

RESEARCH PROPOSAL DEFENSE



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

RESEARCH UNIVERSITY

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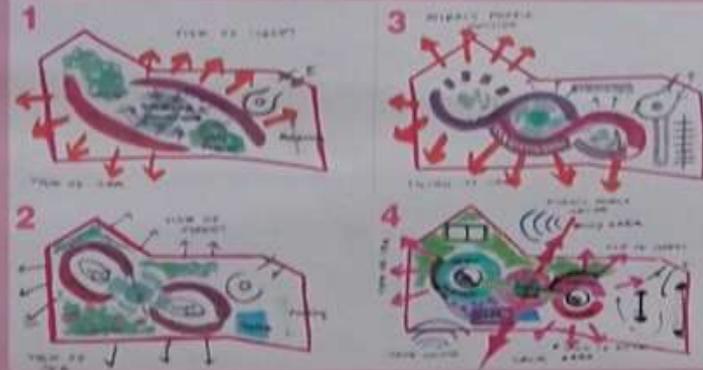
Assoc. Prof. Dr. Ismail Said
Dr. Khairul Anwar Mohamed Khaidzir

TUESDAY. 24TH DECEMBER 2013.

FORM MAKING



DESIGN PROCESS

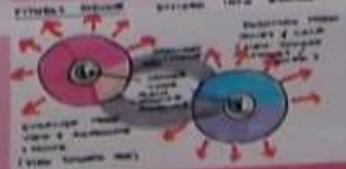
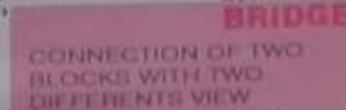
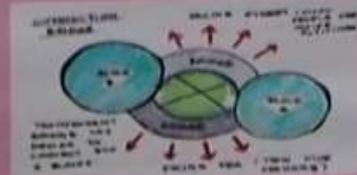
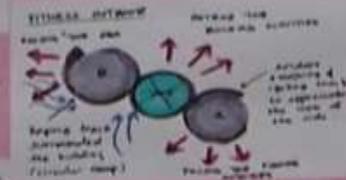
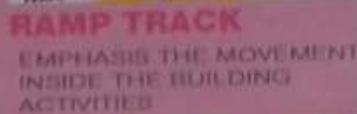


