Preparing pre-service teachers in the new learning environment: challenges and trends

Early Childhood Education Department
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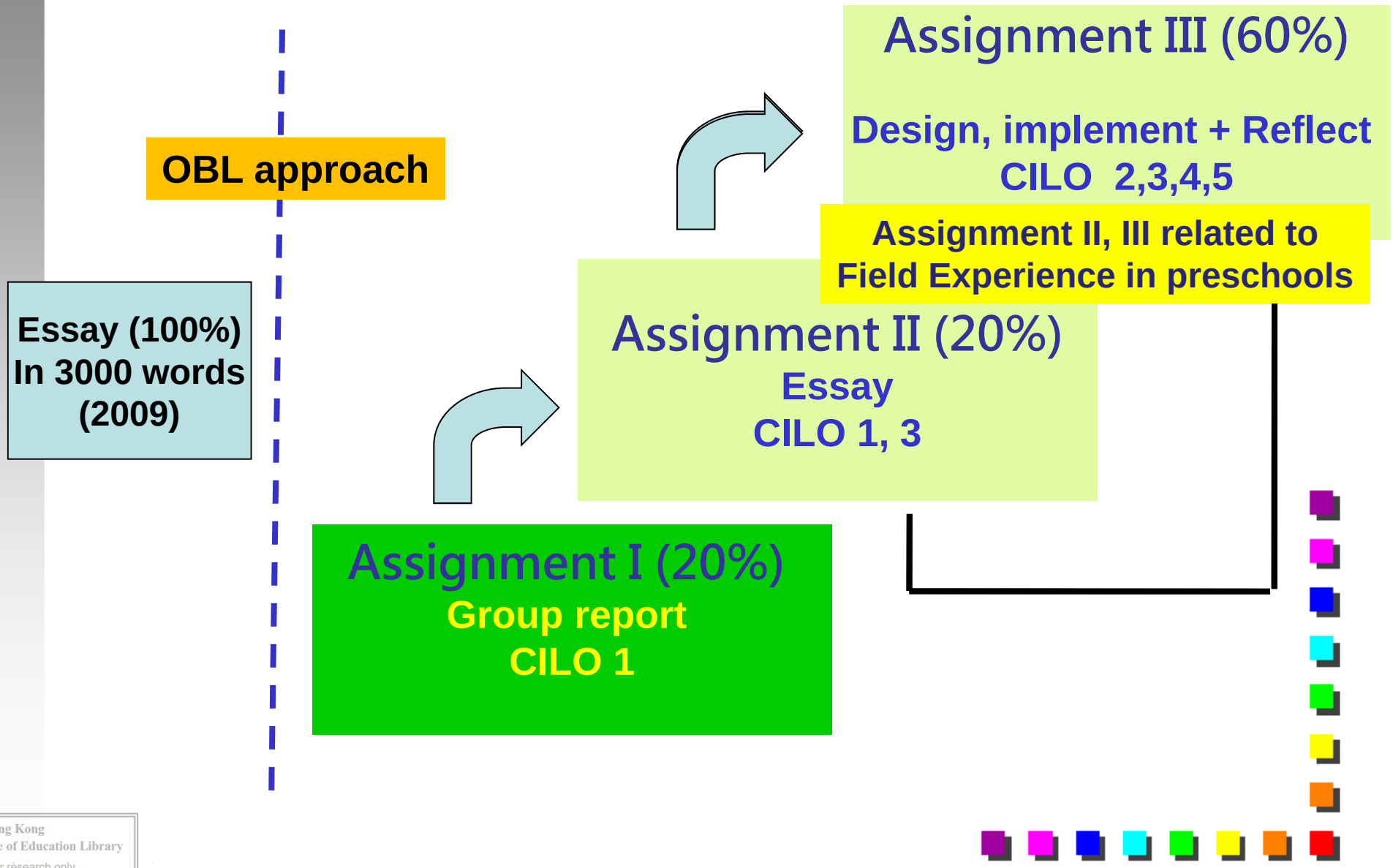
Course name: The Young Child in a Technological World

Programme Title : Bachelor of Education (Honours) (Early Childhood Education)

The Young Child in a Technological World



CILO 1

Describe the diversity new technologies in young children's daily living environment.

Assignment 1: Group report（20%）

Explore technologies in children's daily living environment.

