

Students' Reflections on a Self-Directed Module Method of Learning in a Third Year Pediatric Clerkship

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Nemours



Alfred I. duPont
Hospital for Children

Nemours
Children's Clinic

Disclosures

- Angela M. Allevi, MD has no commercial or investment relationships to disclose
- J. Lindsey Lane, MD has no commercial or investment relationships to disclose

Background

- Newer constructivist-based learning methods are being used in the preclinical years of medical school
 - problem-based learning
 - case-based learning
 - team-based learning
- Constructivism:
 - Knowledge is not transmitted, but is built by the individual learner
- Believed that when learners construct their own knowledge they learn better

Background

- Studies to date:
 - Quantitative:
 - No difference in exam scores
 - Students enjoy these methods
 - Qualitative: none

Introduction

- Modules:
 - A hybrid active learning method which combines some elements of problem-based learning, case-based learning, and team-based learning
 - 20 topic areas, 8-10 case vignettes per topic

MODULE 1: Newborn Infant

6/08	Case Vignettes	Notes
1	A baby has an Apgar score of 5 at one minute and 9 at 5 minutes. What does this mean? What is the Apgar score used for? What is the predictive value of the Apgar score?	
2	A 24-hour-old term infant has not passed a meconium stool. Discuss possible explanations. How would you proceed?	
3	You are admitting a newborn infant to the nursery and go to speak to the mother. Role-play the information you would give to her about the diagnostic and monitoring interventions that will be done during the nursery stay.	
4	A term newborn weighs 4800 grams. What components of the history and physical examination would be helpful in your assessment? What immediate complications might this infant experience?	
5	A mother with no prenatal care and a history of heroin use during pregnancy delivers a healthy, 40-week, appropriate-for-gestational-age infant. Outline the appropriate diagnostic and management steps that need to be taken by the healthcare team from the time of the mother's arrival at the hospital to her discharge.	
6	A full term newborn weighs 2200 grams. What factors might have contributed to this infant's small size?	
7	The mother of a newborn infant asks your advice about breast-feeding versus bottle-feeding her baby? Role-play what you would tell her. How would your advice change if the mother were (a) Hepatitis B positive, (b) HIV positive, (c) RPR positive, and (d) Hepatitis C positive?	
8	The parents of a newborn boy ask your opinion about whether the baby should be circumcised. Role-play sharing information with the parents so that they can make a decision.	
9	A 6-hour-old infant born at term has persistent tachypnea with respiratory rate in the 80's. What is your differential? What further information from the history and physical exam would be helpful? How would you initially evaluate and manage this child?	
10	A full-term infant appears yellow at 48 hours of age. The total bilirubin is 13 mg/dL. What components of the history, physical exam, and lab data would be helpful in evaluating this baby? How would your differential diagnosis and approach change if this baby were (a) 8 hours old, or (b) 8 days old?	

Introduction

- Modules:
 - A hybrid active learning method which combines some elements of problem-based learning, case-based learning, and team-based learning
 - 20 module topics, 8-10 case vignettes per topic
 - Modules take place during the 6 week Pediatric clerkship
 - Students research answers to case vignettes
 - Facilitated by faculty member
 - Process involves student presentation of answers and discussion

Introduction

- Time spent:
 - Total 50 hours during pediatric clerkship
 - 20 hours in modules discussion groups
 - 30 hours in preparation

Research Question

- What is students' experience with the educational process called modules?

Modules: A hybrid active learning method which combines some elements of problem-based learning, case-based learning, and team-based learning