CHARACTER OF SPACES



OPEN AMPHITHEATRE

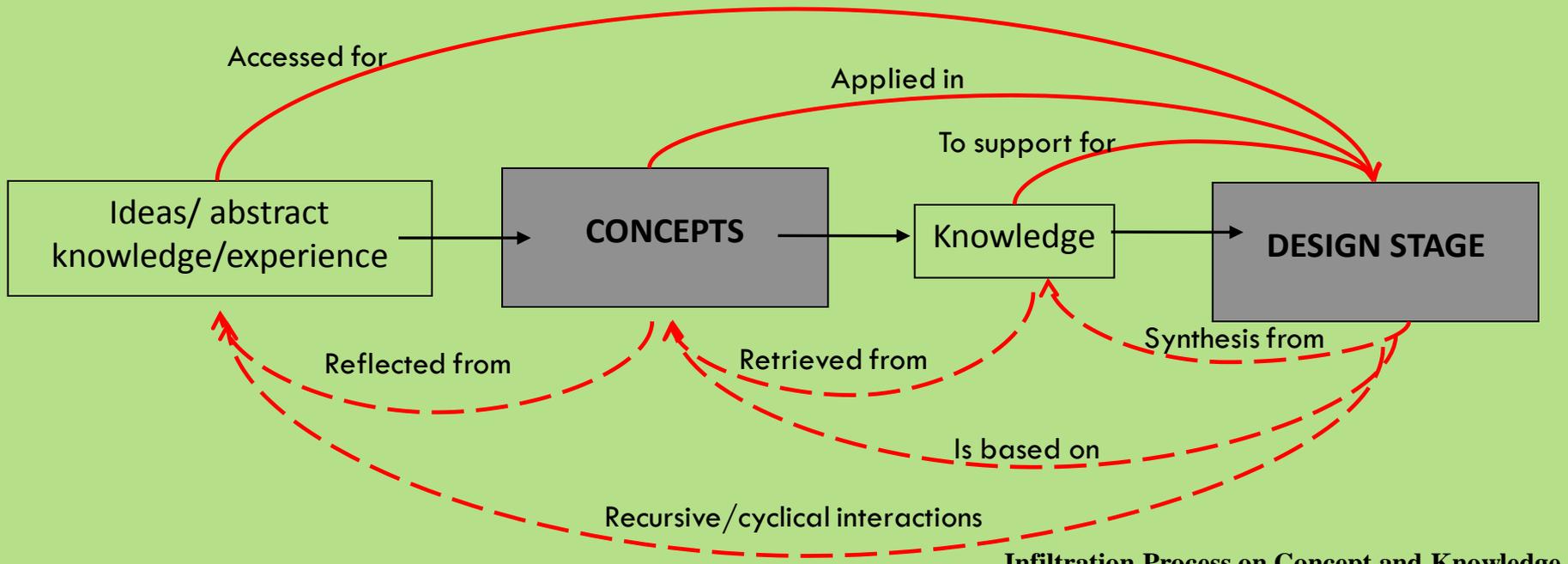
INTERACTION BETWEEN OUTSIDE & INSIDE PEOPLES



CONCEPTUALISATION OF DESIGN
PROCESS ON ARCHITECTURE STUDENTS IN
UNIVERSITI TEKNOLOGI MALAYSIA

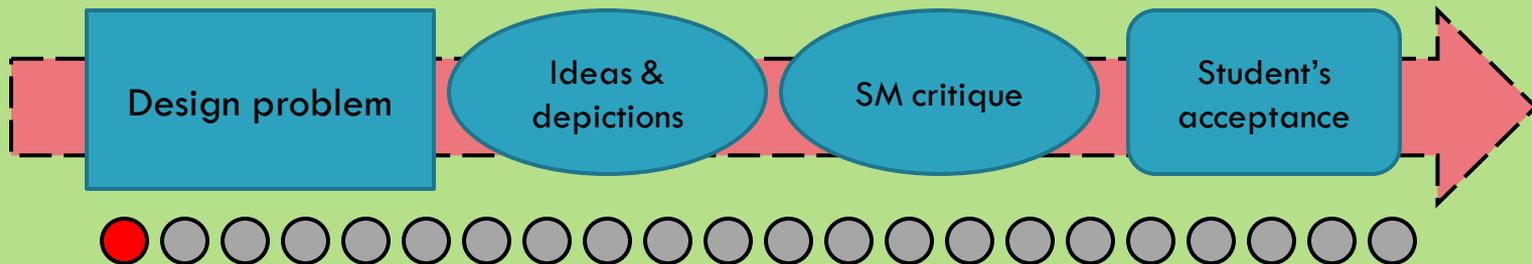
1. Background of the study

The conceptualisation in design learning is...

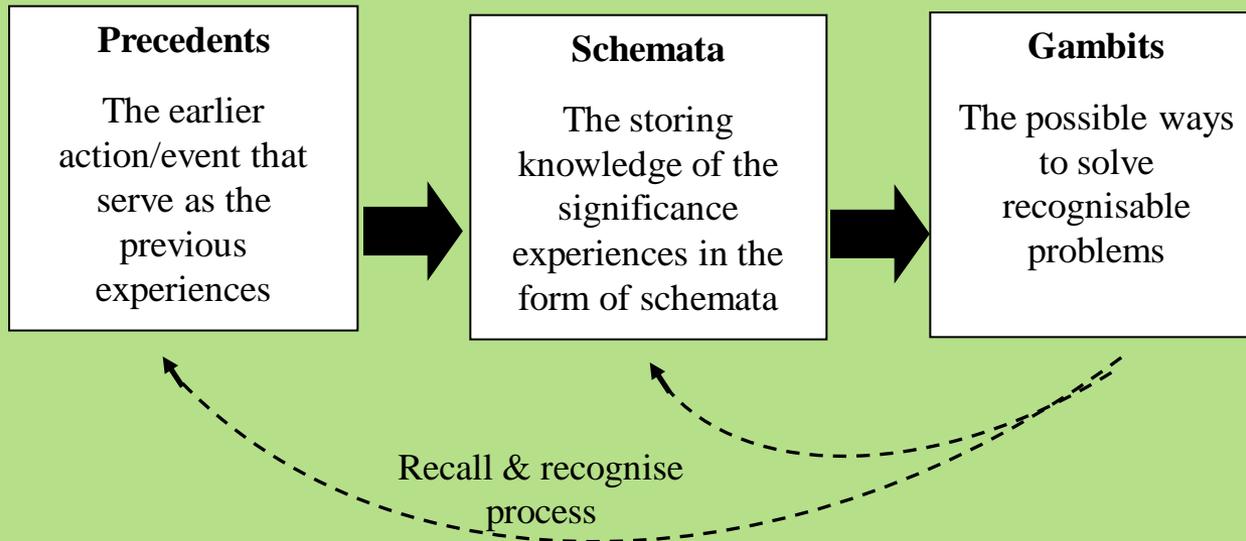


Infiltration Process on Concept and Knowledge

Source: Emir & Duzgun (2008)



1. Background of the study (cont.)



Lawson's Theory on Episodic Memory on Design Knowledge

Adopted: Lawson (1997; 2004a; 2006)



2. Problem Statement

- In Malaysia, this conceptualisation study of the design process in design learning particularly is **minimal or almost none** due to the present curriculum based on functional and aesthetic learning method rather than explicate the implicit knowledge in the whole design process.
- This implicit knowledge no doubt is important in the design process, but yet **it remains implicit and left to be ignored** in its own world.
- As well, there is **no such explicit framework for the design educators** to clearly understand what is going on with their students and help the students with an explicit cautious, knowledge and structural.