Video in 2010

Assignment I (20%)

Explore & Categorize

- Community
- Society

	Hong Kong Public Library
	MTR station
	Housing estate
	Hong Kong Science Museum
	Shopping mall
	Jumpin GYM USA
	Home
	Ocean Park
	Disneyland……

Assignment II (20%)

New learning context in preschool classrooms

CILO1: Describe the diversity new technologies in young children's daily living environment.

CILO3: Analyze the role of kindergarten teacher in facilitating children's learning using ICTs.

Assignment II
(A small essay + Checklist)

ICT items	ICT-usage	Amount	Location	Availability for student teacher	
				Yes	No
Computer	Small group activities, Computer activities			✓	
Printer	Teaching purpose				X
CD	Music activities			✓	
DVD	Music activities; Whole group activities			✓	
Television	Music activities; Whole group activities; Other school activities			✓	
Speaker	Whole group activities			✓	
Projector	Whole group activities	1 per classroom	All classrooms	✓	
Computer	Small group activities Whole group activities	1 per classroom	All classrooms	✓	
Other					

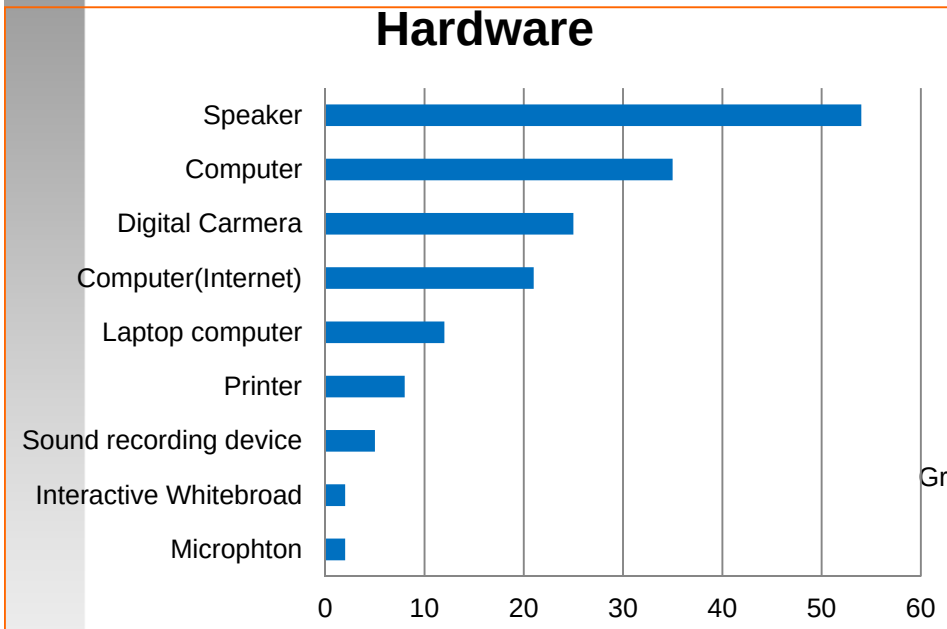
Learning

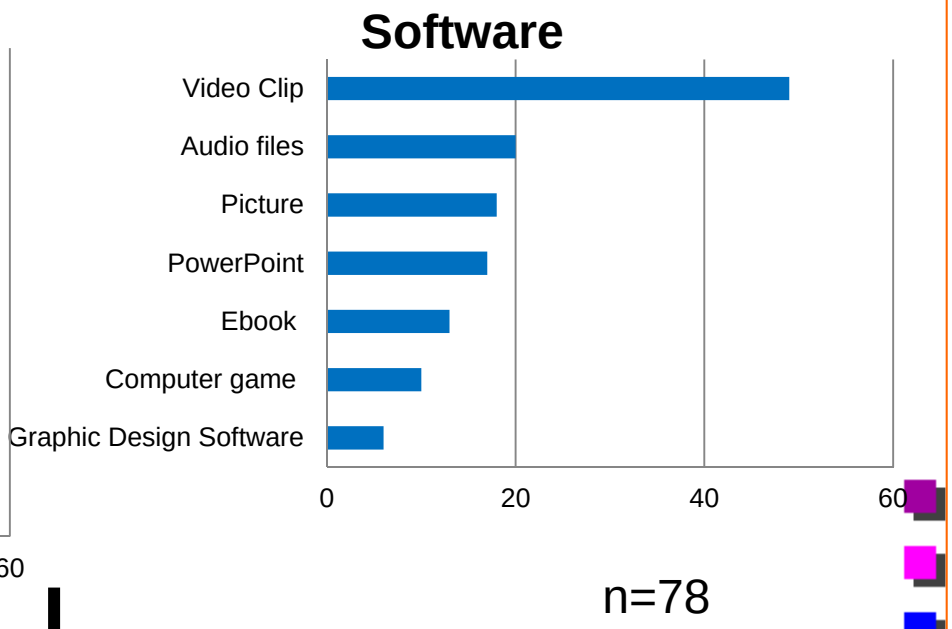
- **Observe**
- **Identify**
- **Analyze**