Methods

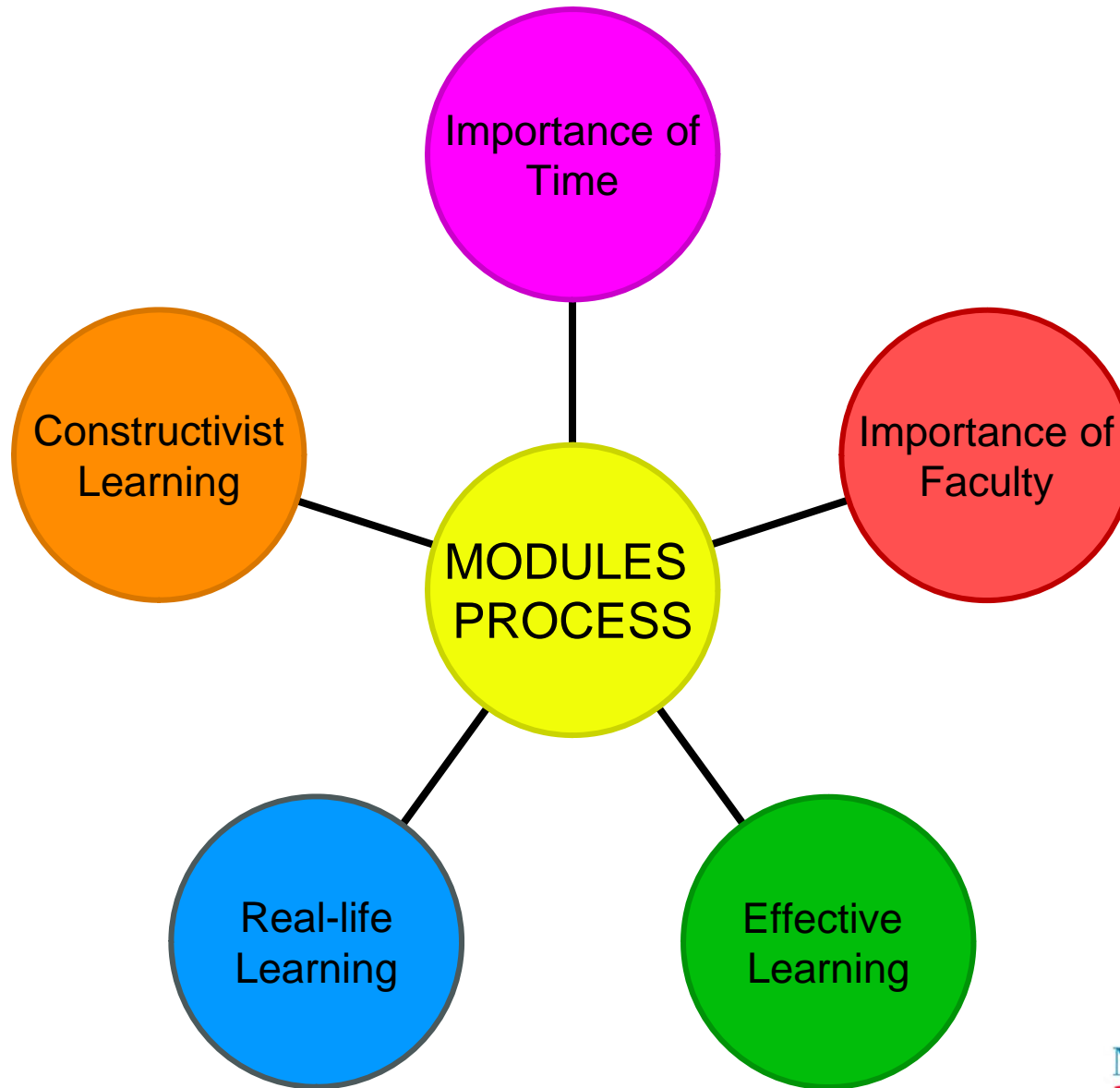
- Participant observation – watched students interact during modules sessions
- Written reflections – students responded to an e-mail request for reflections on their experience
- Semi-structured interviews – one-on-one interviews conducted with an investigator
- Focus groups – investigator-moderated discussions with 2-5 students per group

Table 1: Data Collection

	PARTICIPANT OBSERVATION	WRITTEN REFLECTIONS	SEMI-STRUCTURED INTERVIEWS	FOCUS GROUPS
NUMBER OF STUDENTS PARTICIPATING	68*	12	16	32
NUMBER OF SESSIONS	12	N/A	16	7
TOTAL TIME (HOURS)	12	N/A	8	6

*All students participated; those participating in other forms of data collection were taken from this group

