Developing the OBTL Curriculum with Blended Learning in the Module of RC (Research in Childhood)

PI : Dr. Leung Chi Hung

CoI : Dr. Au Chung Park

Module team members : Dr. Lam Ho Cheong

Dr. Ramsey Koo

Project Objectives :

- **A. Improving the quality of teaching and learning** – best practice is to assess the teaching and learning outcomes in a valid and reliable way using different assessment methods, including on-line exercises, group presentation, discussion forum, and multi-evaluation (i.e., self, peer, and teacher-evaluation).

- **B. Promoting students' self-regulated behavior** – Different assessment methods involve students in the higher order cognitive ability to reflect on past experiences, present external demands, make personal choices based on management of time, goal, and priority setting, and then handle the resulting consequences.

- **C. Demonstrating an example of OBTL curriculum to ECE colleagues** – the project will demonstrate an example to ECE colleagues the difficulties or limitations when designing and executing an OBTL curriculum to our ECE students. This also provides an exemplary case of using different forms of assessments to examine and improve teaching practice.

- **D. Improving the content and form of assessments of the modules** – different assessment templates will be developed for on-line exercises, self-evaluation, peer-evaluation, and teacher-evaluation. The assessment templates will be presented in three-level form, such as Knowledge level, Skills level, and Attitude level. The newly developed assessment templates for different assessments are better than the single traditional assessment (e.g., individual assignment) in assessing students' learning outcomes.

- **E. Utilizing blended learning in the enhancement of teaching and learning in 2 modules** - to improve student learning and thereby increase flexibility in how, when and where students study. The project will also apply technology in peer and self-assessment methodologies, thereby enabling additional enrichment of self-directed learning approaches.

OBTL module outlines

• Institute Intended Learning Outcomes (IILOs)

	Institute Inteneded Learning Outcomes (IILOs)
I	Character & moral responsibility
II	Competence & professional excellence
III	Cultivation of wisdom and intellectual engagement
IV	Civic-mindedness and social responsibility

Programme Intended Learning Outcome (PILOs)

	Programme Intended Learning Outcomes (PILOs)
A	Able to become highly competent, innovative and ethical professionals who are able to contribute to the development of young children and their families
B	Able to challenge and extend their understanding of early childhood education in general, and their own practice in particular.
C	Able to reflect and build on their practical experience in a stimulating teaching and learning environment.

Course Intended Learning Outcomes (CILOs)

No.	Learning Outcomes (LOs)
	Knowledge
1	Able to design a research project, like action research
2	Able to write up reports based on both quantitative and qualitative data
3	Able to interpret findings on statistical results, scripts, records, audio and/or video-recordings
4	Able to employ interpretative approaches and collaborative social research approaches to qualitative data analysis.
	Skill
5	Able to apply interviewing skills in different types of interviews
6	Able to analyse both quantitative and qualitative data
7	Able to use software for quantitative data analysis, such as SPSS and Excel
	Attitude
8	Able to respect research ethics
9	Able to protect subjects from social risk, physical risk, and psychological risk in research

Matrix of Learning Outcomes of RC (Research in Childhood)

PILOs (Programme Intened Learning Outcomes)	IILOs (Institute Learning Ootcomes)			
	I	II	III	IV
A	8 & 9	1, 2, 3, 4, 5, 6, & 7	1, 4, & 9	8 & 9
B	8 & 9	1, 2, 3, 4, 5, 6, & 7	2 & 6	3, 4, &7
C	8 & 9	2, 3, 6, & 7	1, 3, & 6	1, 2, 5, & 6

Course Learning Outcomes and Weighting

Content	MLO No.	Teaching (in hours)
Ethical issues in educational research	8 and 9	3
Designing research in early childhood education settings	1	3
Qualitative research methods (1) : Dramaturgy and focus group interview	5 and 6	3
Qualitative research methods (2) : Action research and case study	4 and 6	6
Qualitative research methods (3) : Observation and survey methods	4 and 6	3
Experimental research methods : True experiments and Quasi-experiments	1, 2, and 3	6
Using software for quantitative data	3, 4, and 7	3
Reporting and evaluating educational research	2 and 3	3