Prepare for the Assignment III

Assignment III (60%)

Design & Implement an ICT-related activity + **Reflect**





n=78

- Explore ICT infrastructure in the school contexts
- Explore the possibility to adopt ICT in the teaching practicum

Reflection

- Positive feedbacks from pre-service teachers

Obstacles:

School level:

- School-based Curriculum
- School-based ICT support

Pre-service teacher's level:

- Pre-service Teacher's Technological Pedagogical Content Knowledge (TPACK)

Follow-up multiple case studies

15 pre-service teachers (PTS) in seven local preschools

- Bachelor of Early Childhood Education (ECE)
- Teaching practicum
- Local preschools (Child Care Centre/ Kindergarten)

All private run:

Child Care Centre (0 to 3 years)
Kindergarten (3 to 6 years)
Kindergarten cum Child Care Centre (2 to 6 years)

Overview of seven preschool settings

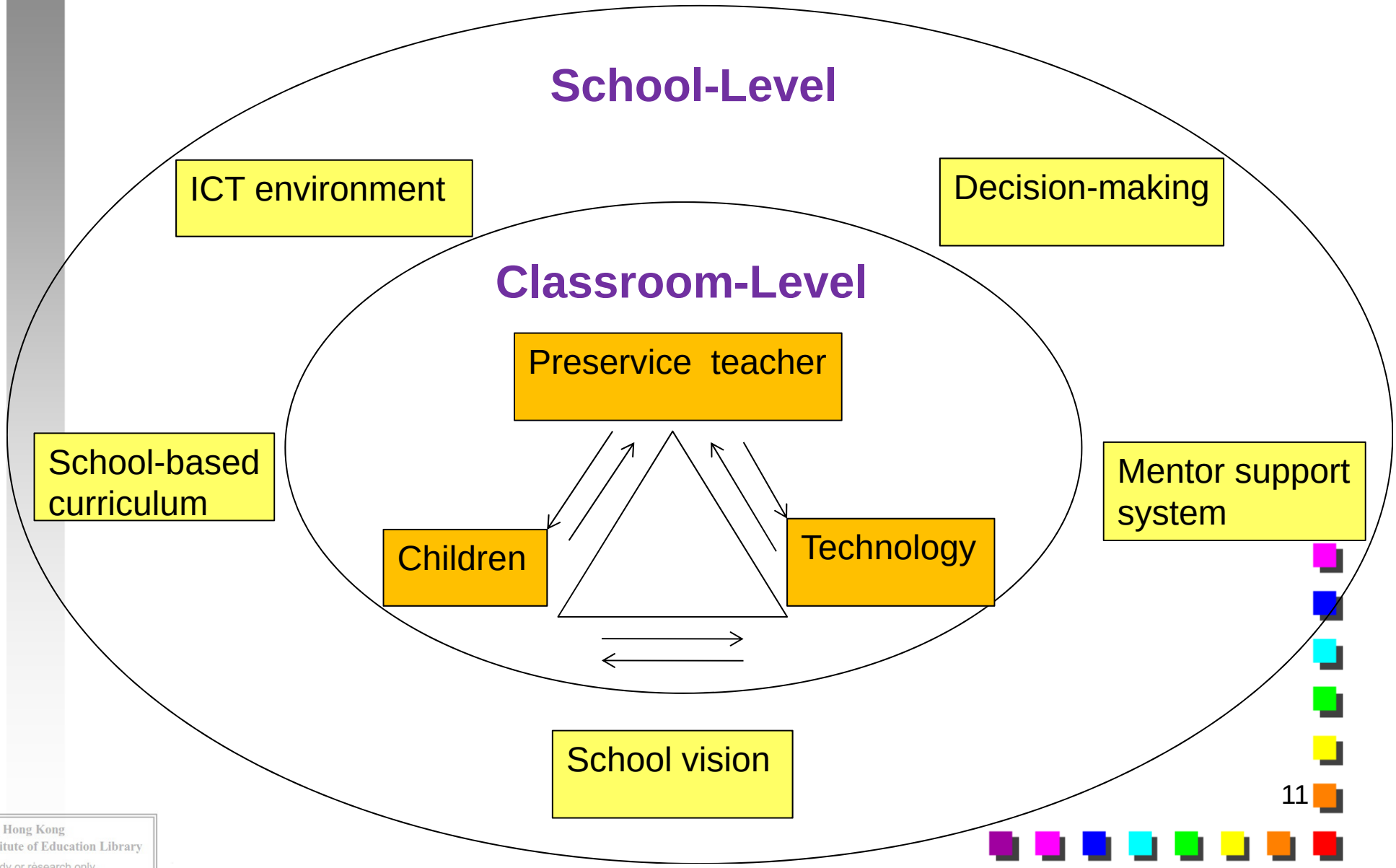
	School 1	School 2	School 3	School 4	School 5	School 6	School 7
Number of participants	2	2	1	3	2	3	2
Service sectors	KG (Full-day)	CCC (Full-day)	CCC/KG (Full-day)	CCC/KG (Half-day)	KG (Half-day)	KG (Full-day)	KG (Half-day)
School-based curriculum	Tailor Teaching package	Design SBCD	Tailor Teaching package	Design SBCD (Story)	Design SBCD	Tailor Teaching package	Design SBCD
Major curriculum track	Theme-Based	Project-based	Theme-Based	Theme-Based	Theme-Based+ Project	Theme-Based	Theme-Based+ Project
ICT environment (Computer)	Computer Room Laptop	Public Computer Corner	Public Computer Corner	Computer Corner/ Projector Laptop	Computer Corner/ Projector	Computer Room Computer Corner/ Projector	Public Computer Corner Computer corner

