

PART 4

Seamless Interest-Driven Co-Creator Theory (SIDC Theory)

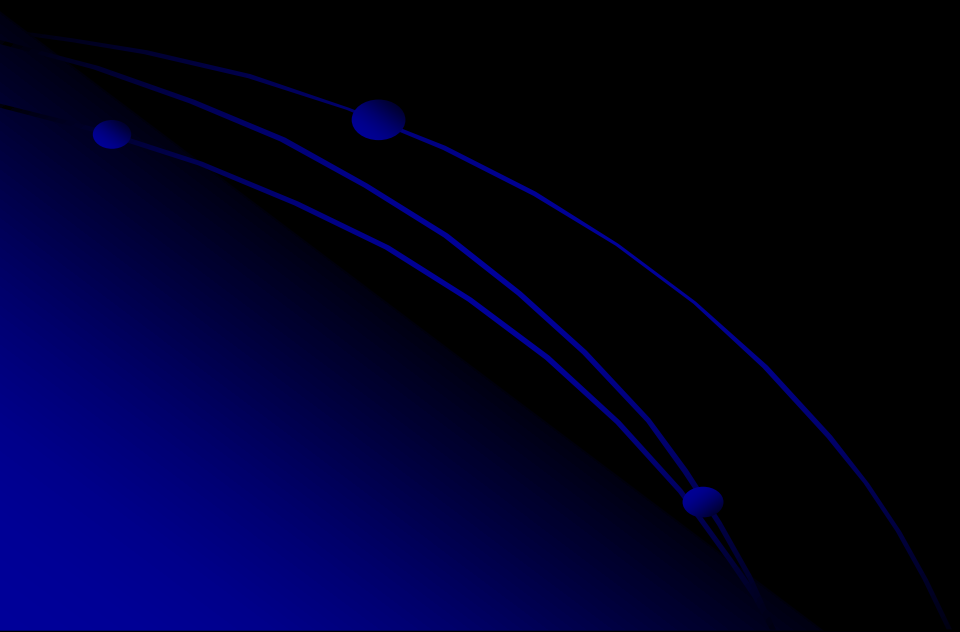
PART 4: Seamless Interest-Driven Co-Creator Theory (SIDC Theory)

- **Seamless IDC Theory (SIDC Theory): Extending IDC Theory by taking into account that learning occurs in the seamless AI World in order to achieve Global Harwell Goal**
- **Harweller and a framework of Global Harwell Education**

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Interest-Driven Creator Theory (IDC Theory)



2009

*a one-year experiment in an elementary school
for one 3rd grade class*



2009

Modeled Sustained Silent Reading (MSSR)



2009

writing (with peer response)



Remarkable research results

- Read

- 170 books (average)

- Writing

- 3rd grade students' writing reached to 6th grade level
- Word choice and number of new ideas were noticeable

	1st	2nd	3rd	4th	5th	6th	7th	8th
# of words (average)	233.92	369.72	328.33	296.81	373.61	387.62	601.58	694.25

PIRLS 2016

*international assessment on reading
for grade 4 students*

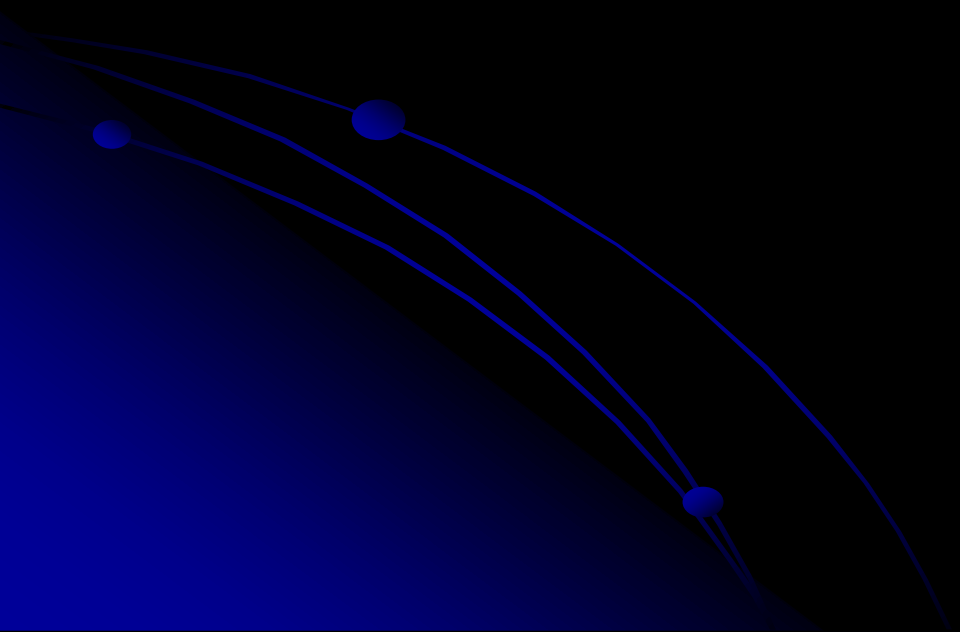
Country /Region (50)	Achievement (Score)	like reading
Singapore	2 nd	40 th
Hong Kong	3 rd	33 rd
Taiwan	9 th	28 th