Assessments

No.	Assessment Methods	Weighting	Remarks
1	Continuous assessment	30%	Students should complete a.2 online exercises. (1st time: Class A: 21/1, Class B: 18/1, Class C: 20/1) (2nd time: Class A: 4/2, Class B: 1/2, Class C: 3/2), b. One in-class quiz (Class A: 11/4, Class B: 8/4, Class C: 10/4) Each weighs 10% (30%)
2	Group small-scale research project	30%	Presentation* (25 to 30 minutes): Give a presentation on a selected paper (30%) including a.Rationale of the study b.Literature review c.Methodology d.Results & discussion
3	Individual Research proposal	40%	The write-up of a research proposal aims to assess the extent to which students has achieved the learning outcomes of the course.

Seven Generic Skills

1. Problem Solving	2. Critical and Reflective Thinking	3. Creative and Innovative Thinking	4. Ethical Understanding and Decision Making
- Identify problems - Gather information - Analyze problems - Evaluate solutions	- Be able to judge situations/actions/decisions - Be self-reflective	- Challenge new and old ideas - Practice risk-taking - Apply creative and innovative solutions to existing and emerging problems - Initiate or solicit new ideas, implement decisions and cope with uncertainties - Aesthetic appreciation and creative expression	- Demonstrate knowledge and respect of ethics and ethical standards - Be able to value and promote truth, honesty, and ethical standards - Can exercise initiative and responsibility, taking action and engaging others to make a positive difference for the common good - Treat people well

5. Effective Communication	6. Social Interaction	7. Global and Multi-cultural Perspective	
- Articulate and express one's self - Can express knowledge, ideas and opinions in their professional field, both orally and in written form, with confidence, fluency and clarity - Be able to engage effectively and appropriately with information and communication technologies - Be able to actively listen and respond to the ideas of other people	- Build positive relationships with others - Be able to interact effectively with others in order to work toward a common outcome - Show capacity for tolerance and mutual respect of others, resolving conflict and the negotiation of outcomes - Demonstrate general human understanding including empathy, sensitivity, and cooperation	- Show an understanding of social and civic responsibility - Show tolerance for and appreciation of cultural and intellectual diversity - Can function effectively and constructively in a global environment and in a variety of complex situations - Be able to appreciate diversity of communication styles employed by individuals from different national and cultural backgrounds	

Mapping

	Content areas							
	Ethical issues in edu research	Designing research in early childhood edu settings	Dramaturgy and focus group interview	Action research and case study	Observation and survey methods	Experimental research methods : True exp & Quasi-exp	Using software for quanti data	Reporting & evaluating edu research
Continuous assessment								
Group small-scale research project								
Research proposal								

Evaluation of OBTL format in the module of RC

Questions to be investigated

- The relationship between :

- Q1. No. of times students attempted in online exercise and no. of learning outcomes achieved in the learning outcomes checklist

- Q2. No. of times students attempted in online exercise and the quiz score

- Q3. No. of learning outcomes achieved in the learning outcomes checklist and the quiz score

Q1. No. of times students attempted in online exercises and no. of learning outcomes achieved in the learning outcomes checklist

Correlations

		Attempted times in online exercise one	No. of learning outcomes achieved in the learning outcomes checklist one	Attempted times in online exercise two	No. of learning outcomes achieved in the learning outcomes checklist two
No. of Attempted times in online exercise one	Pearson Correlation	1	.05	.14	-.16
No. of learning outcomes achieved in the learning outcomes checklist one	Pearson Correlation	.05	1	-.08	.44**
No. of Attempted times in online exercise two	Pearson Correlation	.14	-.08	1	-.28*
No. of learning outcomes achieved in the learning outcomes checklist two	Pearson Correlation	-.16	.44**	-.28*	1

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Q1. No. of times students attempted in online exercises and no. of learning outcomes achieved in the learning outcomes checklist