CCC/KG: Kindergarten cum Child Care Centre

KG: Kindergarten CCC: Child Care Centre

Conceptual framework

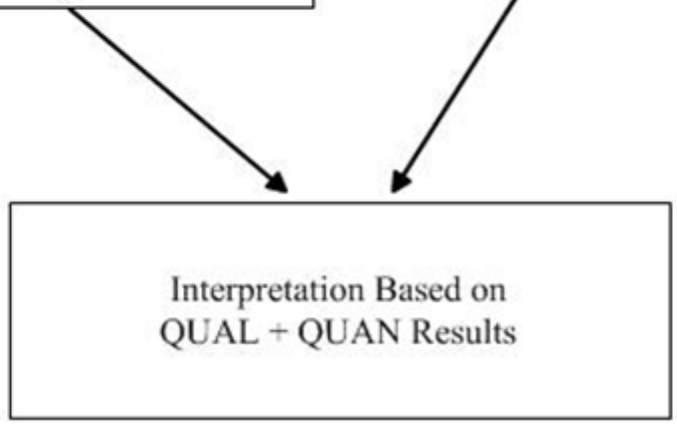
Six school-level of factors are identified:



Data collection procedures

Qualitative	
Classroom Observation (Interview 1)	May, 2011
Classroom Observation (Interview 2)	May – June, 2011
Documentation Analysis	June – August, 2011
Interview 3	September, 2011

Quantitative	
Survey	June, 2011



Data analysis

School level indicators	Data resources	Teacher level indicators	Data resources
School-based curriculum	-Survey -Document	ICT competence	-Survey -Interview
Teacher's decision making in curriculum	-Survey -Interview	ICT-related pedagogical approach	-Survey -Interview -Document
ICT infrastructure	-Survey -Interview -Classroom observation	• 7 school conditions • 15 pre-service teachers • 30 days teaching practicum: Collect total 1152 learning activities	
Mentor's support	-Survey -Interview -Classroom observation		
School ICT vision	-Document -Interview		

Inductive way

Research question 1

To what extent and in **what ways** is technology used in pre-service teachers' teaching practicum, and **what ICT-related pedagogical approaches** are applied?