2. Problem Statement (cont.)

Major studies of design education	Concern and findings	Setting (Context)	The parameter being measured
(Hassanpour, Utaberta, Zaharin, & Abdullah, 2011; Hushin & Rahim, 2005; I. Rao & Arbi, 2006; S. . Rao & Arbi, 2003), Zuhairuse & et al. (2007)	Concern: Curriculum assessment & learning outcomes on studio pedagogy, evaluation system & student's performances	First year and second year architecture students in UKM (Malaysia) Final year architecture in UM (Malaysia)	<ul style="list-style-type: none"> • Student's design knowledge • Leadership • F.Y.E perceptions • Types in studio evaluation system • Design approach
(Higgins, Aitken-Rose, & Dixon, 2009; Kurt, 2011; Peel, 2006; Tucker & Reynolds, 2006)	Concern: Design pedagogy of methods and implementation, and its effects on cooperative learning, perceptions & enhancement on environmental design learning	Postgraduates in planning & architecture program (N. Zealand) Research Assessment Exercise - RAE (UK) Third year architecture (Australia)	<ul style="list-style-type: none"> • Pedagogical approach • Threats & dilemma to studio learning • Teaching-research links • Teaching methods • Characteristics of study
(Goldschmidt, 1991, 2003; Oxman, 1999, 2004) (Sachs, 1999; Uluoglu, 2000)	Concern: Implicit knowledge of conceptual design thinking and evidence in design learning in the form of sketches, drawings, student's strategies in reasoning as a comparison between the novice students and expert designers.	Graduate of industrial design and architecture programs (Israel) Architecture graduates (Turkey)	<ul style="list-style-type: none"> • Cognitive approach • Modelling skills • Modelling representation • Sketching and drawing activity • Types of sketches • Design reasoning • Visual analogy



2. Local statistics on institutions offered architectural courses (cont.)

Source	Universities	Remarks
5 main universities	UTM, USM, IIUM, UiTM, UPM	Bachelor BSc. & Dip in UTM & UiTM
Other universities	UM, UKM, KUTPM,	Bachelor
Politeknik	Politeknik Ungku Omar, Port Dickson POLIMAS	Dip.
Kolej Kemahiran Tinggi MARA	KKTM Pasir Mas	Dip.
Kolej Komuniti (JPKK, KPTM)	There are 38 kolej komuniti, more than 20 offered Sijil in Archi.	Sijil Modular Kebangsaan (of 6 months training)
Private College	Taylor's, LimKokWing, UCSI, UTAR	BSc. & Dip.



3. Research Gap

- This study strikes to investigate the conceptualisation of design process among students that integrates the design concepts, skills, and knowledge been ignored and left to be gained implicitly through experience in the studio project.
- There is an empty gap on discussions of the cognitive thinking and how its development has helped students in their design process.



4. Research Aim

To explore the student's conceptualisation of the design process in studio project and its effects on student's formation of concepts in design activities.



5. Research Objectives – Research Questions

Research Objective	Research Question
1. To explore the characters of conceptualisation activity that exists in the student's design process of a studio project	<ol style="list-style-type: none">i. What are characters exist in the student's conceptual design process in studio project?ii. What are differences in the conceptual process between different academic pools in the studio?
2. To track the student's conceptual through their actions and learning preferences in the design project	<ol style="list-style-type: none">i. How students from different academic pools perceived conceptualisation in their design process?ii. Are the differences in academic background influence student's concepts and design activities in mode of learning in a studio project?
3. To find out the framework of conceptual design that permits student's capability for design learning	<ol style="list-style-type: none">i. What is the suitable framework in a design process that permits student's design learning in UTM?

