

# **Integrated teaching: Bridging basic science with clinical practice**

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# Definition

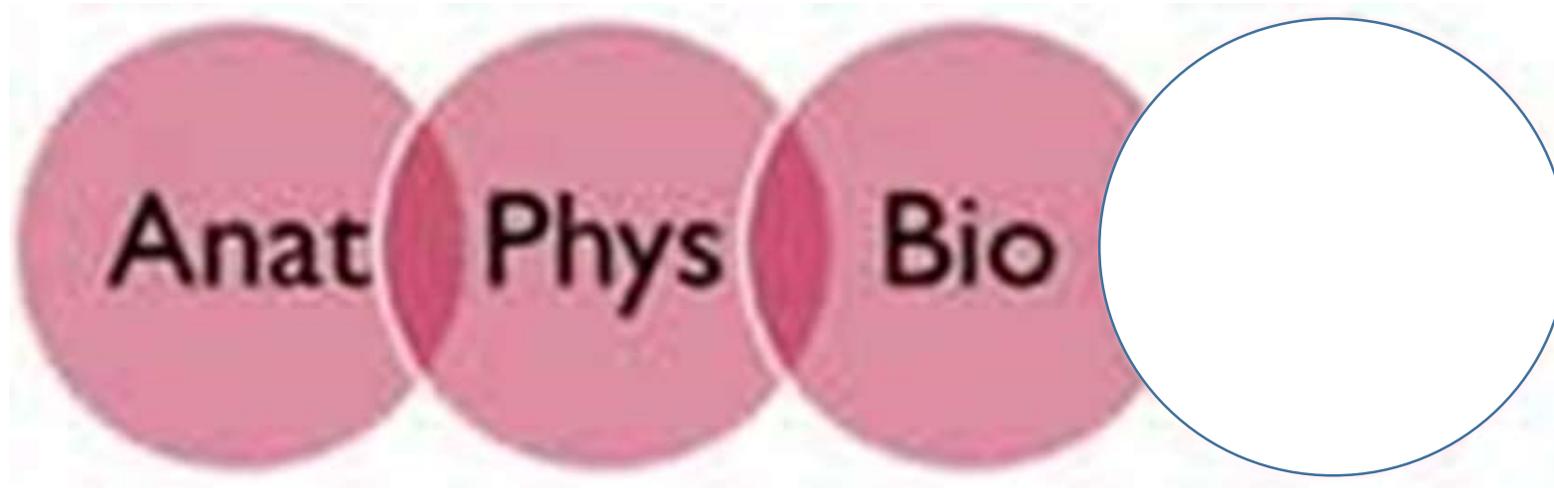
- The interconnection & interrelation among the subjects is usually linked around organ system of human body
- Integration of contents which is taught in different subjects
- ‘The organization of teaching matter to interrelate or unify subjects frequently taught in separate academic courses or departments’