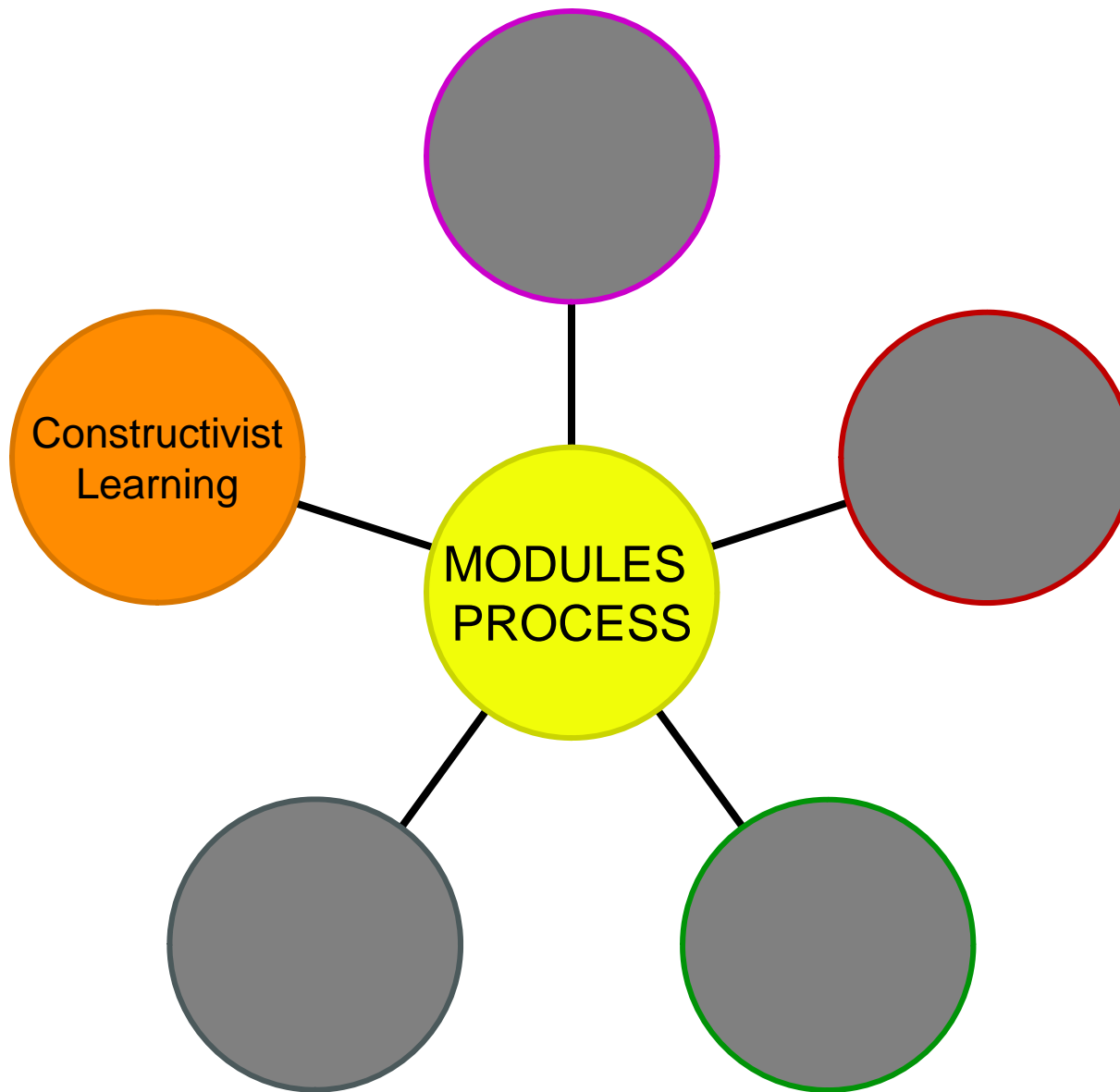
Results

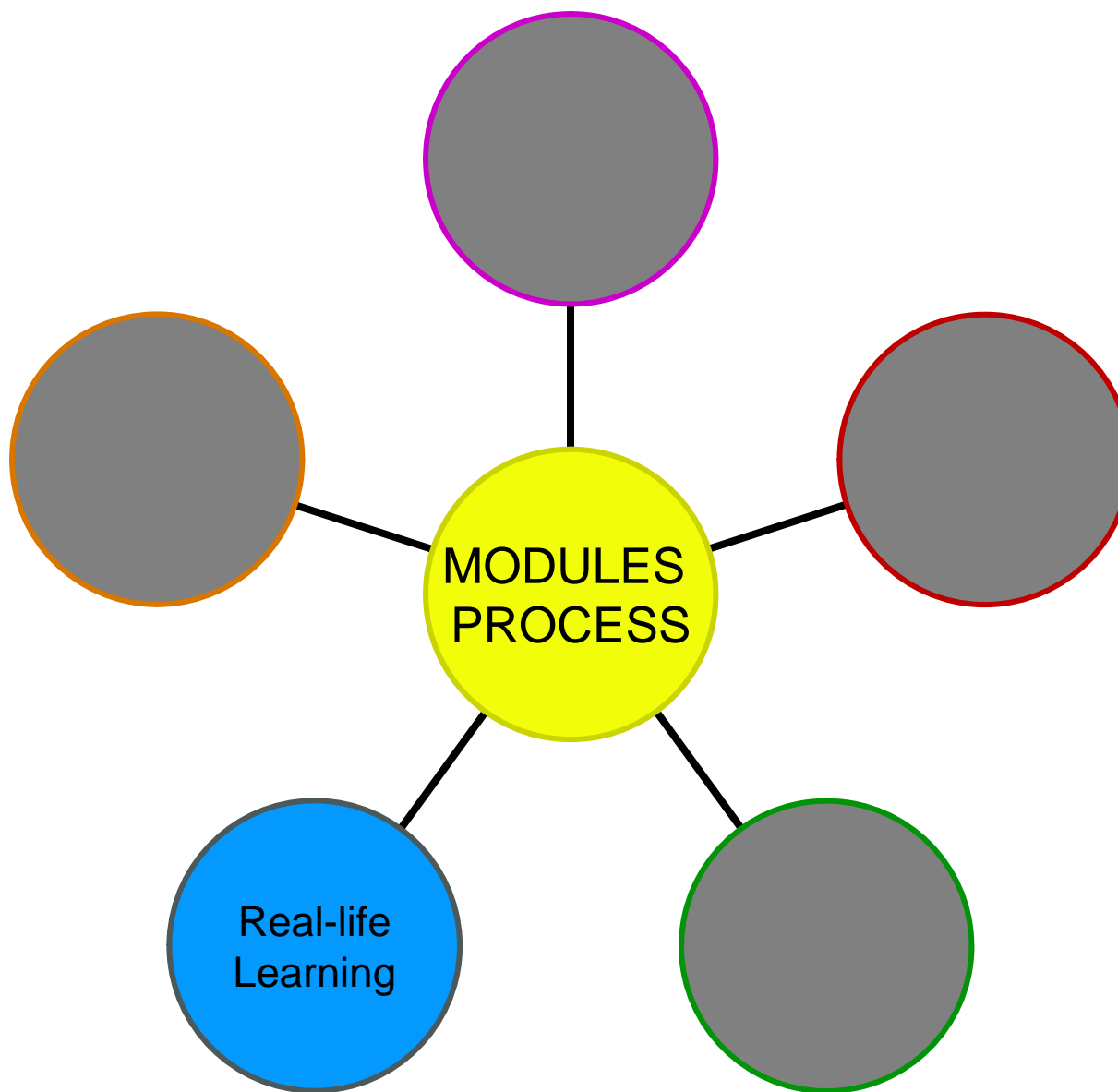