TIMSS 2015

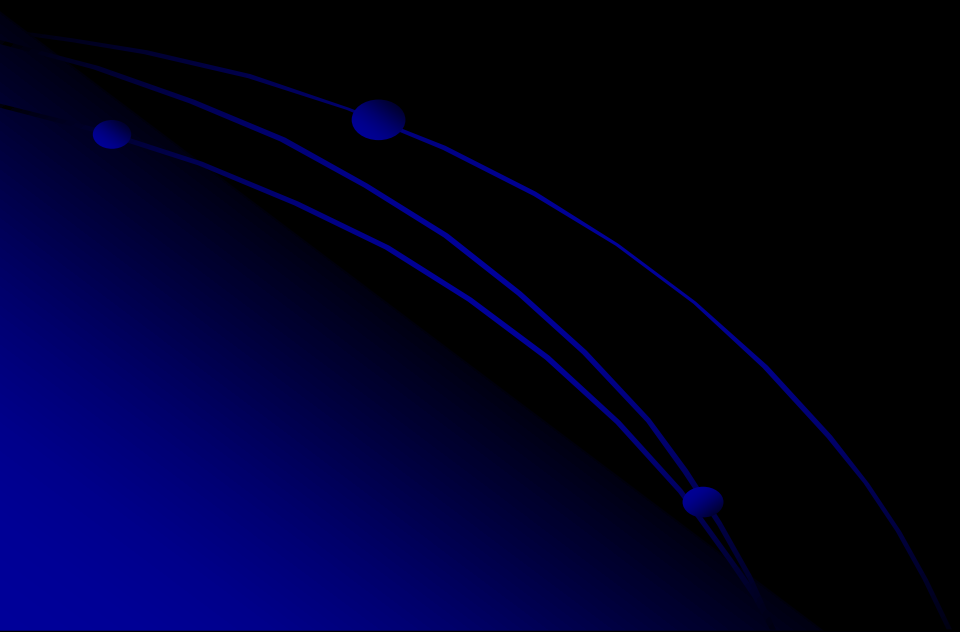
*international assessment on mathematics
for grade 4 students*

Country /region (49)	Achievement (Score)	confidence
Singapore	1 st	45 th
Hong Kong	2 nd	44 th
South Korea	3 rd	49 th
Taiwan	4 th	48 th
Japan	5 th	47 th

examination-driven → low interest, low confidence



‘Interest’ doesn’t seem to be a word
in the *education dictionary* in Asia!



Interest-Driven Creator Theory (IDC)

(Asian Researcher Coauthors, 2018)

Taiwan

Tak-Wai Chan, National Central University
Chen-Chung Liu, National Central University
Ben Chang, National Central University
Calvin Liao, NTUNS
Fu-Yun Yu, National Cheng Kung University
Zhi-Hong Chen, National Taiwan Normal University

China

Ronghuai Huang, Beijing Normal University
Xiaoqing Gu, East China Normal University
Hercy Cheng, Central China Normal University

Hong Kong

Siu-Cheung Kong, The Education University of Hong Kong
Ronnel King, The Education University of Hong Kong
Minhong Wang, The University of Hong Kong

Australia

Jon Mason, Charles Darwin University

Singapore

Chee-Kit Looi, Nanyang Technological University
Lung-Hsiang Wong, Nanyang Technological University
Wenli Chen, Nanyang Technological University
Longkai Wu, Nanyang Technological University

Malaysia

Su Luan Wong, Universiti Putra Malaysia,

Korea

Heisawn Jeong, Hallym University, Republic of Korea
Hyo-Jeong So, Ewha Womans University

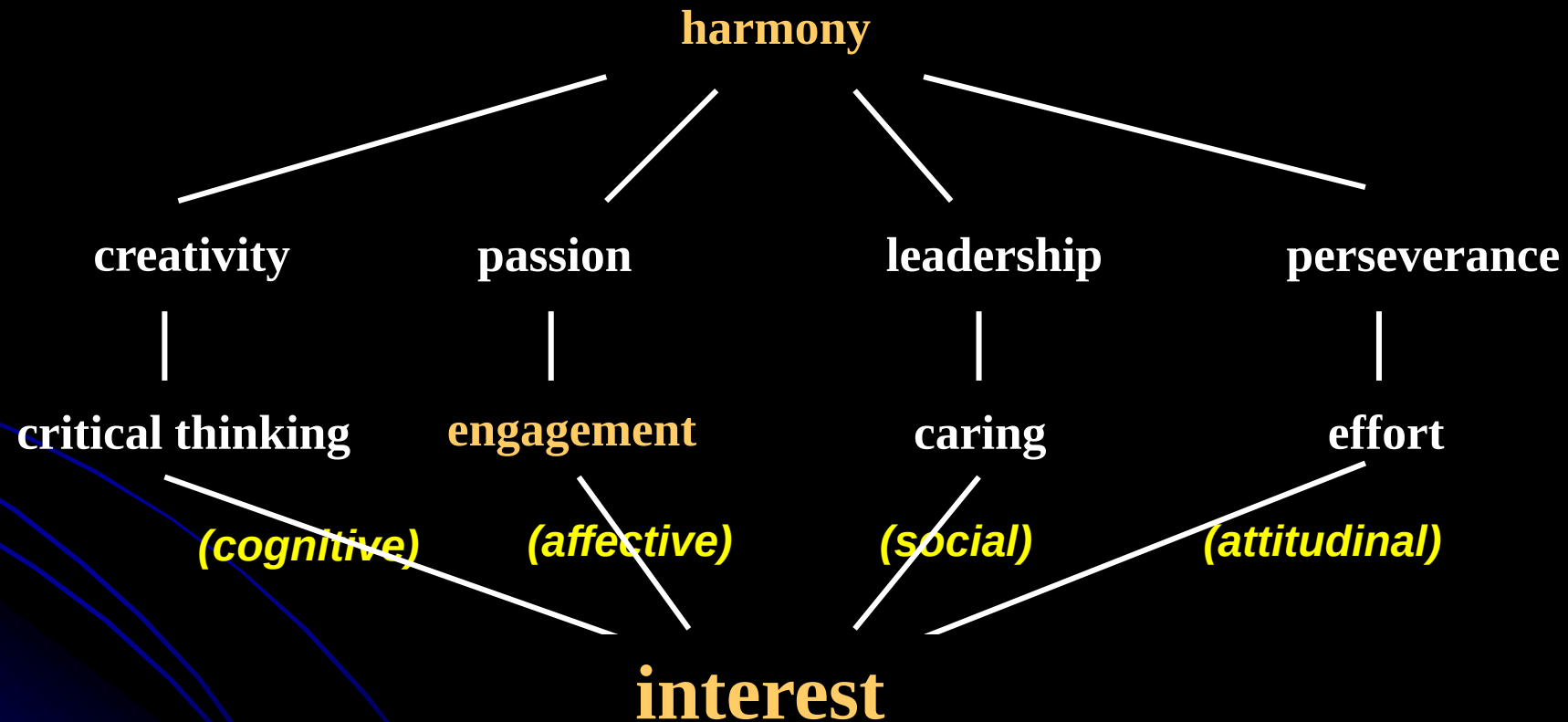
Japan

Hiroaki Ogata, Kyoto University

India

Sahana Murthy, Indian Institute of Technology

Beyond knowledge acquisition



21st Century Competencies

by a group of active Taiwanese digital learning researchers (2013)