Sources of evidence: 1152 learning activities

- ICT usage
- Pedagogical approaches
- ICT-related pedagogical approaches

Research question 1

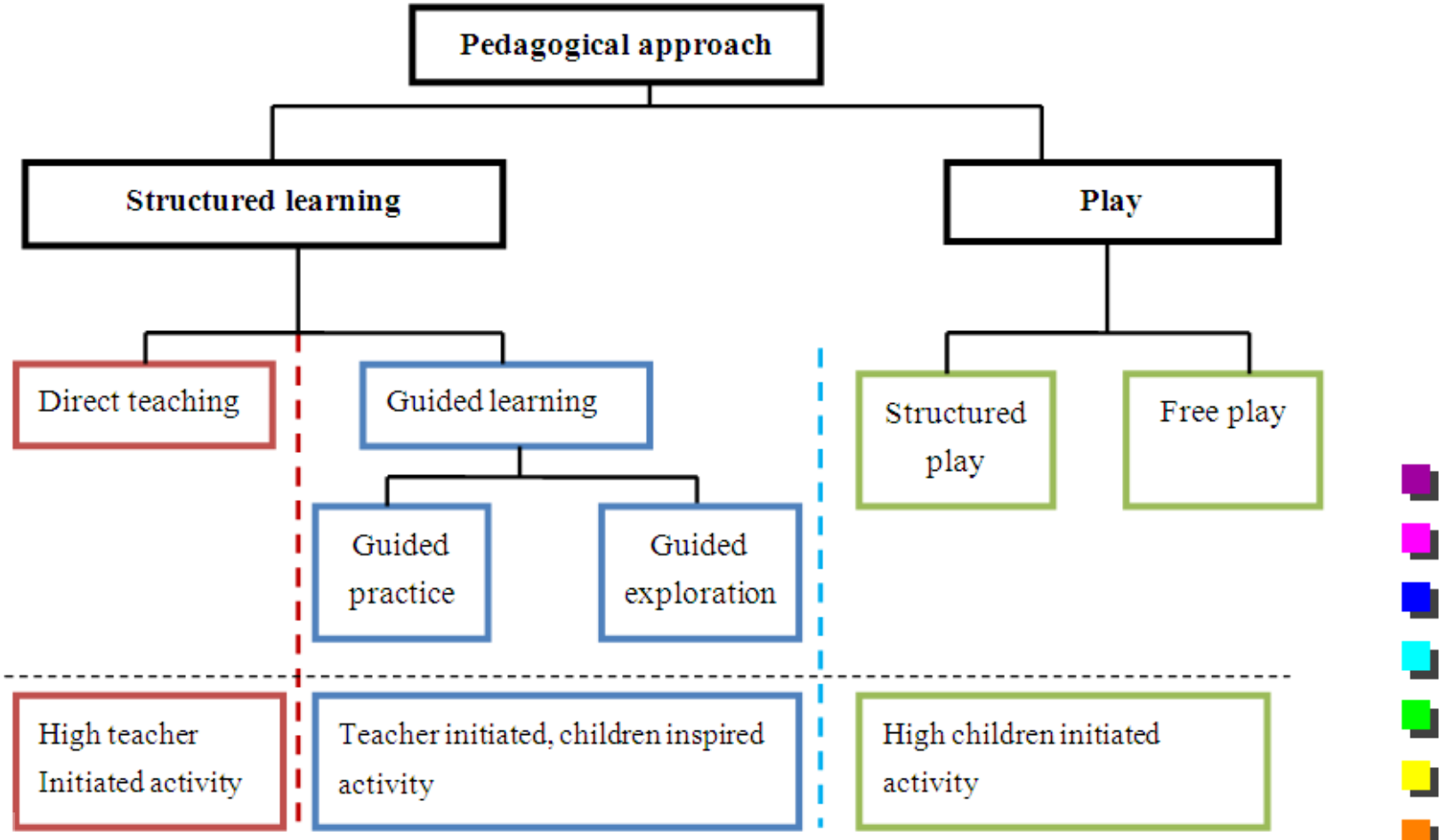
To what extent and in **what ways** is technology used in pre-service teachers' teaching practicum?