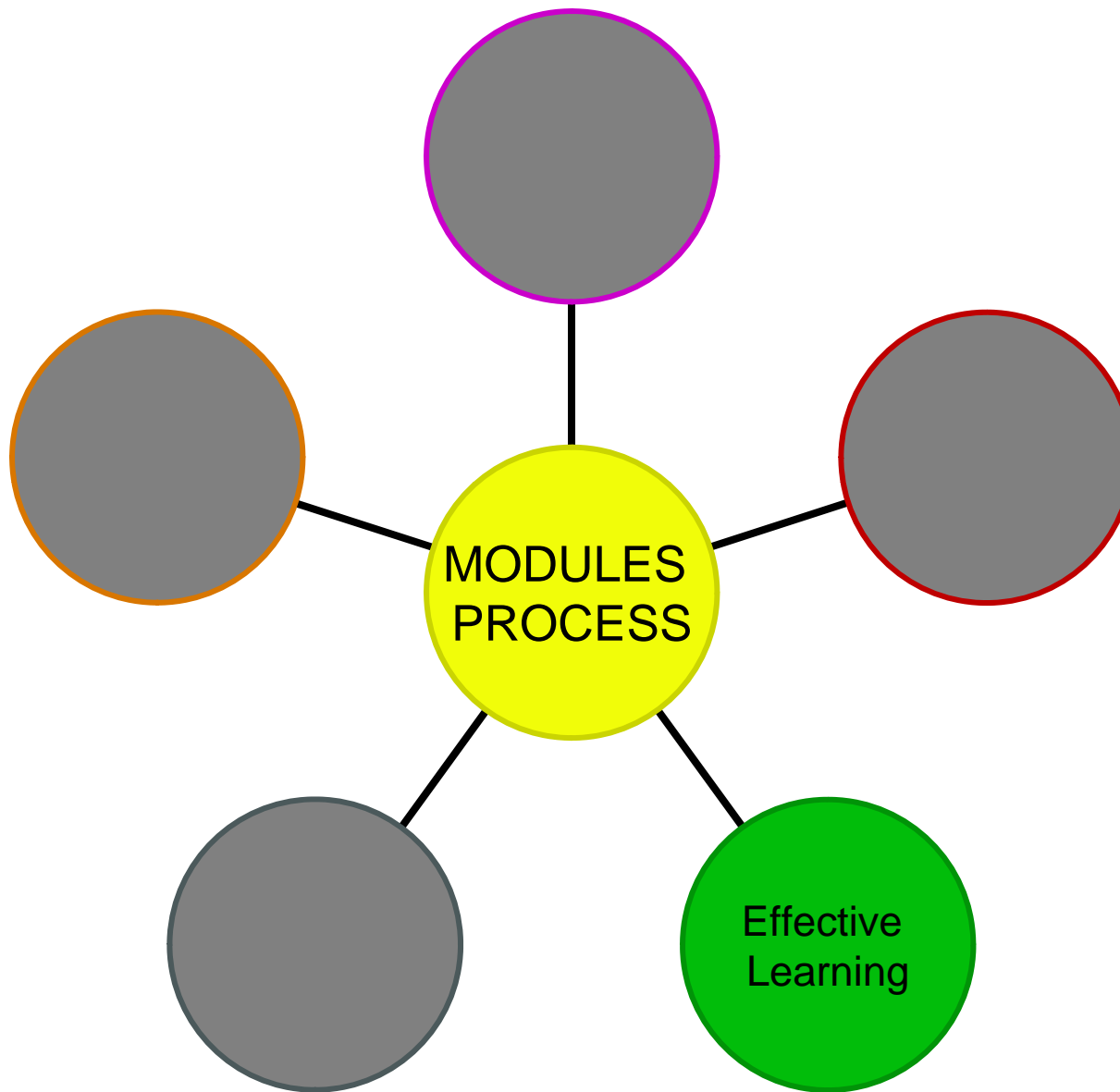
Results

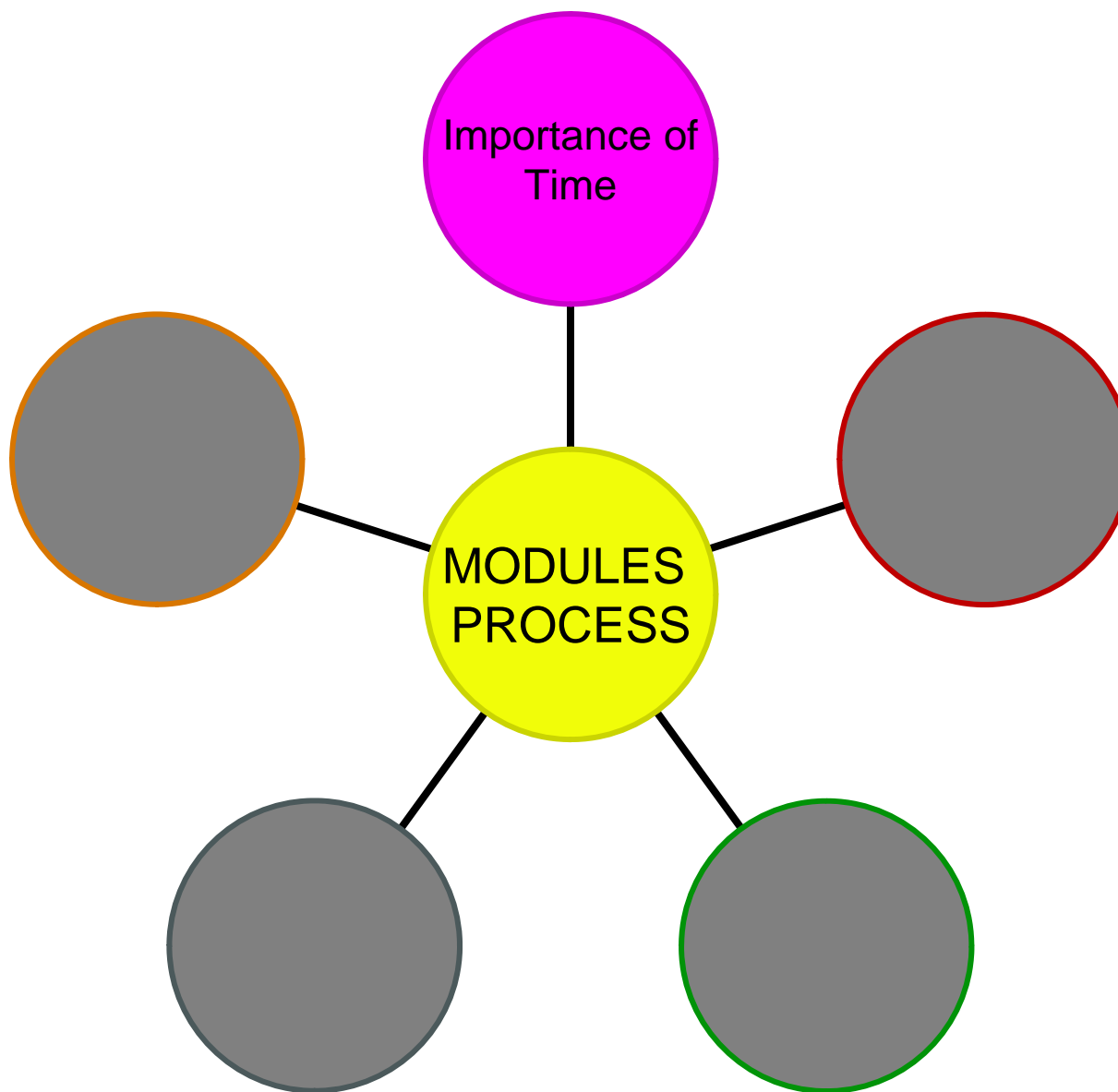