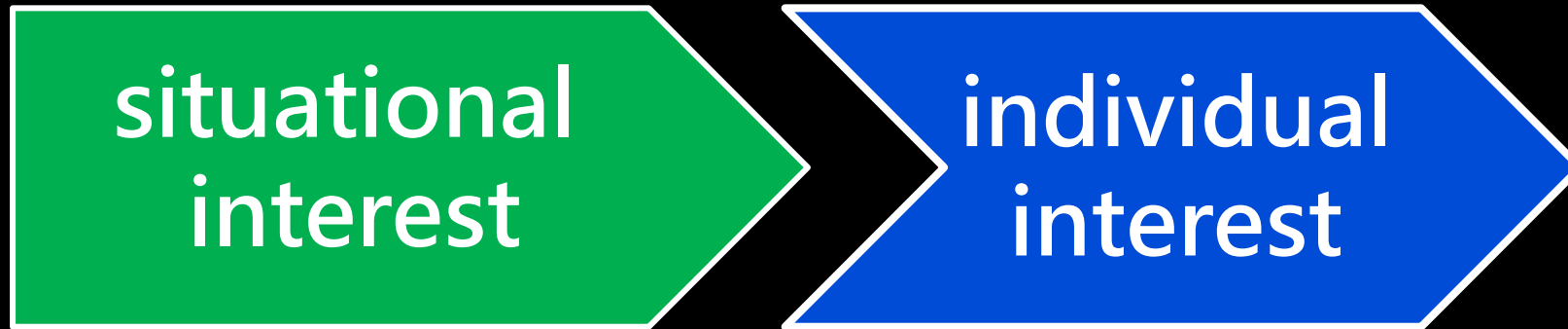
L4C

Learning FOR Competencies

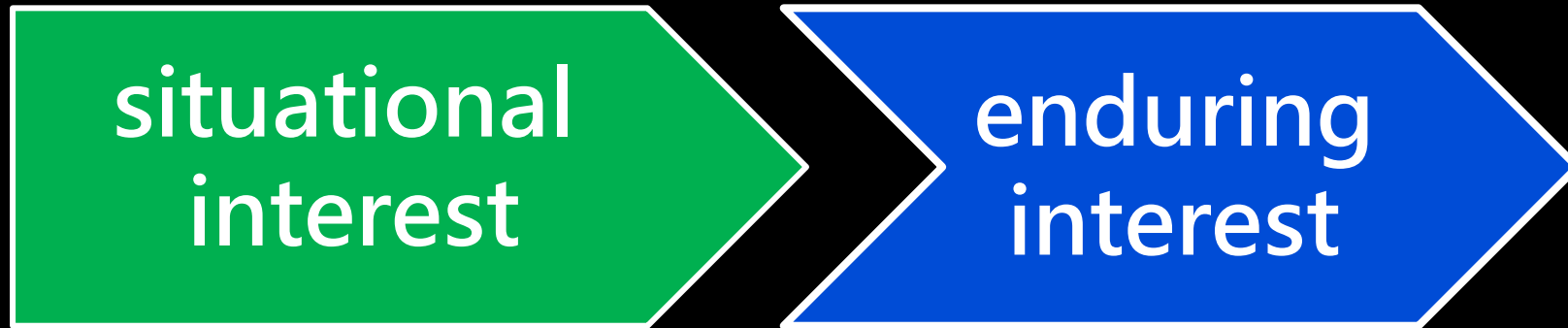
- ⑩ Lifelong learning habit
- ⑩ Complex problem solving
- ⑩ Critical thinking & reflection
- ⑩ Collaboration & communication
- ⑩ Creativity & imagination

5 key elements of IDC Theory

1. **Interest** *as mental representation*
 - learning as development of interest
2. **Creation** *as learning process*
 - how to design learning process as creation process
3. **Interest** *as learning strategy*
 - how to create (learn) with interest, not with pain, and hence to develop interest
4. **Habit** *as regular interest development*
 - how to develop habit and hence develop interest day-by-day
5. **Collaboration and Copresence** *as harmonious cultural development*
 - how to nurture societal harmony