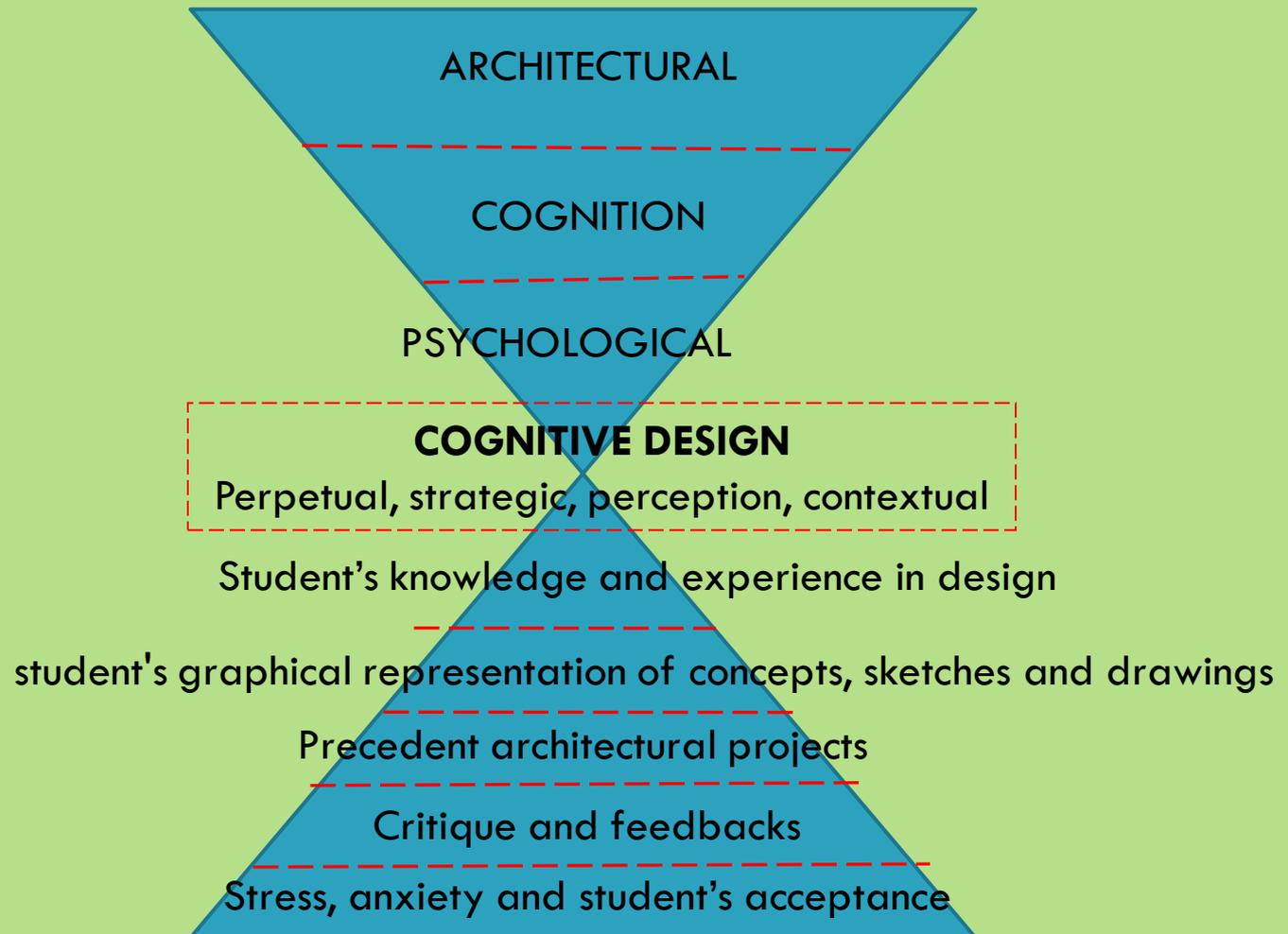


6. Significance of Study

Significance	Implication
It adds that design knowledge, previous design experiences, a cyclic design process and critiques play an important role in conceptual design.	The cognitive content of design are noted as explicit learning without being ignored and left behind.
It accentuate the students' capabilities play important role in design learning, as it is a critical tool in subsequent the student's thinking and direction in their graphical representations.	It should not be neglected that students perceived different set by different ways of learning.
It would reveal the properties, attributes and key dimensions that support student's conceptualisation process in a design studio.	Add an explicit framework on how students conceptualise design in design projects.
An extension for the design educators in the teaching and learning in the disciplines of design learning.	It offers opportunity for the design educators for explicit framework and ways to assist the students to be effective in design learning process.