ICT Equipment Adopted in the Teaching Practicum

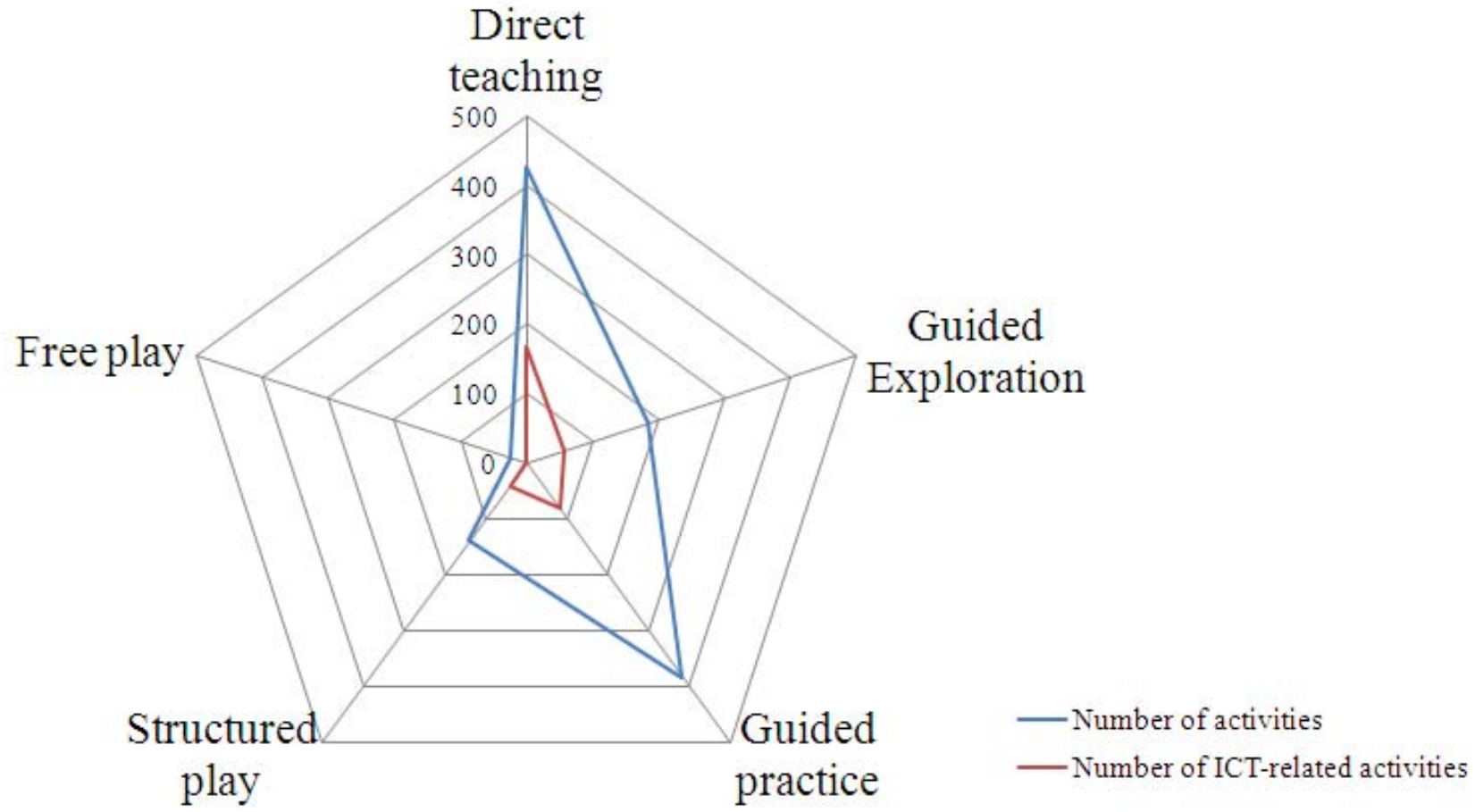
ICT Equipment	Number and Percentage of Use	
1. Desktop computer	334	73.56%
2. CD player	75	16.52%
3. Digital camera	19	4.19%
4. Laptop computer (Notebook)	14	3.08%
5. Voice recorder	7	1.54%
6. Digital toys	5	1.10%

What ICT-related pedagogical approaches are applied?