stages of interest development



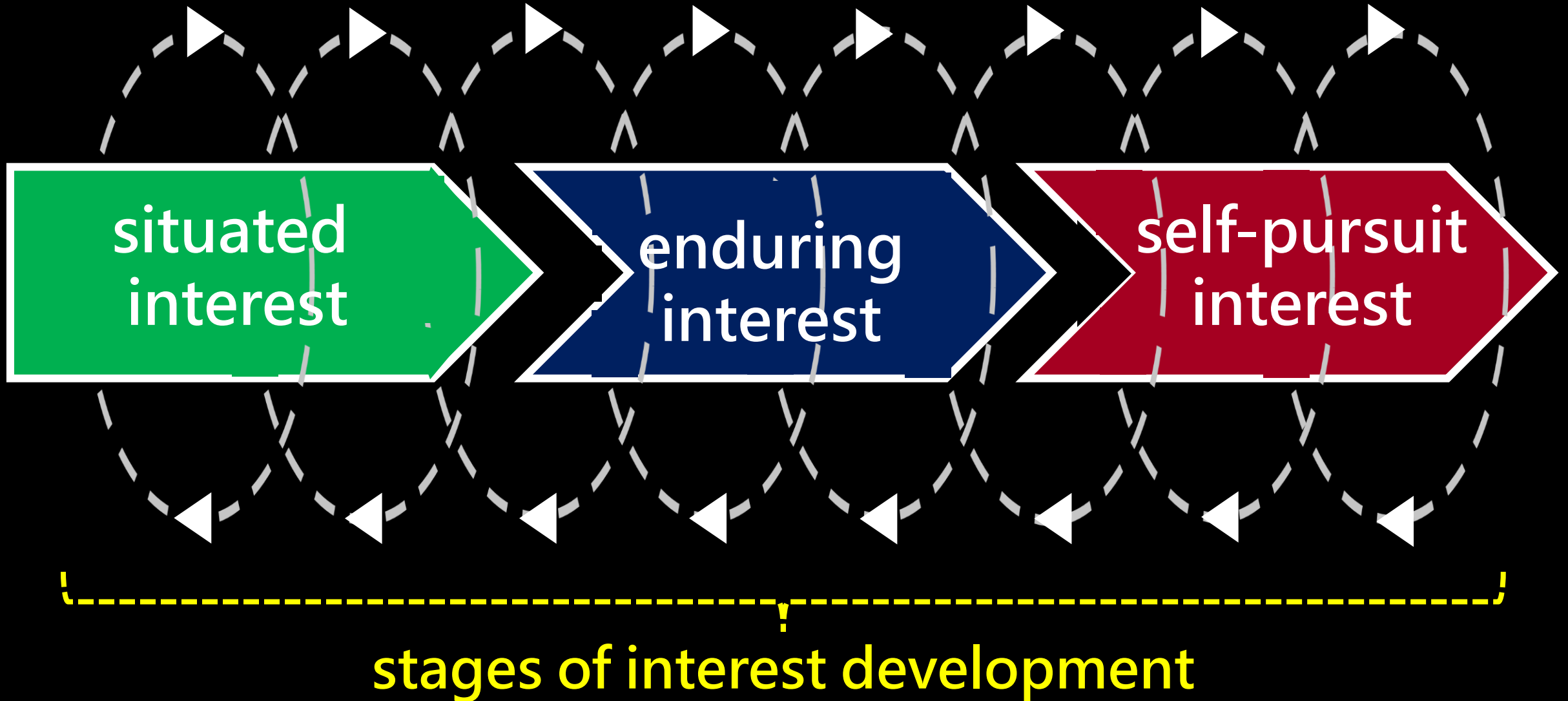
stages of interest development

Learning a domain is viewed as developing
interest of the domain at different stages