7. Scope of Study

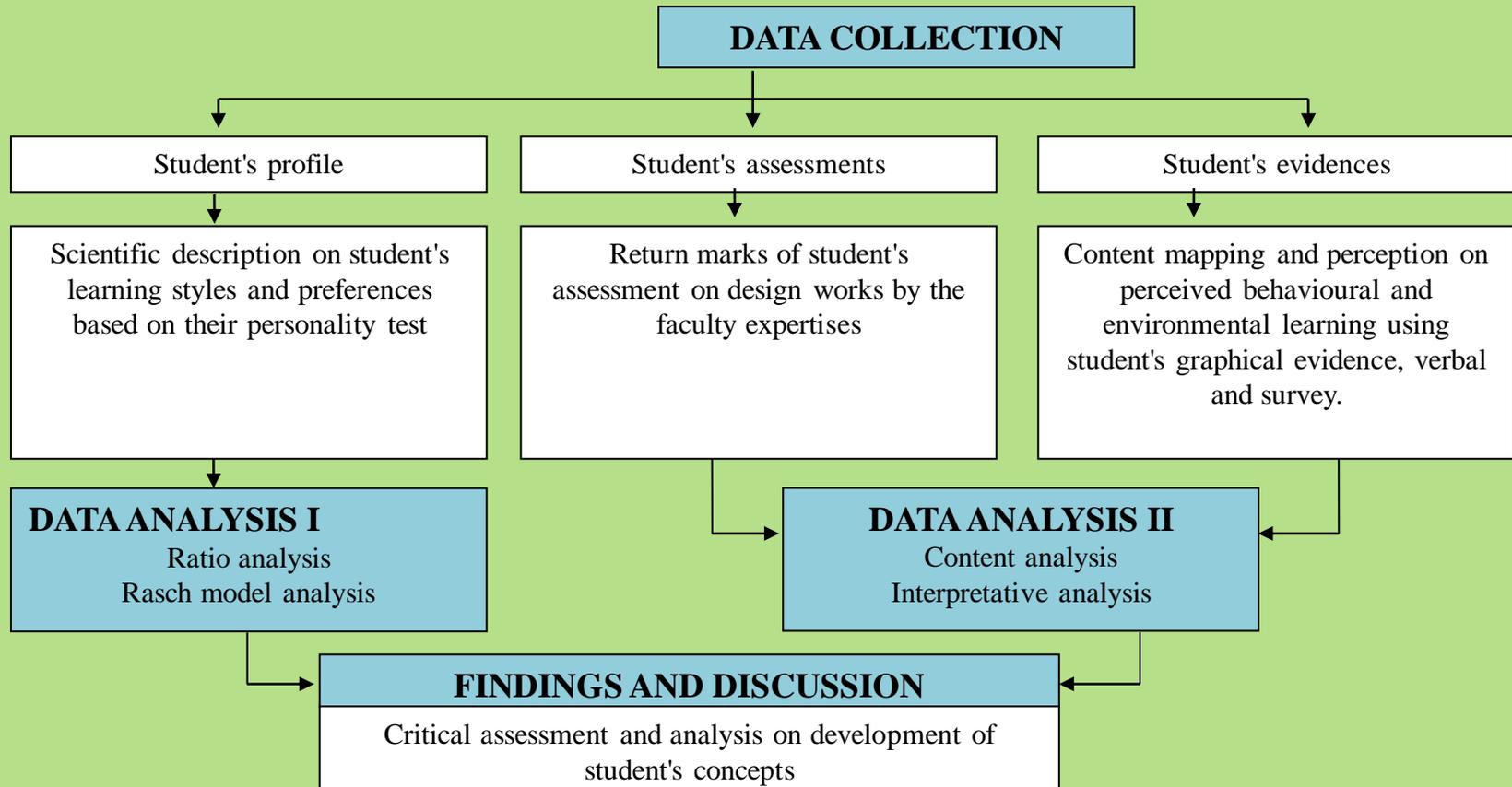


8. Theoretical Framework

- Focus on the work of Schon, Kolb and Lawson in experiential and reflective learning.
- Reflective theory: Integration of theory and practices with realisation of learners on a cyclic process and conscious application.
- Experiential theory: Direct participation in learning activities has utilises a trigger for knowledge transmission, driven by reflection.
- Kolb (1984) and Schon (1982) agreed through tacit knowledge and procedures, the action can reflected, extracted and improved.