# TYPES OF INTEGRATION

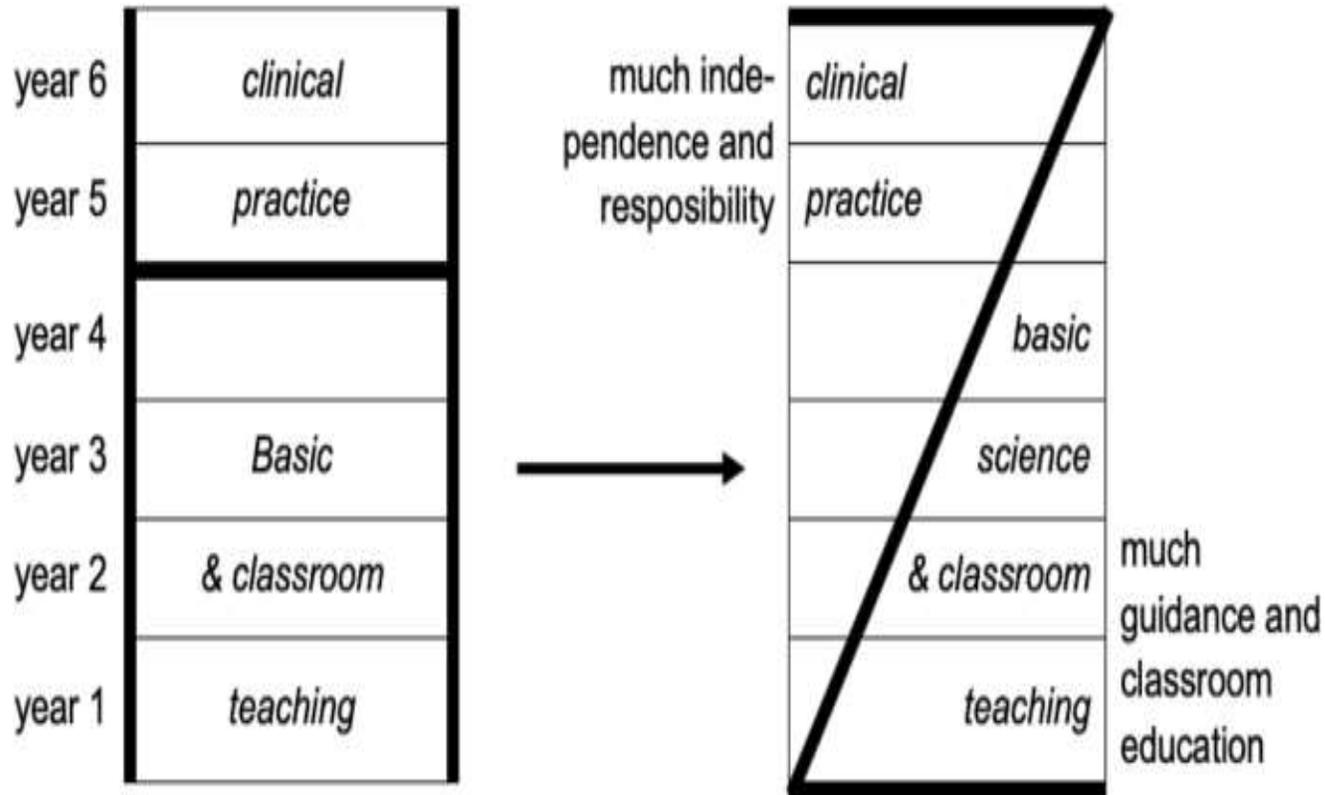
- 
- Integration has traditionally been divided into three types based on two basic components of curriculum as reference points that is time frame and clinical disciplines.

# Horizontal Integration:

- Integration that occurs across disciplines/subjects but within a finite period of time. For example, integration among subjects of first phase of undergraduate curriculum.



# Vertical Integration:



- Integration across time – it breaks the traditional divide among the basic science and clinical subjects and brings them together. For example, integration among subjects of different phases

# Spiral Integration:

- This is the integration across time and disciplines.
- It is the most complete form combining both horizontal and vertical integration.
- The major advantage of this model is the better reinforcement of topics through a natural progression from simple to complex using a curriculum that breaks down the barriers and boundaries between the courses and the departments

# OUTCOMES OF A MEDICAL GRADUATE

Diagnostic Sciences

Clinical Sciences

YEAR FIVE: Pharmacology II, Medicine II, Surgery II, Gynae, Pediatrics

YEAR FOUR: Pharmacology I, Medicine I, Surgery I, Ophthalmology, Otolaryngology, Psychiatry

YEAR THREE: Pathology, Microbiology, Immunology, Hematology, Radiology, Forensic Medicine

YEAR TWO: Anatomy II, Physiology II, Biochemistry II, Public Health, Nutrition

YEAR ONE: Anatomy I, Physiology I, Biochemistry I, Molecular Biology & Genetics, Psychology