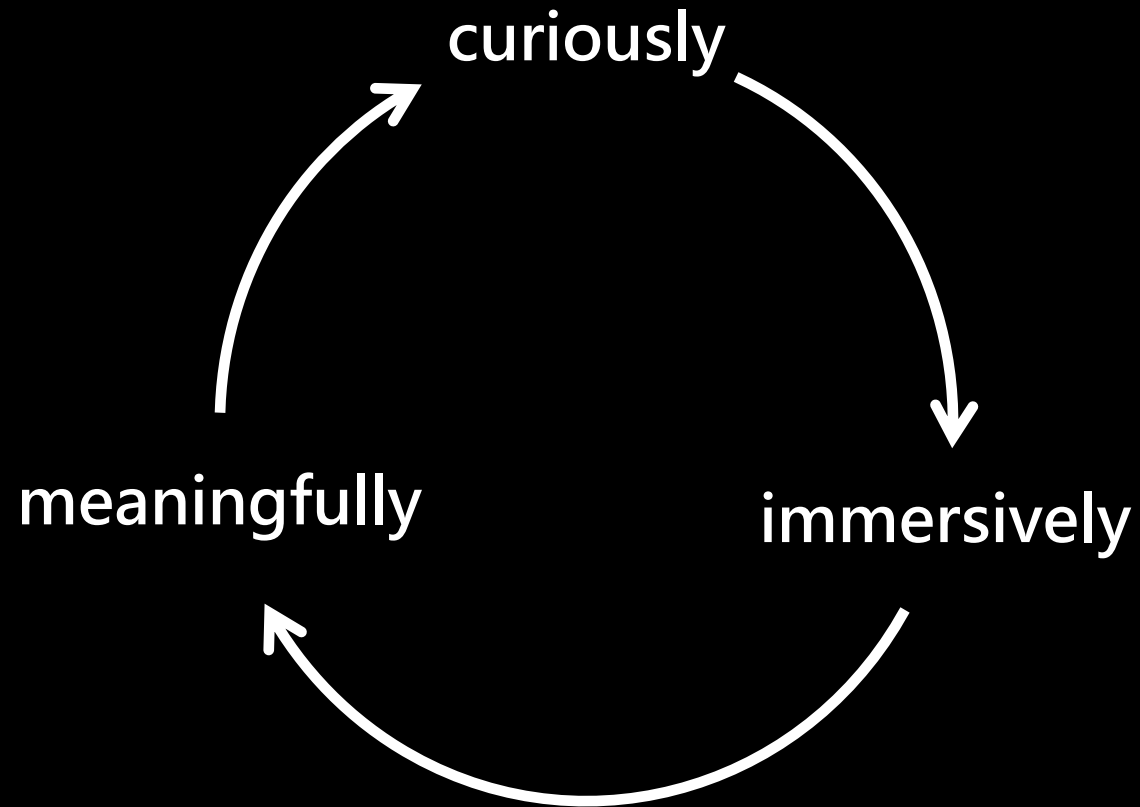


stages of interest development

We need interest development loop



interest development loop

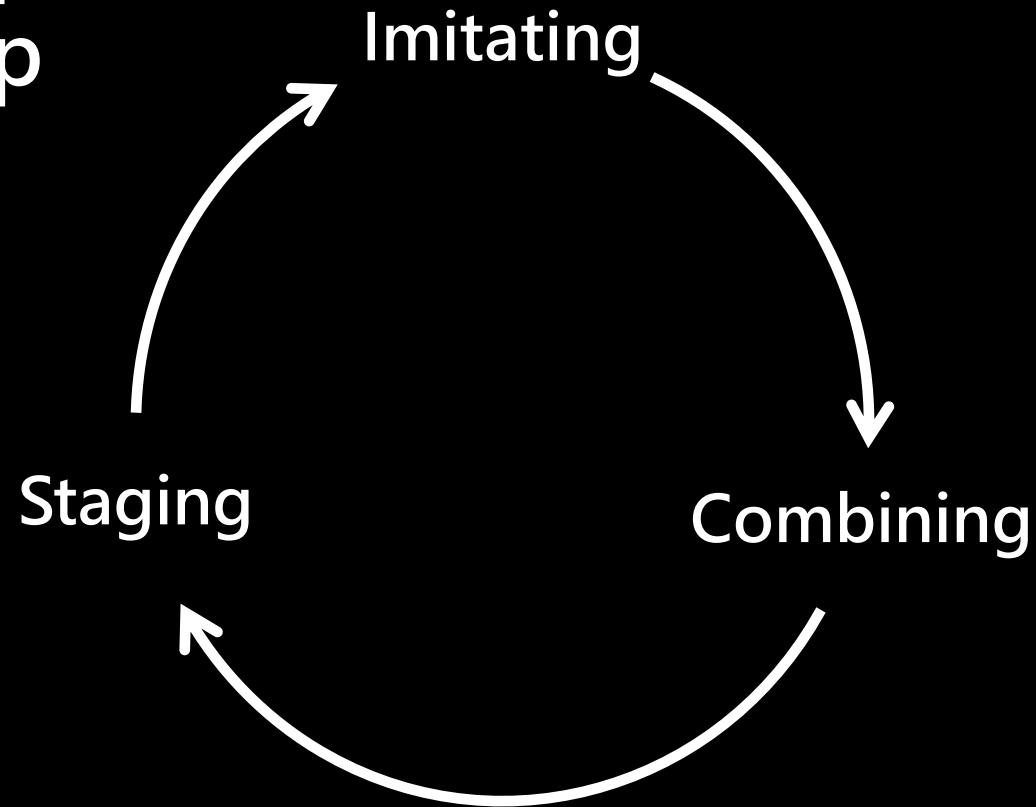


What is learning?

Learning is the same as creation!