9. Research Methodology

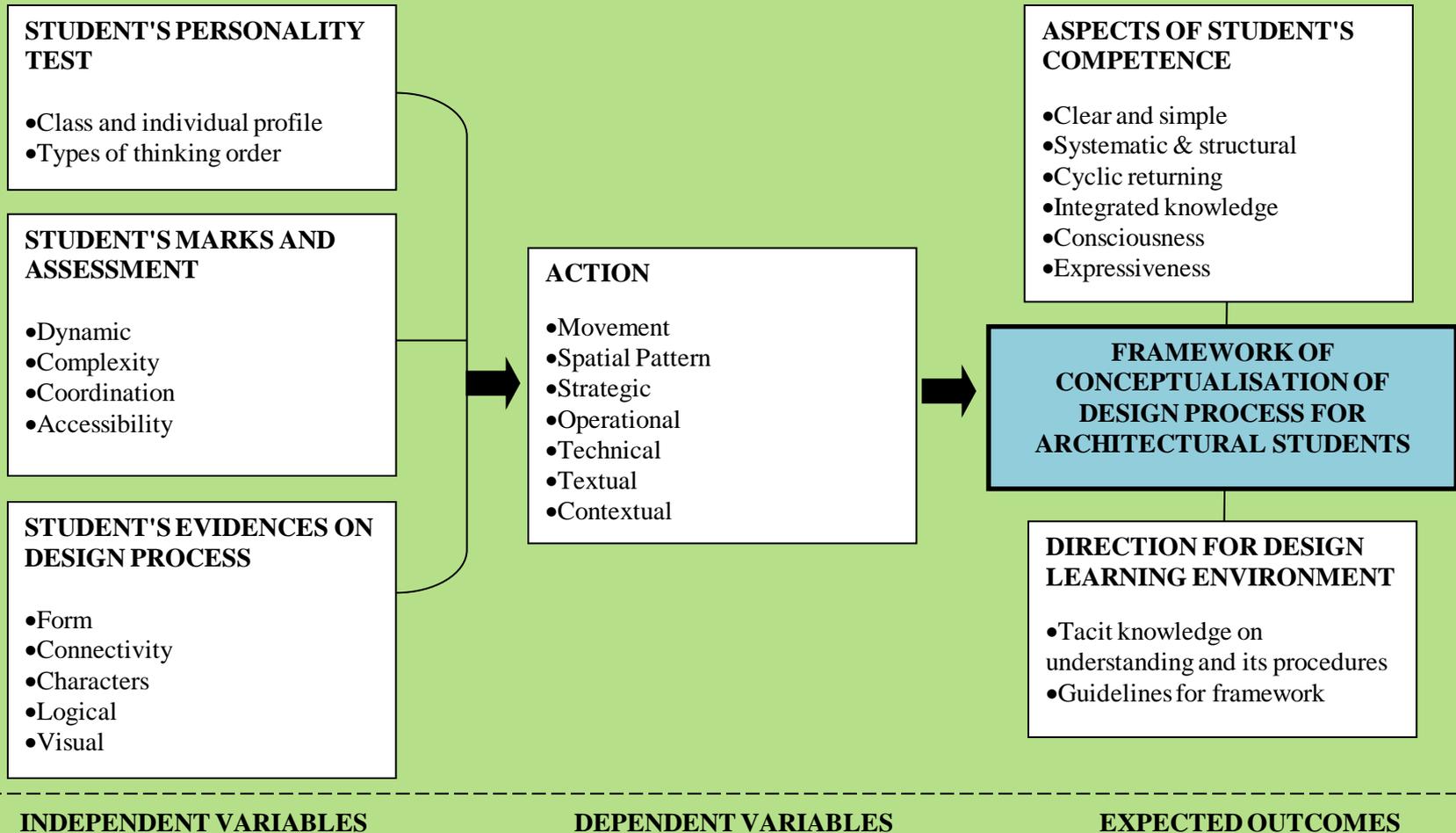


9. Research methodology (cont.)

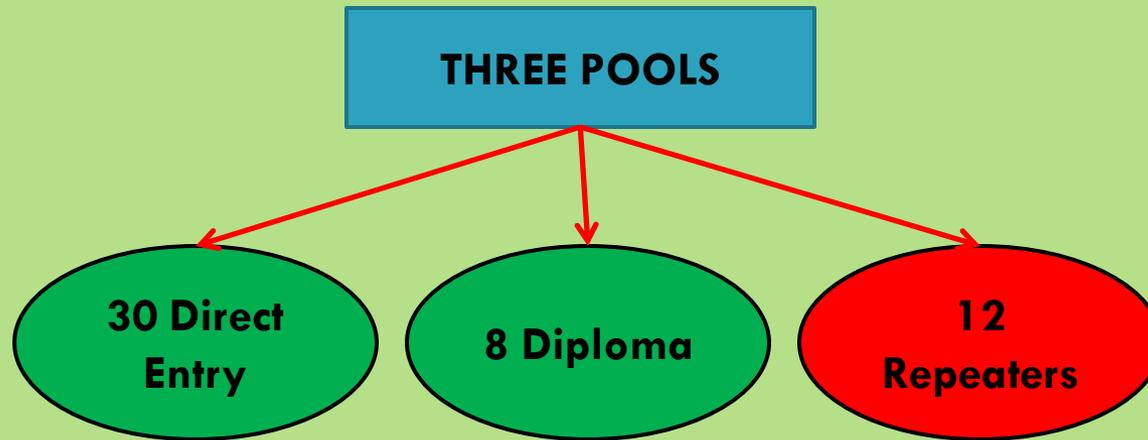
Method of Data Collection	Types of data collected
1) Survey questionnaires	*scores on student's capabilities *perceptions on conceptualisation by students
2) Observation & participatory	*student's marks on studio assessments *student's sketches and drawing on design process *student's final design works
3) Video recording	*student's crit & comments
4) Interviews	*student's perception on conceptualisation, design process, and crit comments *justification by studio masters



10. Variables of the Study



11. Preliminary data collection and result

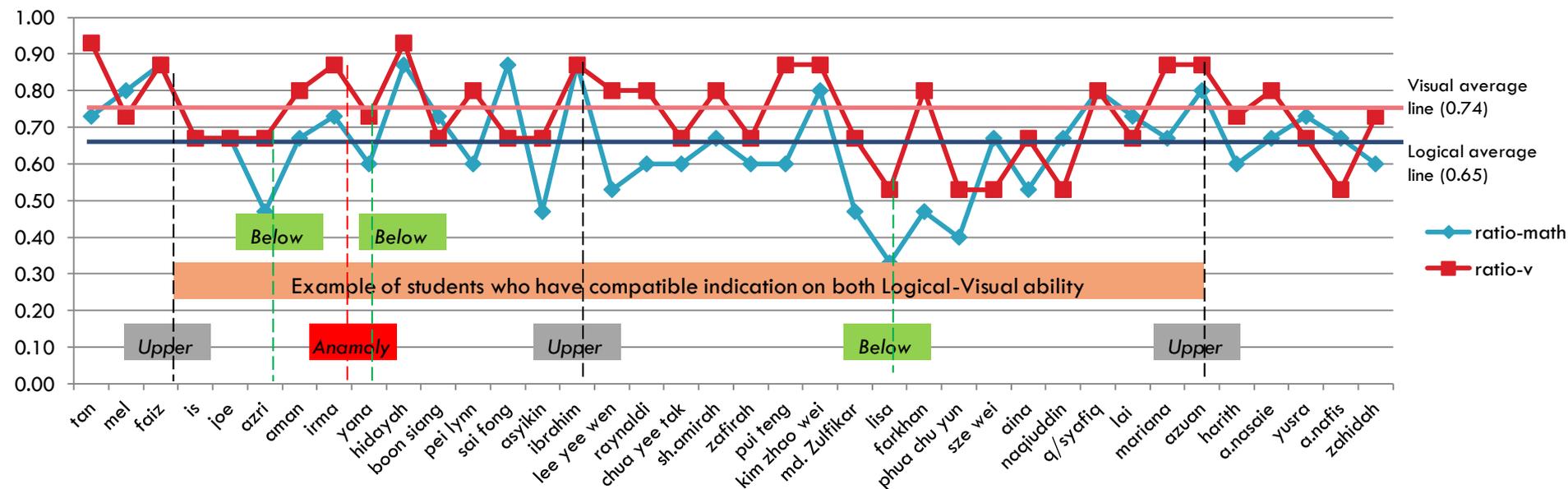


38 students	Linguistic	Logical	Visual	Musical	Inter	Intra	Body	Natural
Highest mark ratio	0.87	0.87	0.93	1.00	1.00	1.00	0.87	0.87
Average ratio	0.62	0.65	0.74	0.62	0.67	0.68	0.70	0.65
Lowest mark ratio	0.33	0.33	0.53	0.33	0.47	0.47	0.47	0.27
No of students accounted averagely higher	21	22	17	16	23	16	23	19
No of students accounted below average	17	16	21	22	15	22	15	19



11. Preliminary data collection and result (cont.)

For Logical skill, 16 students were below the average line, while for Visual skills, there were 21 students.



This understanding of Logical-Visual ability signifies hypotheses on conceptualisation of the students.