Table 2: Tabulation of Statements by Theme

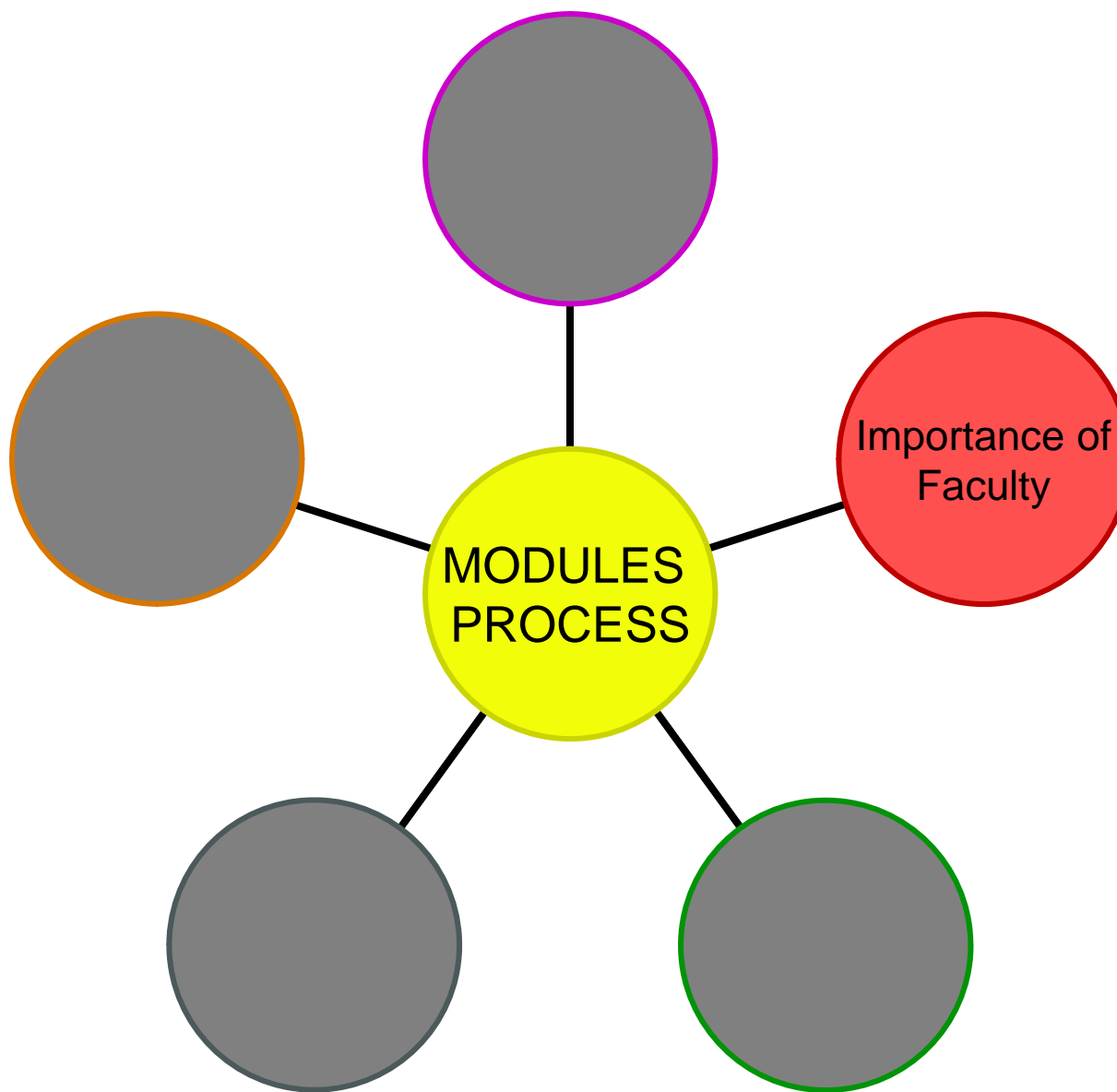
Theme	Number of statements
Constructivist Learning	11
Real-Life Learning	9
Effective Learning	25
Importance of Time	49
Importance of Faculty	36