- Significant Positive correlation, $r = .44$, $N = 63$, $p < .01$
  - ⬆ No. of learning outcomes achieved in the learning outcomes checklist one
  - ⬆ No. of learning outcomes achieved in the learning outcomes checklist two

- Significant negative correlation, $r = -.28$, $N = 78$, $p < .05$
  - ⬆ No. of learning outcomes achieved in the learning outcomes checklist two
  - ⬇ Attempted times in online exercise two

Q2. No. of times students attempted in online exercise and the quiz score

Correlations

		Attempted times in online exercise one	Attempted times in online exercise two	Quiz score
No. of Attempted times in online exercise one	Pearson Correlation	1	.14	-.14
No. of Attempted times in online exercise two	Pearson Correlation	.14	1	-.30**
Quiz score	Pearson Correlation	-.14	-.30**	1

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Q2. No. of times students attempted in online exercise and the quiz score

- Significant negative correlation, $r = -.30$, $n = 83$, $p < .01$.
  - ⬆ Online exercise two attempted times
  - ⬇ Quiz scores

- **More attempted times in online exercise two→ lower quiz scores**

Q3. no. of learning outcomes achieved in the learning outcomes checklist and the quiz score

Correlations

|	Number of yes in learning outcome checklist (exercise one)	Number of yes in learning outcome checklist (exercise two)	Quiz score
Number of answering yes in learning outcome checklist (online exercise one) — Pearson Correlation	1	.44**	-.13
Number of yes answering in learning outcome checklist (online exercise two) — Pearson Correlation	.44**	1	.07
Quiz score — Pearson Correlation	-.13	.07	1

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Q3. no. of learning outcomes achieved in the learning outcomes checklist and the quiz score

- Significant Positive correlation, **r = .44**, N = 63, **p < .01**
  - ⬆ No. of learning outcomes achieved in the learning outcomes checklist one
  - ⬆ No. of learning outcomes achieved in the learning outcomes checklist two

- **Understand more in learning outcome checklist one →**
  Understand more in learning outcome checklist two

Attempted times in online exercise one → +.14 → Attempted times in online exercise two