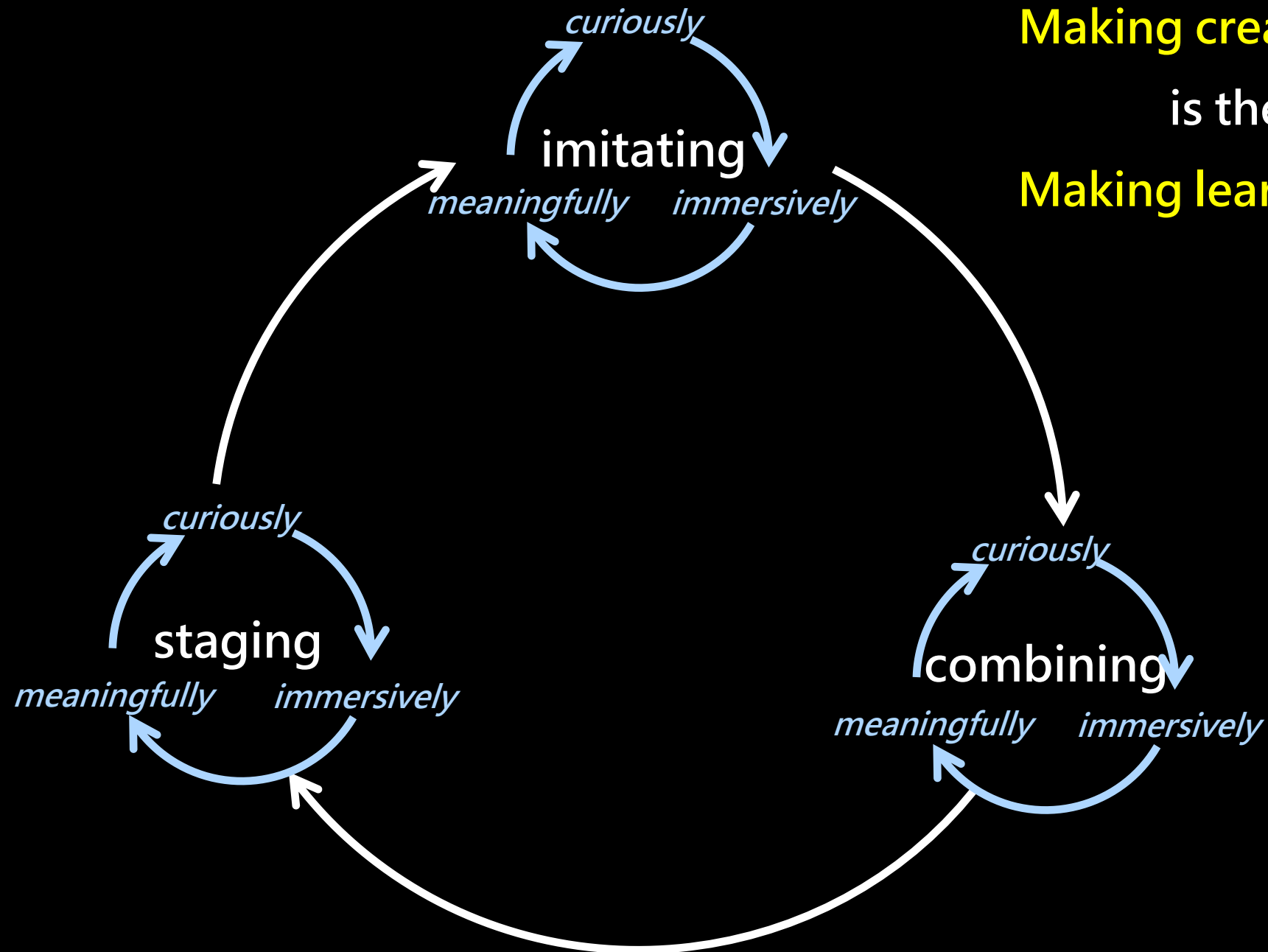
Learning is the same as creation

creation loop
learning loop

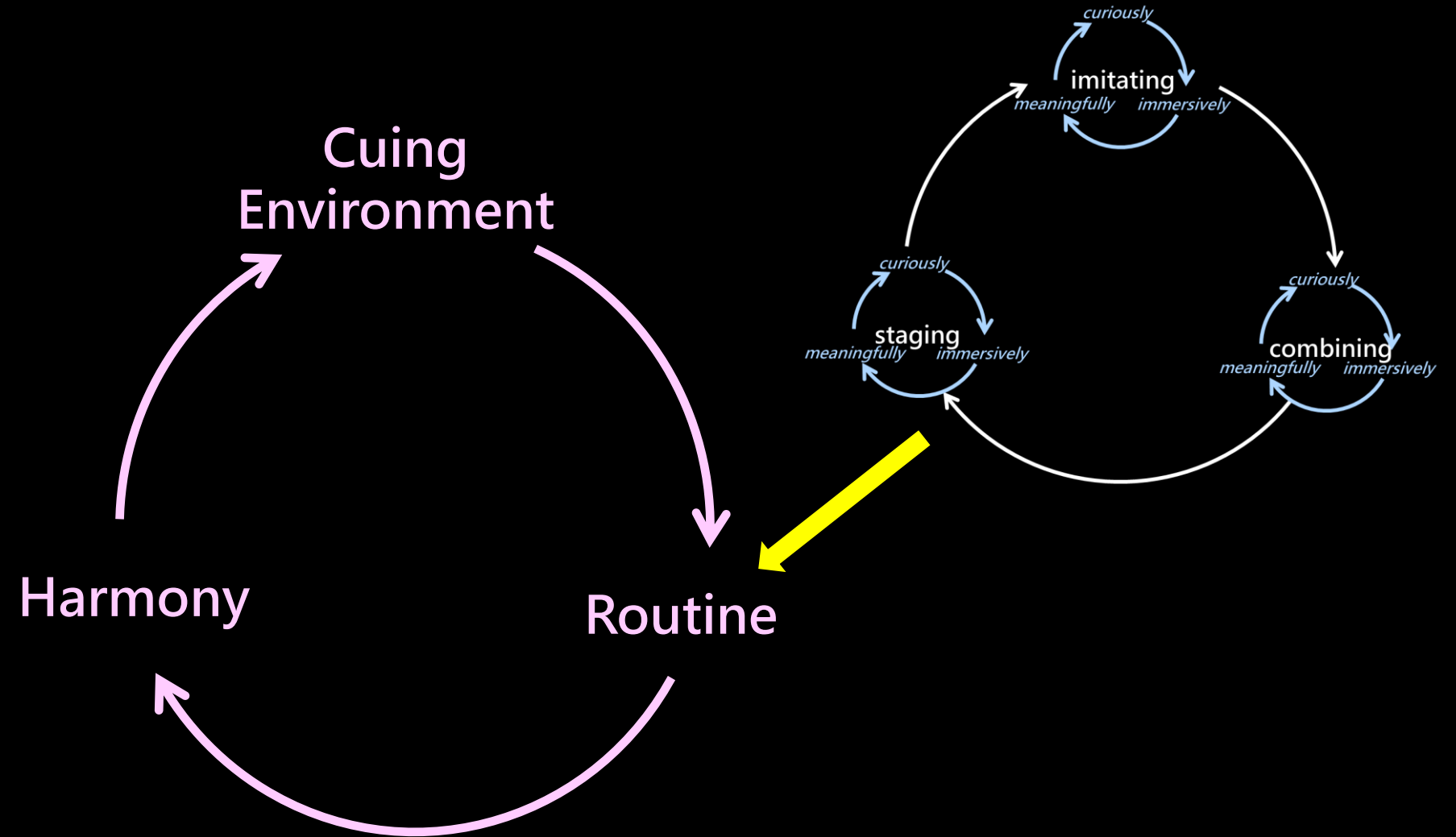


Learning speaking is creation
Learning cooking is creation

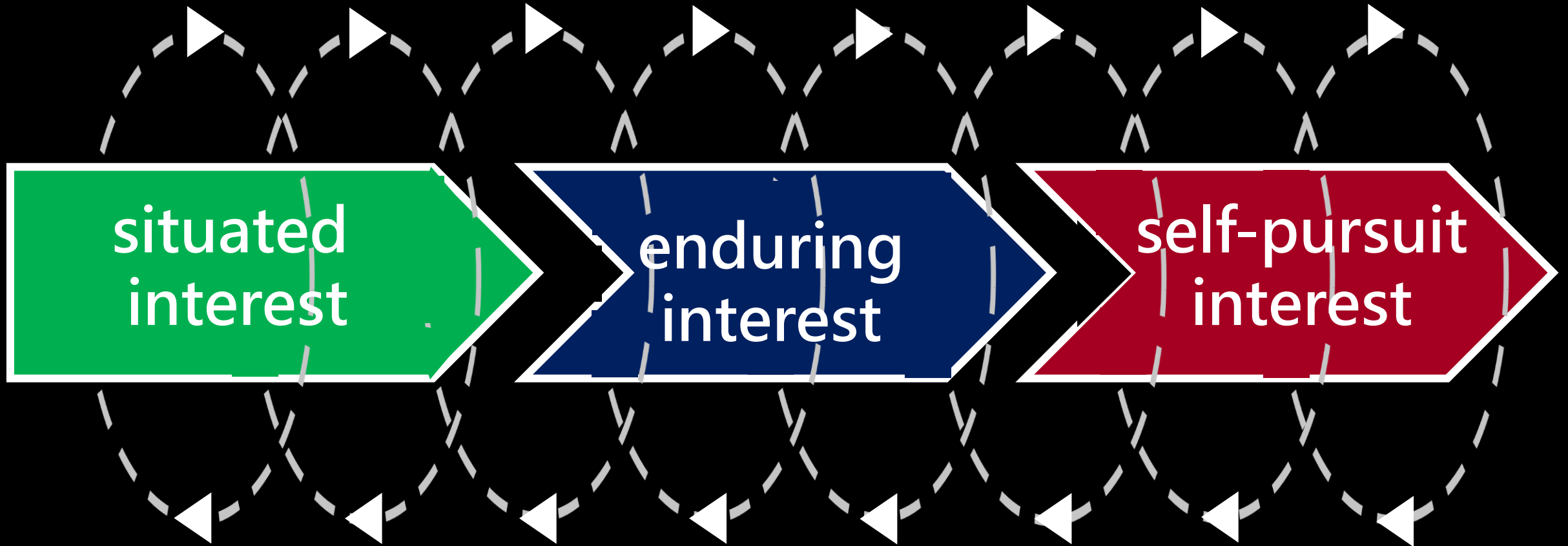
Making creation interesting
is the same as
Making learning interesting