Biomedical & Preventive Sciences

KNOW

CSiM V



CSiM IV

CSiM III

CSiM II

CSiM I

DO

PERLS V

PERLS IV

PERLS III

PERLS II

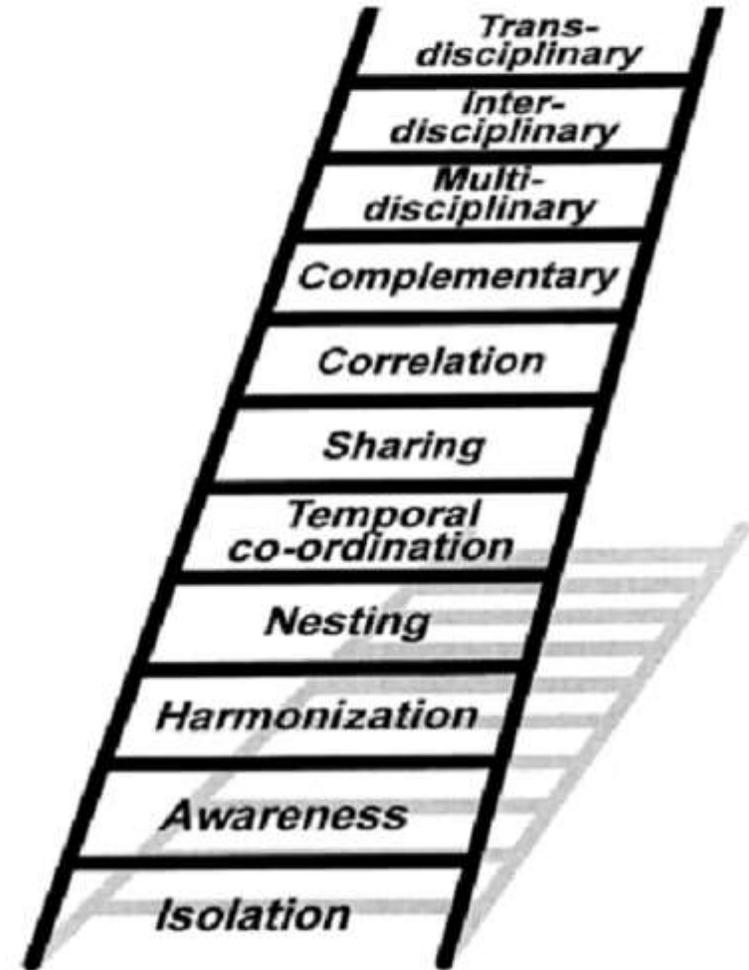
PERLS I

BE

# MODELS OF INTEGRATION

- There are two models for the development of integrated curriculum. Which includes,
- Ten ways to integrate Curriculum by Robin Fogarty , and
- The integration ladder by Harden .