-.14

-.30**

+.05

Quiz score

-.28*

-.13

.07

No. of learning outcomes achieved in the learning outcomes checklist one

+.44**

No. of learning outcomes achieved in the learning outcomes checklist two
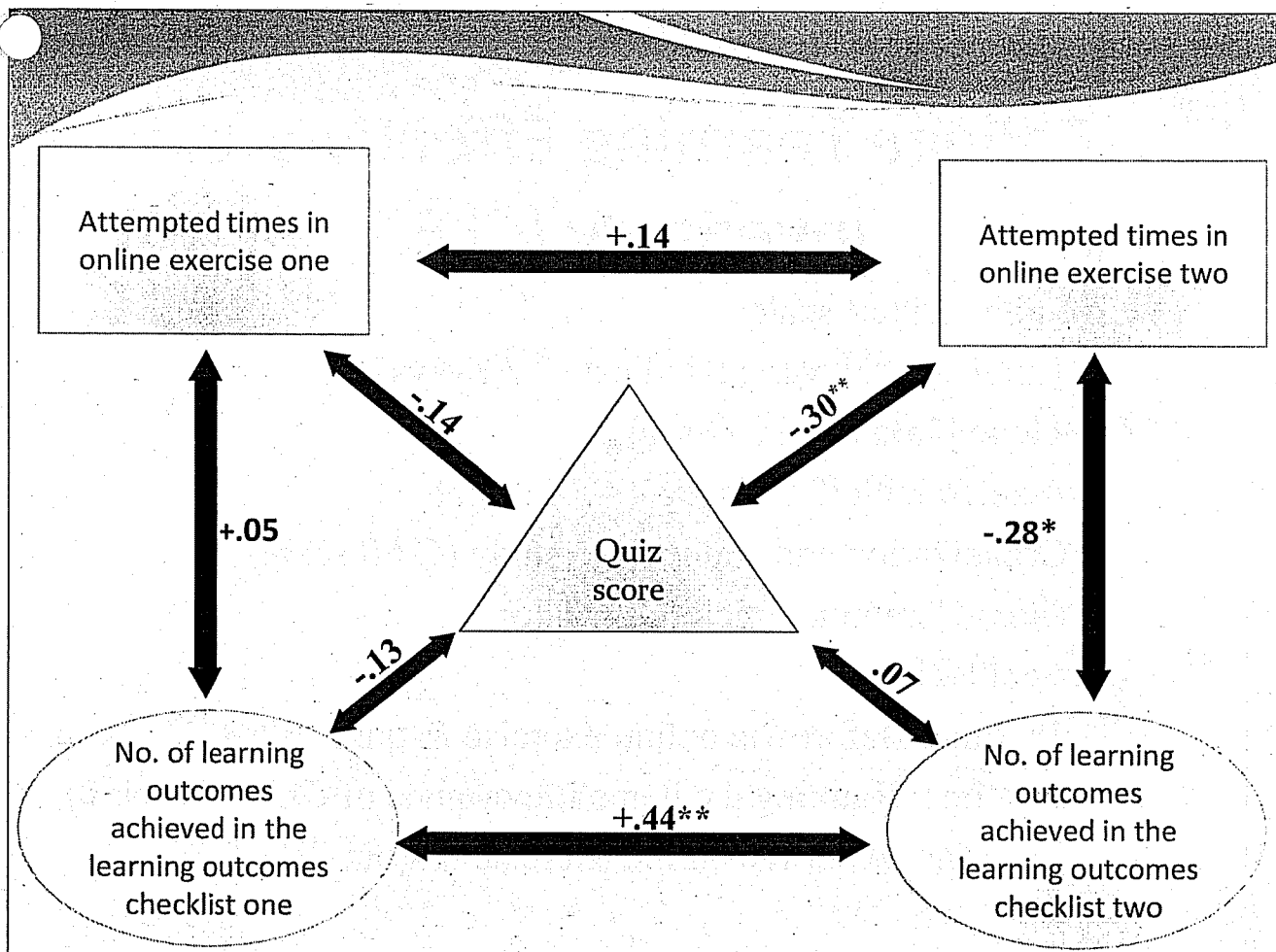
Evaluation of the College Learning Effectiveness Inventory (CLEI)

College Learning Effectiveness Inventory (CLEI)

- Five point Likert scale
  - 1 indicate "Never"; 5 indicate "Always"
- Developed into three sub-scales
  - Academic Self-Efficacy (ASE scale)
  - Organization and attention to study (OAS scale)
  - Class Communication (CC scale)
- Data collection
  - 1st time: Before the online exercise & quiz (Week 1)
  - 2nd time: Ranking the items importance of CLEI (Week 8)
  - 3rd time: After the online exercise & quiz (Week 10)

Academic Self-Efficacy (ASE scale)

I am aware of the assignments that are due in the next week. 我會留心未來一週要交的作業。	I do not turn in assignments. 我會不交作業或缺交作業。
I believe that I have the ability to complete the module. 我相信我有能力完成這科目。	I believe it is possible for me to make good grades. 我相信我有表現出良好成績的潛能。
I have goals that I want to achieve by studying in this module. 我具有想要透過這科目來達成的目標。	I turn in assignments only partially completed. 我會交出不完整的作業。
I doubt that I can make the effort to finish the module. 我懷疑自己能否全力以赴地完成這科目。	I have high academic expectation of myself. 我對自己的學業有高度的期待。
Gaining knowledge is important to me. 我會把知識的獲得看得很重要。	I am determined to do what it will take in order to succeed with my goals. 我會成了成功達成我的目標而堅定地採取必要的行動。

Organization and attention to study (OAS scale)

I organize my time so that I have plenty time to study. 我會安排時間讓自己有充裕的時間可以讀書。	I find my attention wandering in class. 我發現在課堂上我的注意力會恍惚或跑掉。
I make study goals and keep up with them. 我會設定讀書目標，並且迎頭去追求這些目標。	I break big assignment into manageable pieces. 我會把龐大的作業劃分成容易辦好的小單元去做。
I find myself daydreaming when I study. 我發現自己會在念書時做白日夢。	I cannot get into studying even if there is nothing else to do. 即使沒有其他事情可做，我也無法專注於課業當中。