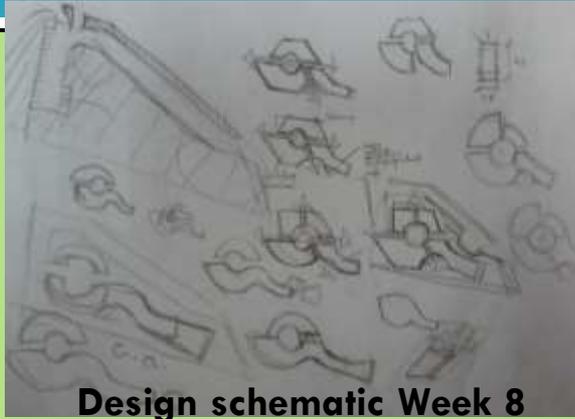
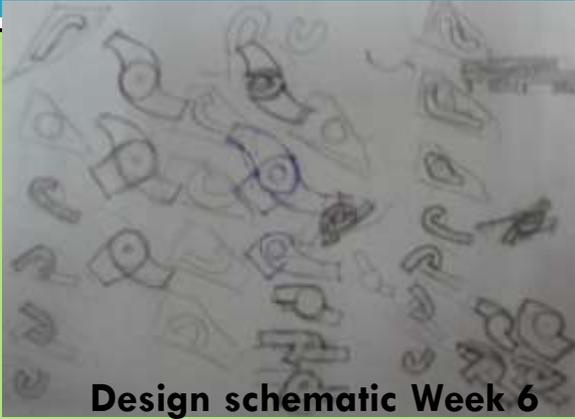
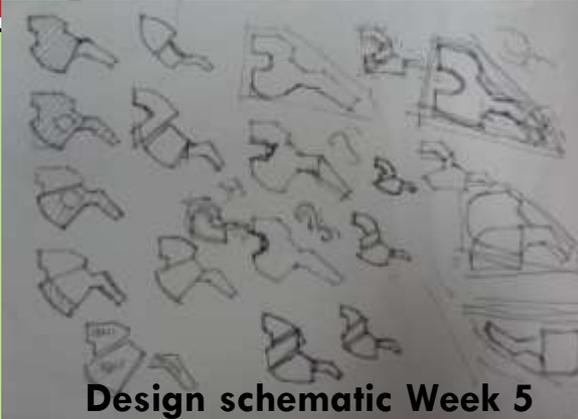
Hypothesis 1: The students who scores higher at both logical and visual, tended to have good conceptualisation in design.

Hypothesis 1: The direct entry students tended to have good command of conceptualise compare to the diploma students.

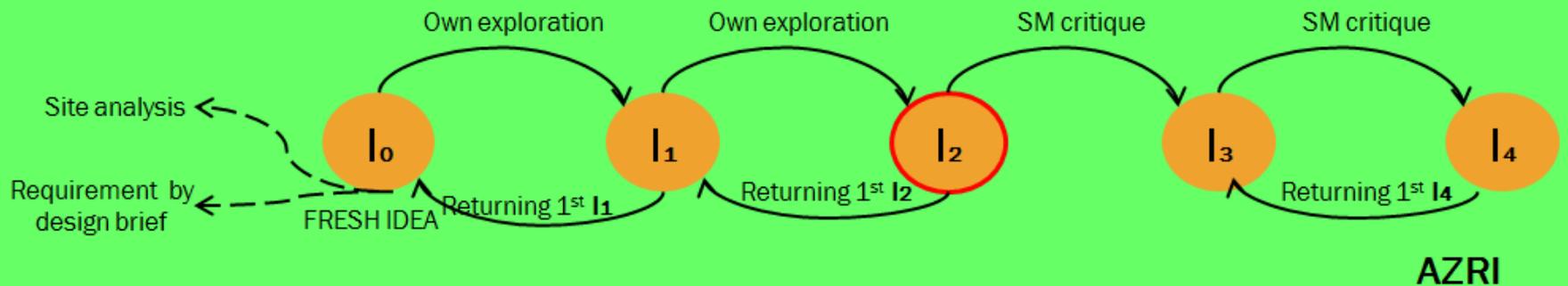
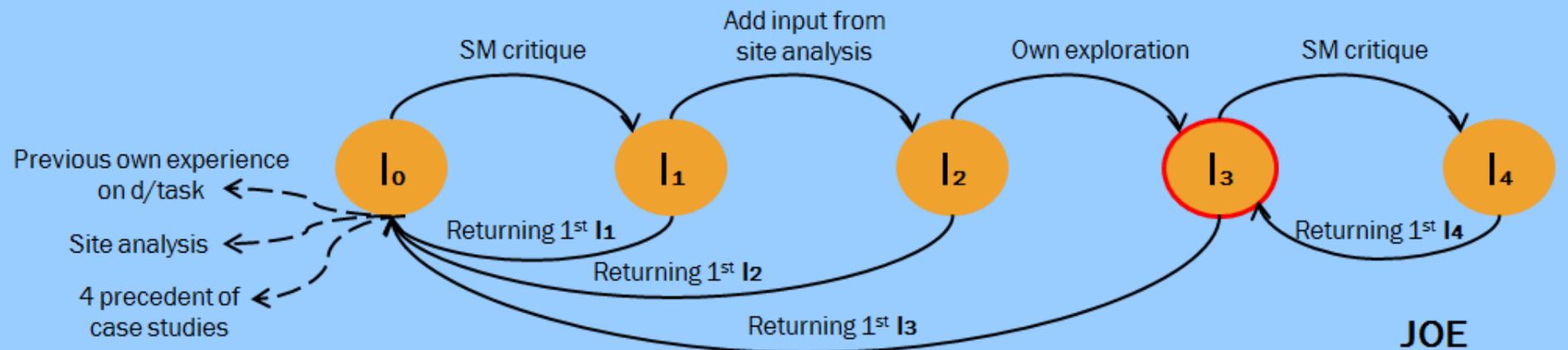
Hypothesis 2: The diploma students tended to conceptualise in higher order thinking than the direct entry students.