Analyzing the pedagogical approaches from the collected learning activities

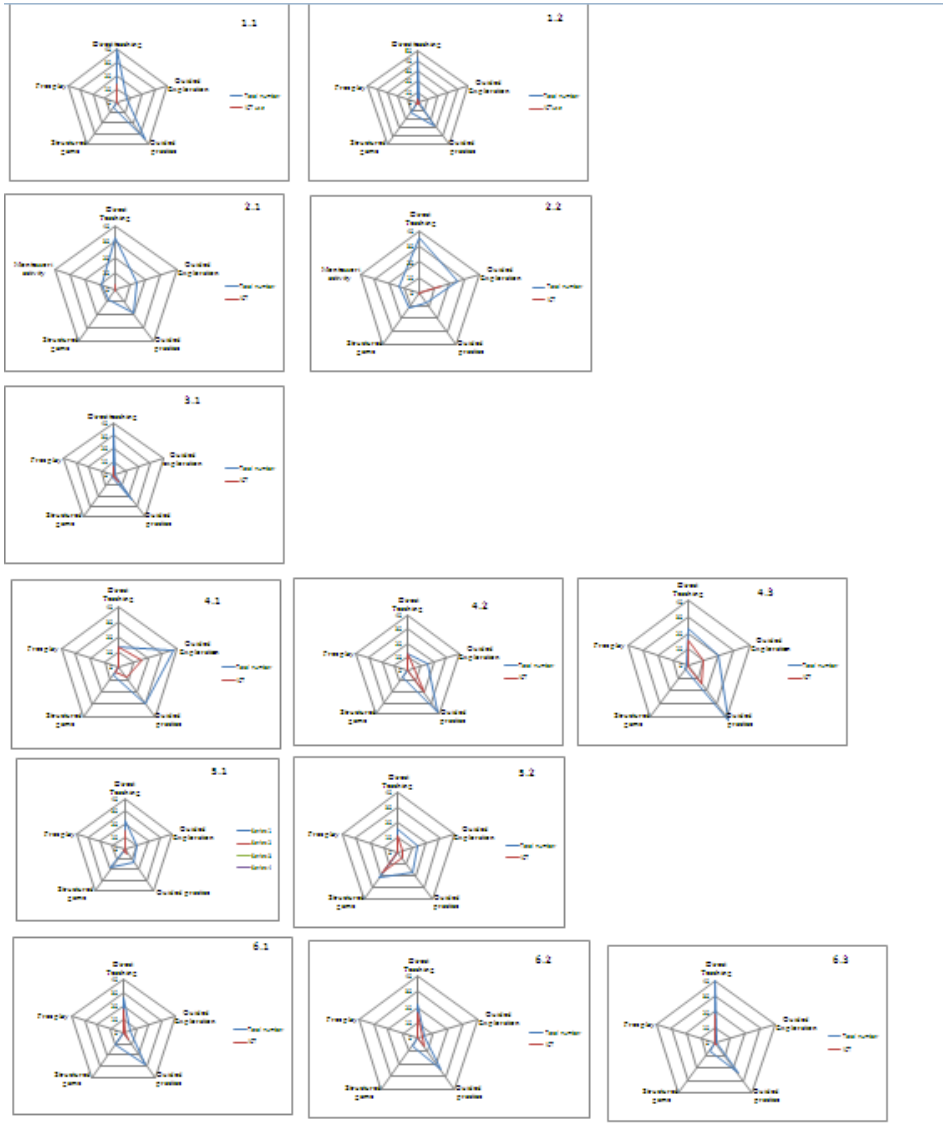


ICT adoption: 15 pre-service teachers



Compare 15 pre-service teachers

- See the attachment



Findings

Structured school-based curriculum

- Schedule
- Learning content
- **Group size(large group)**

Limited ICT infrastructure

Limited Technological Pedagogical Content Knowledge(TPACK)