Class Communication (CC Scale)

I avoid speaking in class. 我在課堂上會逃避發言。	I ask questions in class. 我會在課堂上發問。
I dread the thought of getting test results in certain classes. 我害怕去想到某些科目的考試結果。	I cannot seem to express my ideas on paper very well. 我似乎無法在書面報告上十分良好地表達出自己的想法。

Questions to be investigated

Q1. The difference of Academic Self-efficacy, Organization and attention of study, and class communication among three classes

Q2. The difference of Academic Self-efficacy, Organization and attention of study, and class communication in the beginning and the end of the module

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Q1. The difference of Academic Self-efficacy, Organization and attention of study, and class communication among three classes

ANOVA

		Mean	F
ASE scale after	Class A	3.38	1.11
	Class B	3.24	
	Class C	3.22	
OAS scale after	Class A	2.57	1.84
	Class B	2.79	
	Class C	2.76	
CC scale after	Class A	2.99	1.86
	Class B	3.10	
	Class C	2.84	
Total score after	Class A	3.05	.25
	Class B	3.08	
	Class C	3.01	

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Class difference for 3 scales (ASE scale, OAS scale& CC scale)

ANCOVA for ASE scale		
Source	F	Partial Eta Squared
Classes	1.19	.03

ANCOVA for OAS scale		
Source	F	Partial Eta Squared
Classes	1.44	.04

ANCOVA for CC scale		
Source	F	Partial Eta Squared
Classes	1.87	.05

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

- There is no significant difference among three classes for ASE scale, OAS scale & CC scale
- Teaching style didn't affect the score on ASE scale, OAS scale & CC scale significantly

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Q2. The difference of Academic Self-efficacy, Organization and attention of study, and class communication in the beginning and the end of the module

Paired sample t-test

	Mean	t-value
ASE scale before	2.92	-5.22**
ASE scale after	3.28	
OAS scale before	3.03	4.32**
OAS scale after	2.68	
CC scale before	3.01	.49
CC scale after	2.98	
Total score before	2.97	-.86
Total score after	3.03	

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Interpretation

- Academic Self-Efficacy
  - Post-test scores higher than Pre-test scores (.036 greater)
  - The academic self-Efficacy was **increase** after online exercises & quiz

- Organization and attention to study
  - Post-test scores lower than Pre-test scores (0.35 lower)
  - Student organization and attention to study **decrease** after online exercise & quiz

Interpretation

- Organization and attention decrease
  - The end of the semester
    - Placement, project
  - Attention is situational
    - E.g. affected by emotion
    - Not as consistency as self-efficacy
  - Surface learning & Deep learning

Evaluation of the College Learning Effectiveness Inventory (CLEI) by using q-sort method

Academic Self-Efficacy (ASE scale)

A1 I do not turn in assignments.	A1 留心未來一週要交的作業。
A2 I do not turn in assignments.	A2 不交作業或缺交作業。
A3 I believe that I have the ability to complete the module.	A3 有能力完成這科目。
A4 I believe it is possible for me to make good grades.	A4 表現出良好成績的潛能。
A5 I have goals that I want to achieve by studying in this module.	A5 期望透過這科目的學習來達成學習目標。
A6 I turn in assignments only partially completed.	A6 交出不完整的作業。
A7 I doubt that I can make the effort to finish the module.	A7 懷疑自己能否全力以赴地完成這科目。
A8 I have high academic expectation of myself.	A8 對自己的學業有高度的期望。
A9 Gaining knowledge is important to me.	A9 把知識的獲得看得很重要。
A10 I am determined to do what it will take in order to succeed with my goals.	A10 達成目標而堅定地採取必要的行動。

