulate the discussion, but without success.
- There may be some tentative, but ineffective, attempts at reaching consensus

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- Not responsible, on time or prepared
- Not self-motivated learner, relies on others to do the work.
- Assignments missing or incomplete. • Doesn't attempt to redo work.
- Doesn't ask for help
- Doesn't respect themselves, others, or class rules.
- Often late or unprepared for class.
- Do not innovate and play safe in design

- Never participates willingly
- Rarely knows purpose and content of labs/lessons.
- Speaks out (Blurts) in class
- Mostly off task – often not listening to class discussion or doing assignments.
- Doesn't listen to, or respect others
- Does side discussions

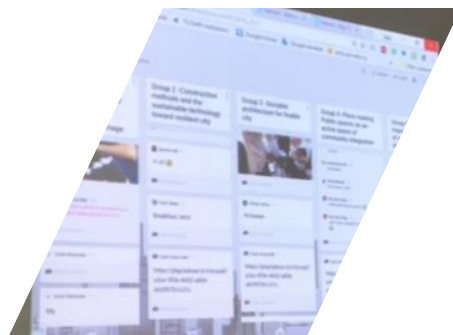
- Not on task with partners or team or doesn't work together with others.
- Communications & relationships not positive.
- Causes safety issues.
- Avoids tasks, even when asked.
- Totally relies on others to do their work. Distracts others.
- Doesn't help, avoids cleaning

- Do not give any attention to ethical considerations and do not address nor highlight problems in the design
- Do not address site synthesis and other's opinion in their judgement

- Do not interact as a group.
- No evidence of group self-regulation
- Do not refer to or scrutinize information presented in the scenario.
- Do not differentiate between what they do and do not know.



# S.O.L.E module (classroom)



S.O.L.E  
module  
training  
India,  
Indonesia,  
Philippines



# S.O.L.E framework copyright



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[ subregulation 5(2) and 5(3) ]



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# S.O.L.E module package

- General training
  - Purpose: To infuse blended learning and teaching innovation in studio teaching
- Evaluation
  - Purpose: To evaluate S.O.L.E module in existing teaching plan
- Assessment
  - Purpose: To assess students feedback based on the innovation

## S.O.L.E Module

training package



Briefing on S.O.L.E module and its application  
Hands-on workshop on adopting  
S.O.L.E module into Studio Teaching Plan  
1st -5th week



Evaluation of S.O.L.E  
implementation in the studio  
6th - 9th week

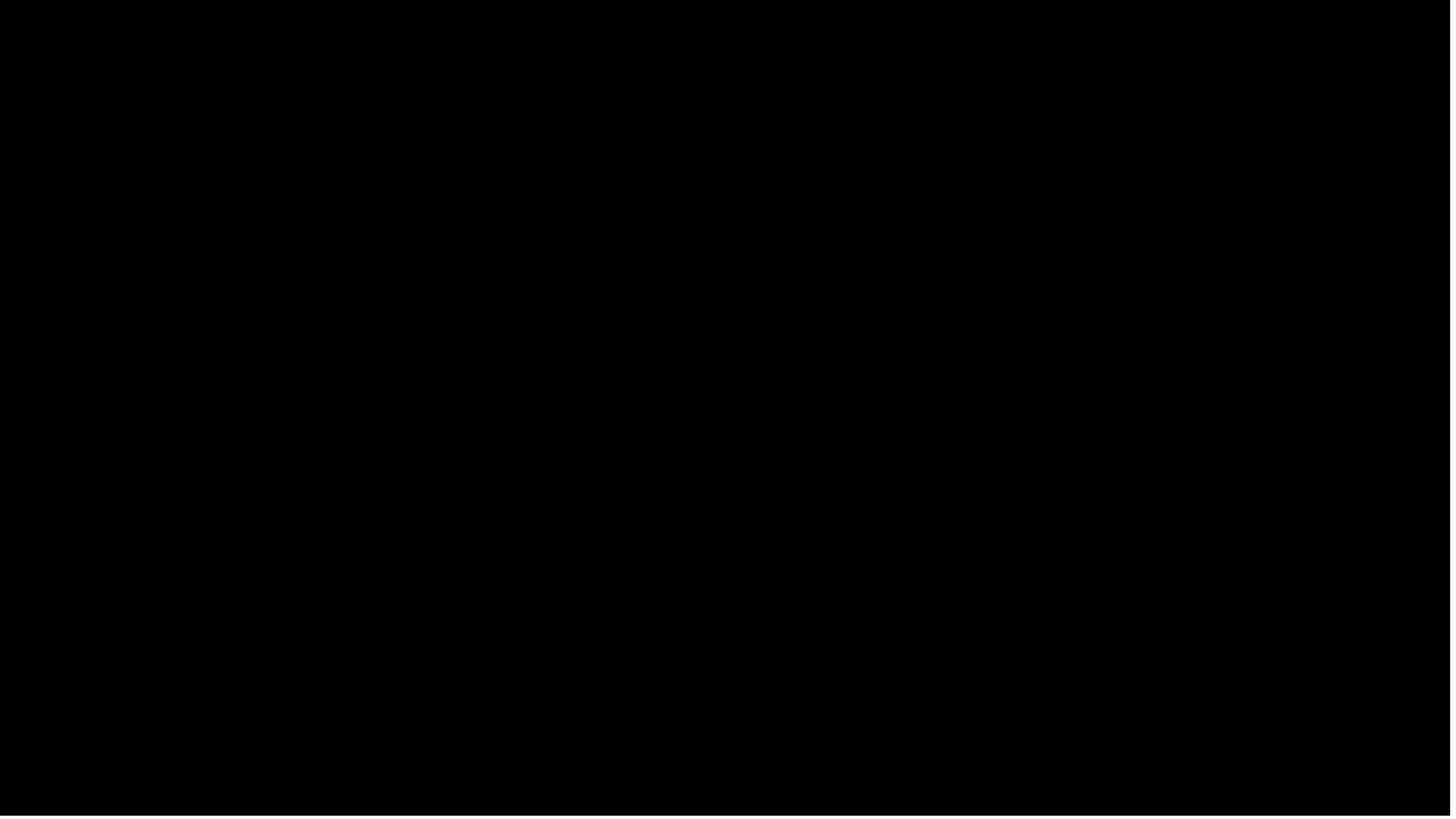


Monitoring progress and checklist on  
S.O.L.E implementation  
Monitoring on assessment rubric and  
student's evaluation and teacher's assessment  
10th - 14th week

Training day

1st round

2nd / final round



Thank you