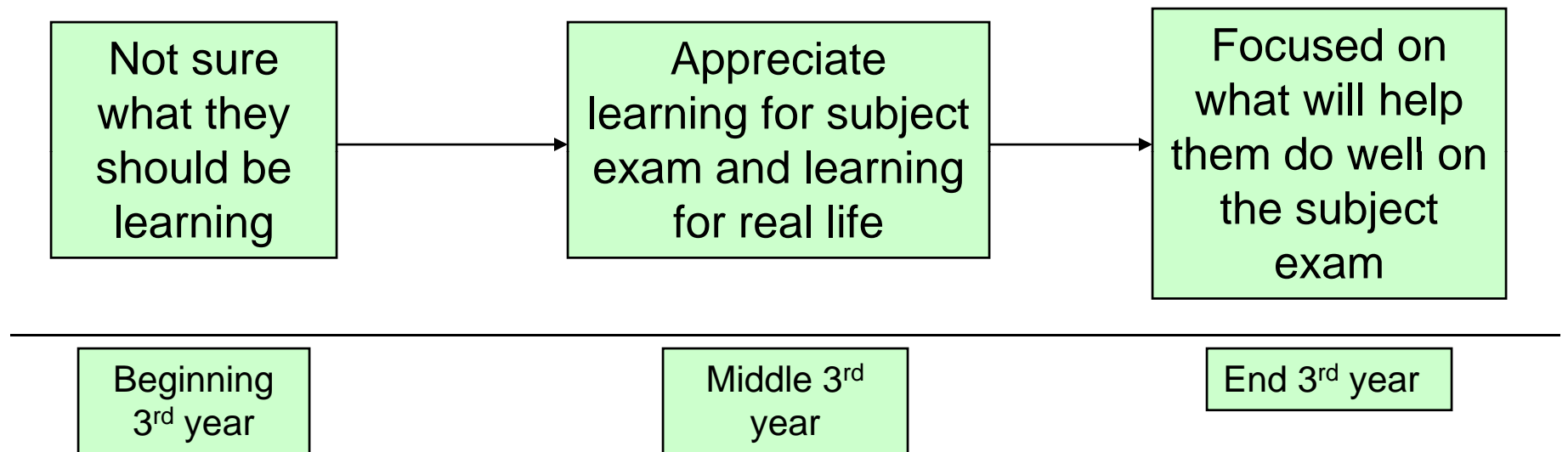




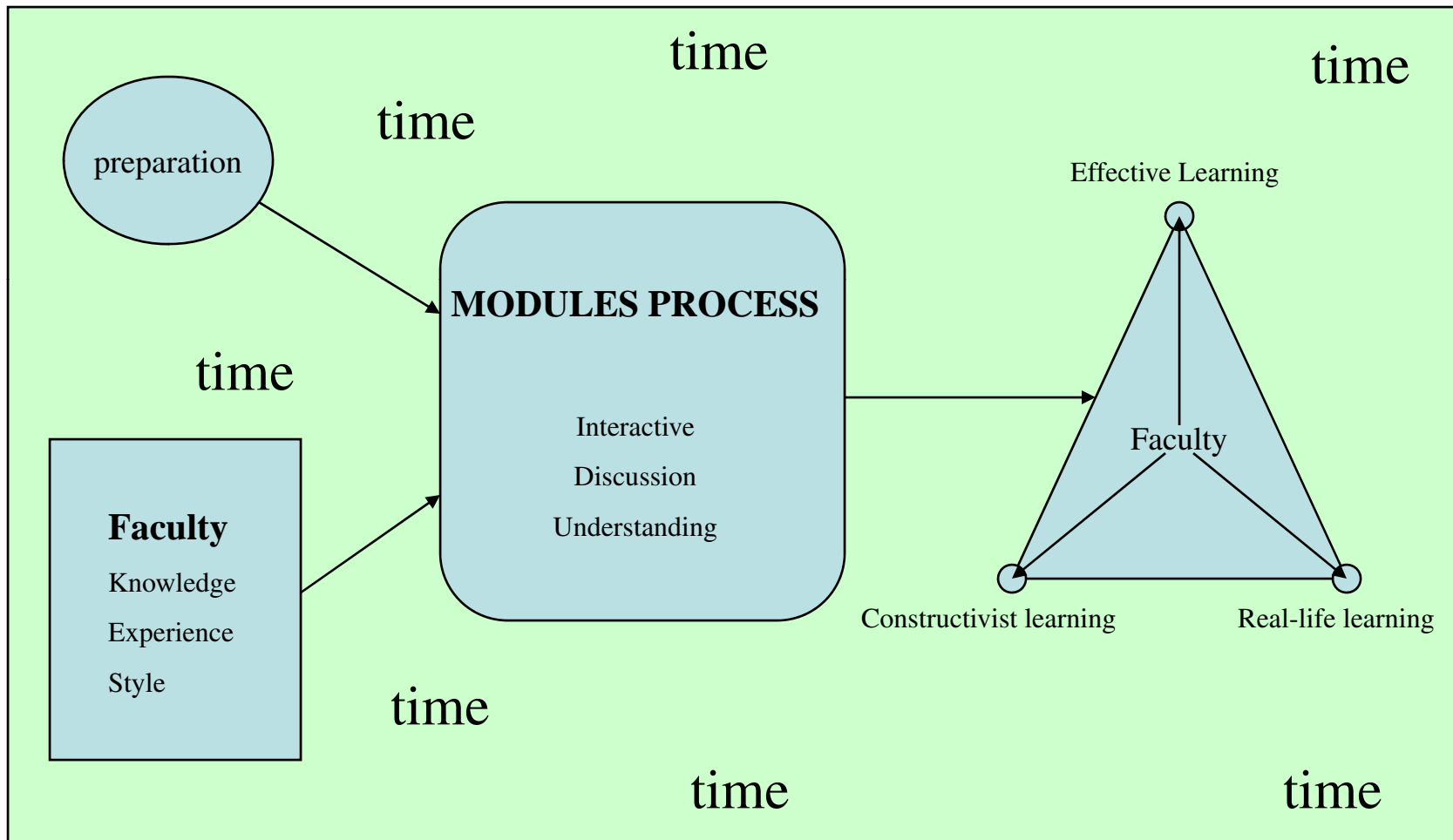


Unanticipated results

Shift in student attitude



Concept Map of Students' Experience with Modules



Conclusion

- Strengths:
 - Ability to triangulate our data
 - Several groups of students over different periods of the academic year
- Limitations:
 - Investigators involved in grading/evaluation of students during their pediatric clerkship
 - One institution
 - Not generalizable

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