Items ranking in ASE scale

Part A questions			
Questions	Mode (The most frequent ranking)	Second frequent ranking	Third frequent ranking
A1	**6 (24)**	0,4,5 (6)	1,3(3)
A2	**1 (22)**	0(20)	2(5)
A3	0(25)	**5 (10)**	3,4(4)
A4	0(32)	4(6)	3(4)
A5	0(16)	**5(10)**	4(9)
A6	0(28)	1(10)	**2(8)**
A7	**3 (13)**	0(11)	2(6)
A8	0, 4 (10)	2(9)	3(9)
A9	0(13)	3(8)	4,6(7)
A10	0(23)	4(8)	5(7)

Items ranking in ASE scale

Rank1	I do not turn in assignments. A2 不交作業或缺交作業。
Rank 2	I turn in assignments only partially completed. A6 交出不完整的作業。
Rank 3	I doubt that I can make the effort to finish the module. A7 懷疑自己能否全力以赴地完成這科目。
Rank 4	I have high academic expectation of myself. A8 對自己的學業有高度的期望。
Rank 5	I believe that I have the ability to complete the module. A3 有能力完成這科目 I have goals that I want to achieve by studying in this module. A5 期望透過這科目的學習來達成學習目標。
Rank 6	I am aware of the assignments that are due in the next week. A1 留心未來一週要交的作業。

Most frequent Rankings	1	2	3	4	5	6
Questions	A2	A6	A7	A8	A3 & A5	A1

Organization and attention to study (OAS scale)

B1 I organize my time so that I have plenty time to study.	B1 安排時間讓自己有充裕的時間可以讀書。
B2 I find my attention wandering in class.	B2 在課堂上的注意力會跑掉。
B3 I make study goals and keep up with them.	B3 設定讀書目標，並且迎頭去追求這些目標。
B4 I break big assignment into manageable pieces.	B4 把龐大的作業劃分成容易辦好的小單元去做。
B5 I find myself daydreaming when I study.	B5 自己會在念書時做白日夢。
B6 I cannot get into studying even if there is nothing else to do.	B6 做課業時，即使沒有其他事情可做，也無法專注於課業當中。

Items ranking in OAS scale

Part B questions		
Questions	Mode (The most frequent ranking)	Second frequent ranking
B1	1(13)	3(10)
B2	0(12)	3,4(10)
B3	0(25)	2(9)
B4	0(18)	4(11)
B5	1(14)	0(11)
B6	0(17)	3(10)

Items ranking in OAS scale

Rank1	B5 I find myself daydreaming when I study. B5 我發現自己會在念書時做白日夢。
Rank 2	B3 I make study goals and keep up with them. B3 我會設定讀書目標，並且迎頭去追求這些目標。
Rank 3	B2 I find my attention wandering in class. B2 我發現在課堂上我的注意力會恍惚或跑掉。 B1 I organize my time so that I have plenty time to study. B1 我會安排時間讓自己有充裕的時間可以讀書。
Rank 4	B4 I break big assignment into manageable pieces. B4 我會把龐大的作業劃分成容易辦好的小單元去做

Most frequent Rankings	1	2	3	4
Questions	B5	B3	B2 & B1	B4

Class Communication (CC Scale)

C1 I avoid speaking in class.	C1 在課堂上會逃避發言。
C2 I ask questions in class.	C2 會在課堂上發問。
C3 I dread the thought of getting test results in certain classes.	C3 想到某一些科目學習的考試結果，感到很擔心。
C4 I cannot seem to express my ideas on paper very well.	C4 未能在書面報告上清晰表達自己的想法。

Items ranking in CC scale

	Part C questions	
Questions	Mode (The most frequent ranking)	Second frequent ranking
C1	**1(18)**	2(13)
C2	0 & 1 (14)	2(13)
C3	**2(20)**	3(17)
C4	0	**3(12)**

Items ranking in CC scale

Rank1	C1 I avoid speaking in class. C1 我在課堂上會逃避發言。
Rank 2	C3 I dread the thought of getting test results in certain classes. C3 我害怕去想到某些科目的考試結果。
Rank 3	C4 I cannot seem to express my ideas on paper very well. C4 我似乎無法在書面報告上十分良好地表達出自己的想法。

Most frequent Rankings	1	2	3
Questions	C1	C3	C4