Habit loop



develop learning-interest of a domain with habit loop



stages of interest development

Individual IDC vs Group IDC

“School is a social institution. When we talk about the concepts of interest, creation, and habit, we may refer to the characteristics of an individual or to those of a group. We can consider an individual’s interest or a group’s, an individual’s creation or a group’s, or an individual’s habit or a group’s.....” (Chan, et al., 2018)

We value competition

- Competition drives progress, whether it is individual or group
- In real life, like sports or commerce, collaboration often goes with competition:
 - Inter-group competition while inner-group collaboration
- As long as the rules of the game are fair, competition is socially acceptable
- To maintain harmony, every competitor should psychologically prepare for the possibility of loss before undertaking a challenge. Furthermore, those who do lose should learn to accept their loss gracefully.
- In other words, if one has not psychologically prepared for the possibility of loss, one should not participate in a competition.

Emphases on
collaboration & copresence
(and hence harmonious cultural development)

co-interest
co-creation
co-habit

A slight change of a name will help
harmonious cultural development!

from

Interest-Driven Creator Theory (IDC Theory)

to

Interest-Driven Co-Creator Theory (IDC Theory)

Seamless IDC Theory (SIDC Theory)

A theory that informs how to design
IDC learning in the Seamless AI World.

Conjecture

A successful implementation of

SIDC Theory in the Seamless AI World

can significantly contribute to the resolution of

the productivity problem.

The four problems

(Switch the order, considering its pressing need)

1. The *global educational goal* problem
 - rethinking the educational goal from the global perspective
2. The *productivity* problem
 - the performance or output/input problem

SIDC Theory partially responds to this problem
3. The *school restructuring* problem
 - the problem how school is being transformed
4. The *lifelong, personalized curriculum* problem
 - the extension of the ITS's Holy Grail problem

The *productivity* problem

compared to traditional classrooms

- **2-sigma learning performance** improvement summative assessment (Bloom, 1984)
 - robust learning
 - retention
 - transfer
 - accelerated learning
- **2-sigma affect** improvement
 - assuming there could be objective measure on affect
 - still not clear which affect attributes are most crucial ...
 - confidence (or efficacy) and interest must be included

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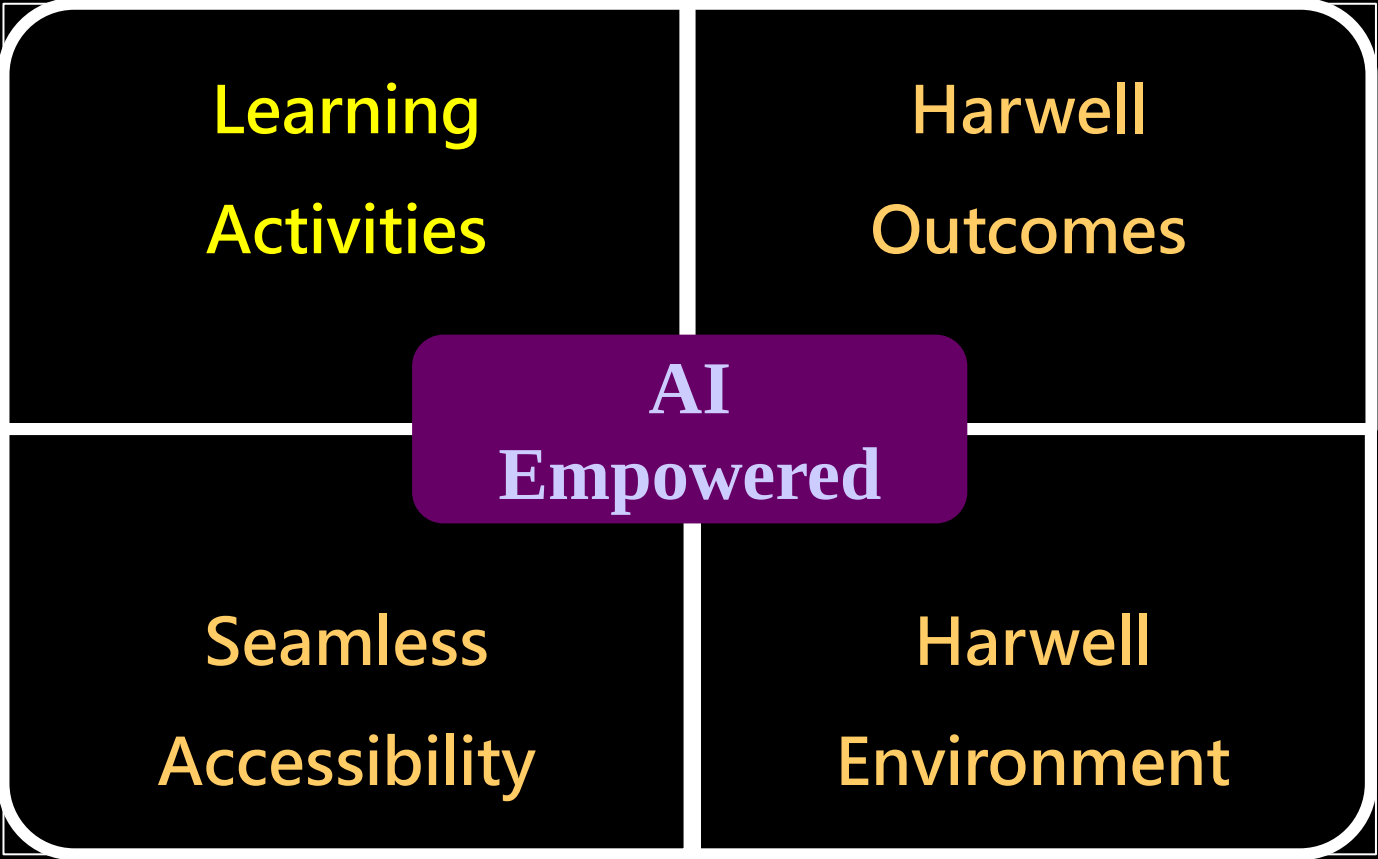
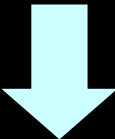
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Harweller (H-PISA)