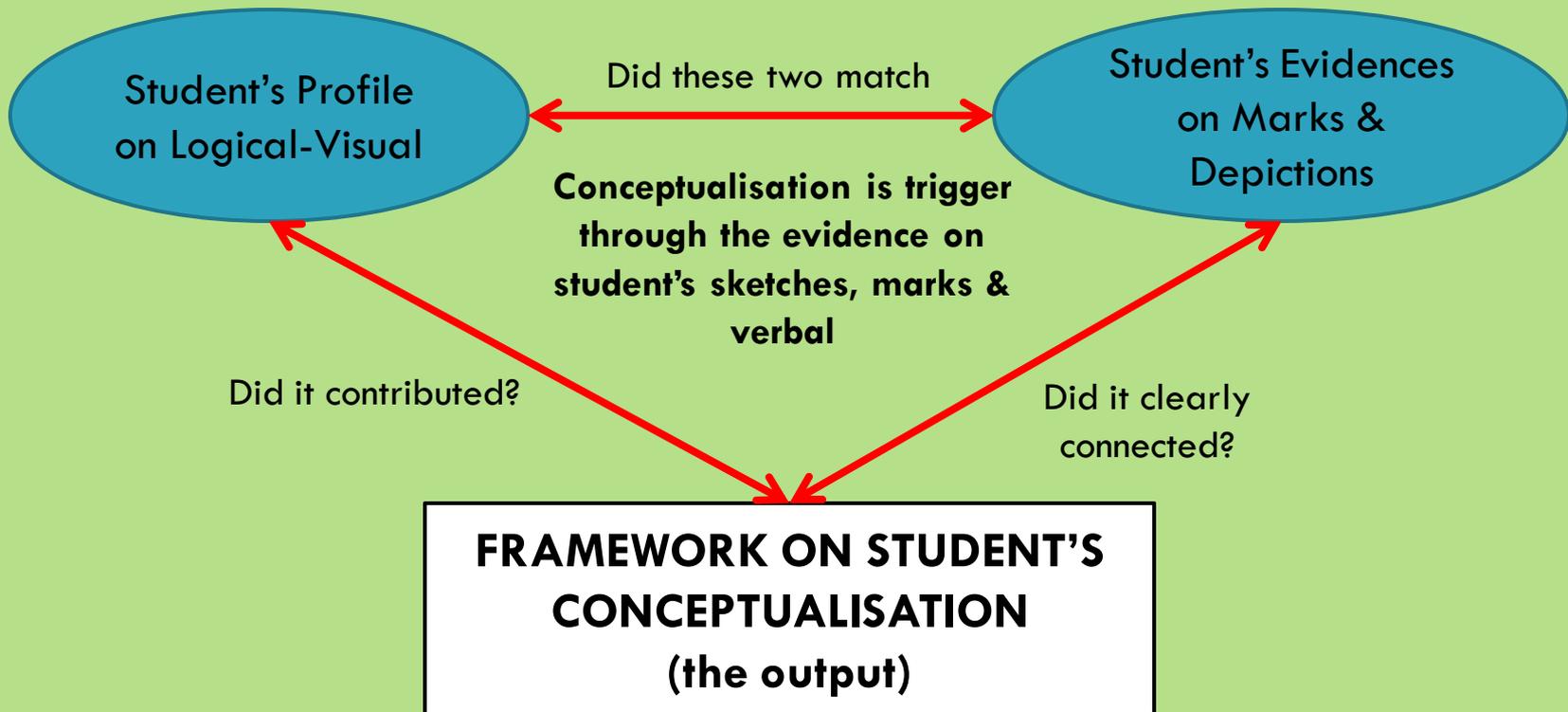
Variation of Azri's Sketches and Design Work



Overall View On Students' Conceptualisation Activities and Ideation



At the end, the expected findings....



12. Limitations

1. Only to study the third year student's conceptual design process (Healy et al., 2001) ;
2. Not focusing on the expertise study, only focuses on the conceptual design in comparison between different academic pools within the third year students;
3. The different academic pools are focusing on the direct entry and diploma students;
4. To identify types of activity and characters that may exist during the conceptual design process.



13. Anticipated Findings

1. Reveal the **relationship between the student's skills and capabilities** with the student's concepts according to the different pools;
2. Reveal the **characters that exist and factors** that contribute for development of student's concepts;
3. **Framework of conceptual design process** for the third year architecture students;
4. **Direct contacts with environmental design elements** that enhance student's skills in the design process including the exploration of their graphical sketches and manipulation from the feedbacks, as well as alignment of assessment with their learning preferences.