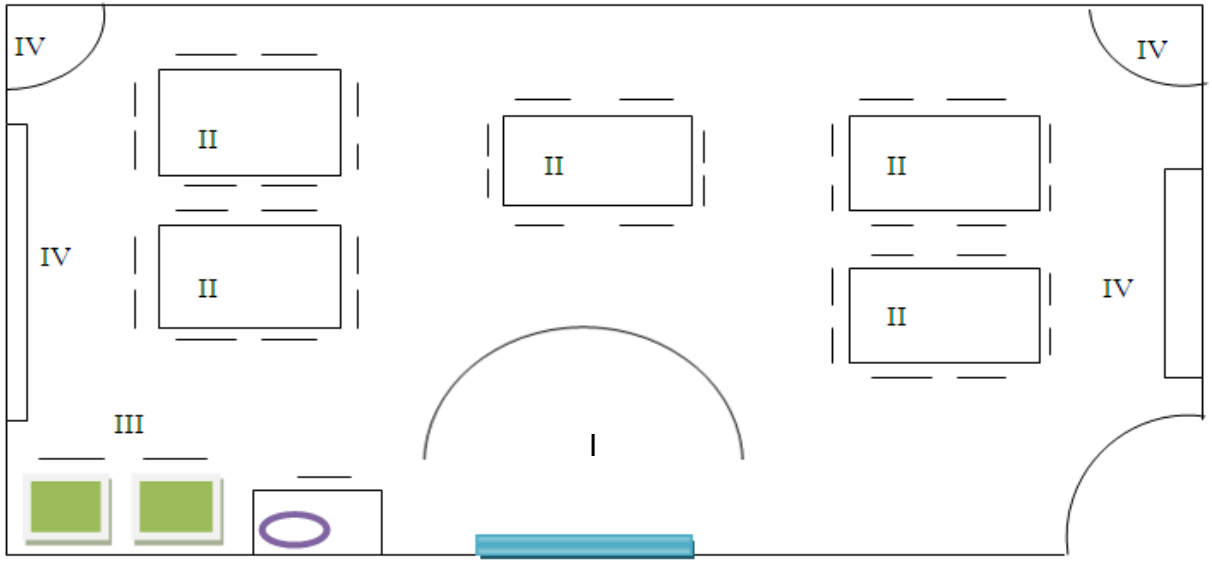
Schedule of seven preschools

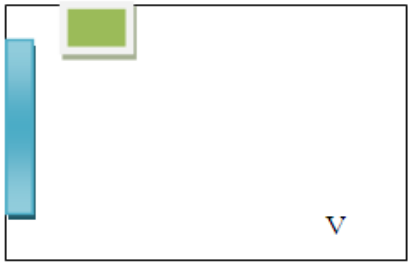
School	Large group activity Minutes	Small group activity Minutes	Individual work Minutes	Free choice activity Minutes	Caring and transition Minutes
1	155		30#		220
2	150	30#			245
3	100	30	30		255
4*	75	30	30	30	25
5*	130	45#			15
6	115	40#	50	40#	230
7*	105	40#			35

Note. *Schools 4, 5, 7 were half-day programs.

#Schools 1, 2, 5, 6, 7 arranged different types of activities within the same timeslot

Typical classroom setting





Desk computer

Projector + fixed projector screen

CD-player

(I) Classroom teaching corner
(II) Group table
(III) Computer corner
(IV) Learning corner and
(V) Other multipurpose space

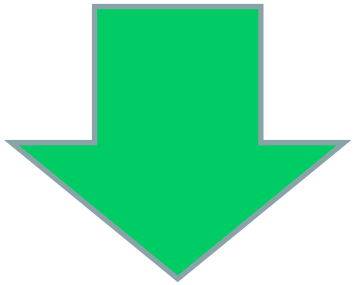
New change

A new learning task:

Create a “digital kindergarten”

ICT infrastructure

Classroom settings



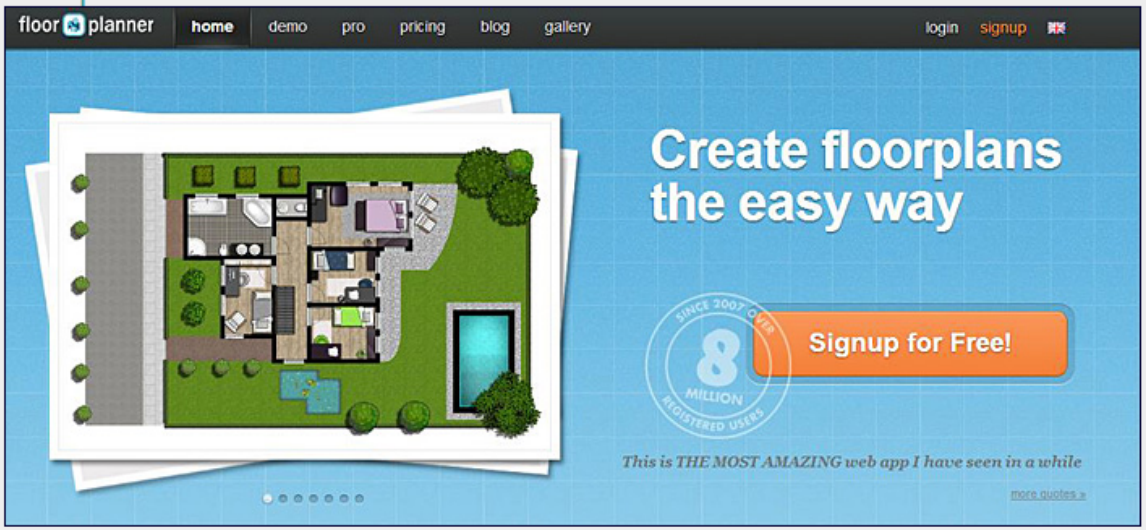
- Explore
- Collaborate
- Create
- Demonstrate
- Design

- **Empower early childhood educator's multimodal learning experience (Faculty-level TDG 2013-2014)**
- PI: Cheng Yuen Ling, Elaine, Hu Xinyun, Annie
- Co-PI: Han Chung Wai, Christina, Leung Wai Man, Vivienne
- http://moodle.ied.edu.hk

Using a dynamic Web Application:
Floor planner

RESOURCES
第2課資料

Floorplanner



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