- a person who practices global Harwell as a personal value and goal
- a person who has interests and expertise in a wide range of disciplines, particularly in the humanities domain (Polymath)
- a person who, driven by their interests, pursues new knowledge and creates habitually (Interest-Driven Co-Creator)
- a person who plays sport well and habitually (Sportsman)
- a person who is devoted to esthetics and pursues beauty and art (Aestheticist)

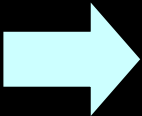
***Global
Harwell
Education***

Seamless IDC Theory



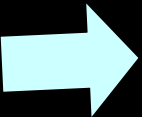
Learning with
Harwell Values

**Seamless
AI World**



Attaining
Harwell

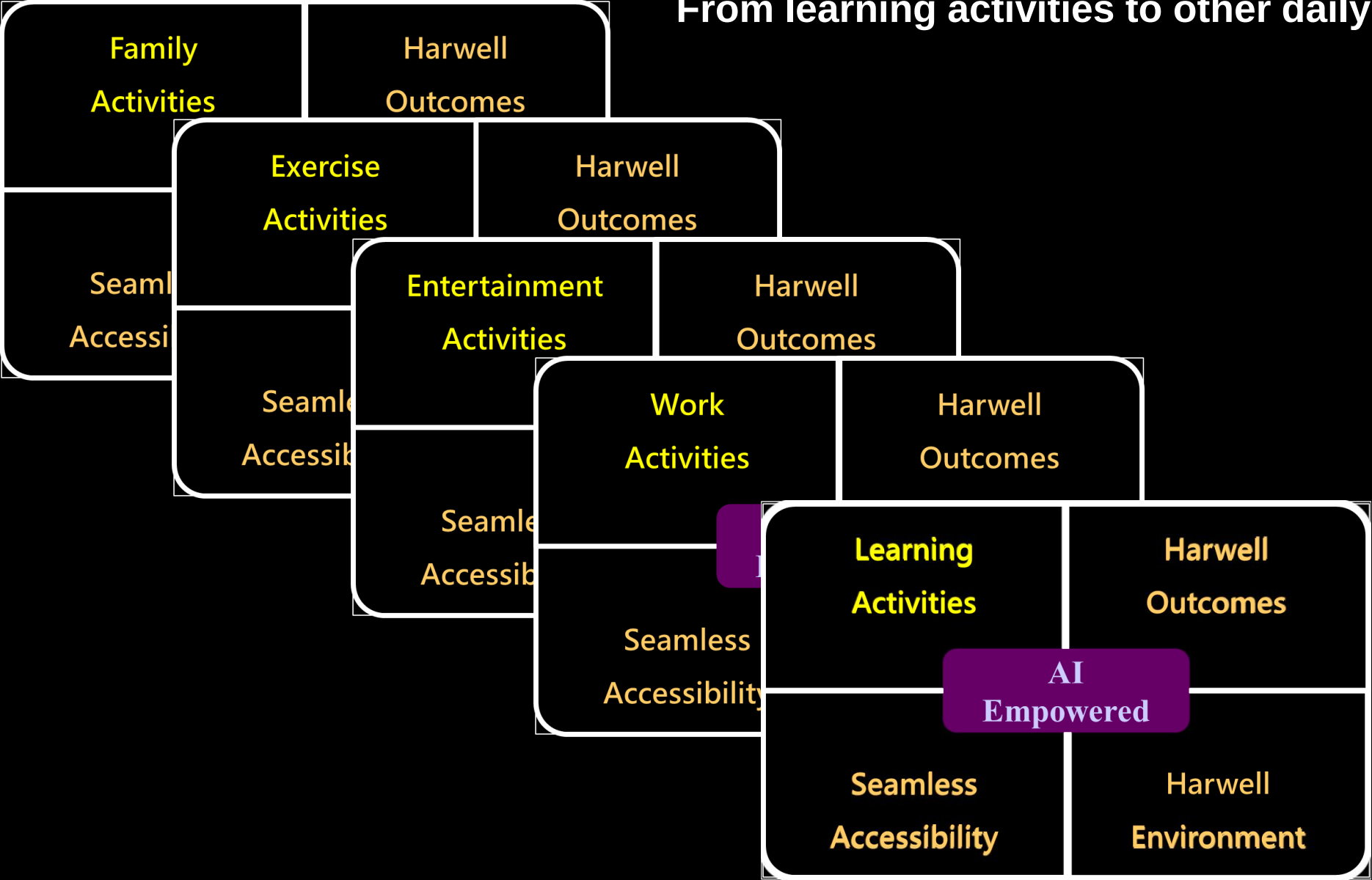
**The
Harwell
World**



Human Resources
Digital Resources
Digital Safety

Learning within
Harwell Environment

From learning activities to other daily activities



How to proceed?

A possible approach to spreading the thoughts and initiating actions

1. Awareness

Build global and local awareness of the goal

2. Model sites

Establish experimental and model sites in various countries and regions

3. Global educational park

Create a 'global educational park' by closely connecting these sites via technology, and

4. Dissemination

spread out the principles of global education and initiate actions for practice