# The integration ladder: A tool for curriculum planning and evaluation

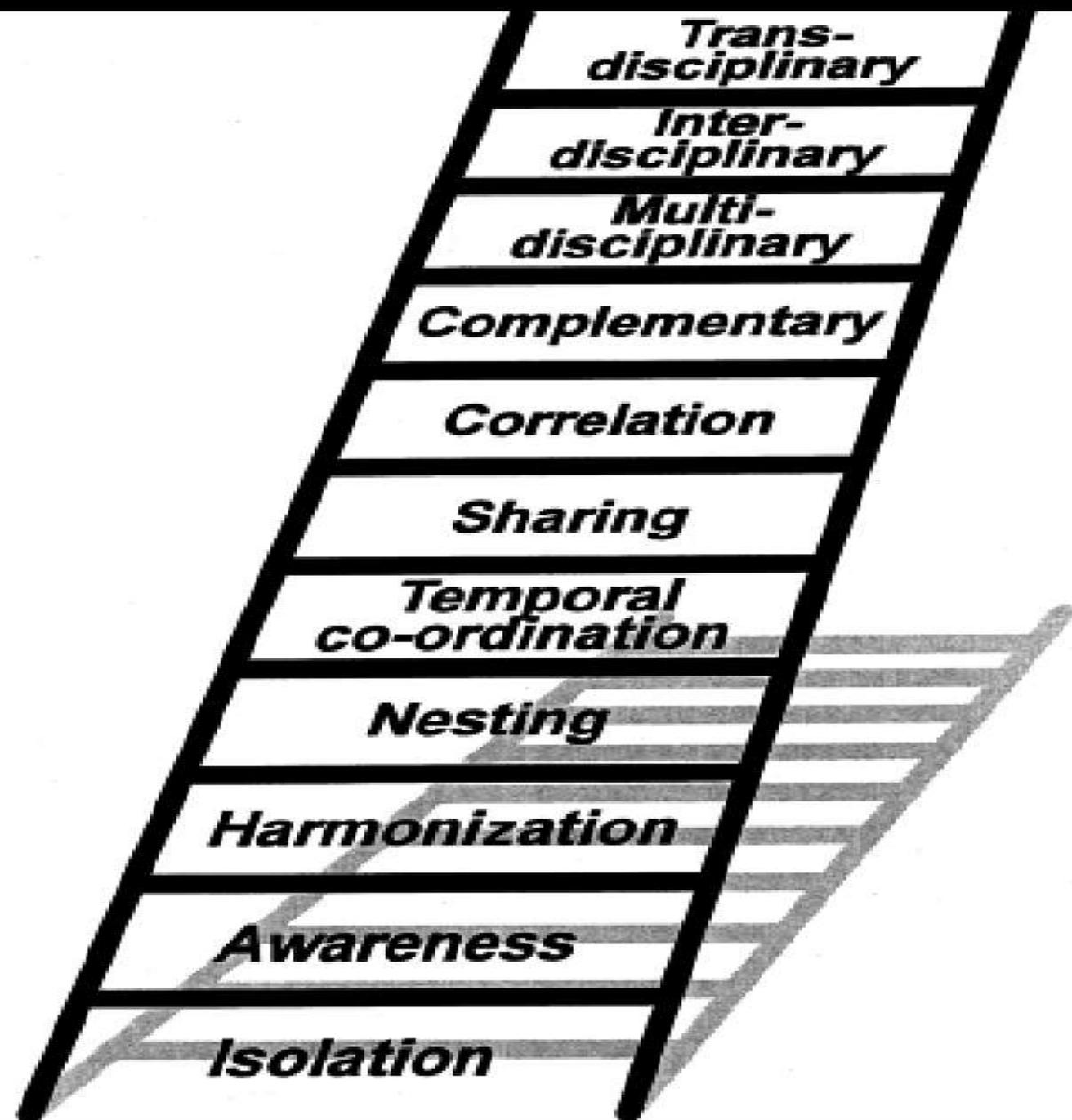


The 11 steps on the  
integration ladder

# Harden- Levels of integration

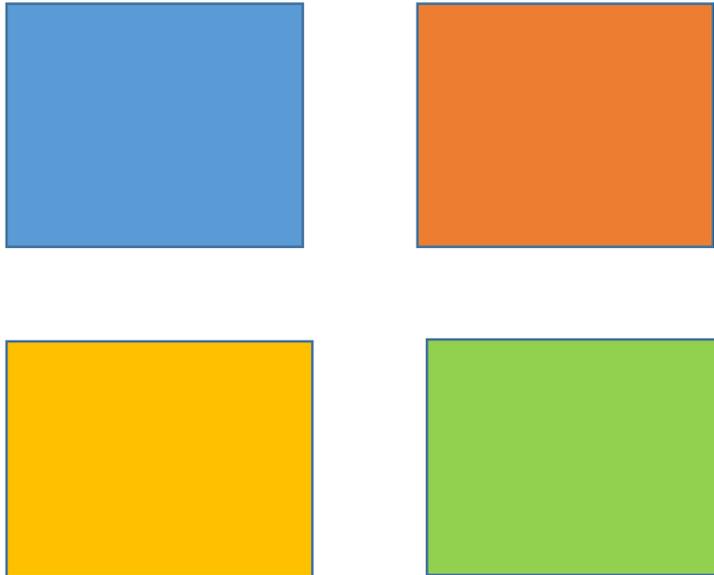


- This symbol represents a subject in subsequent slides



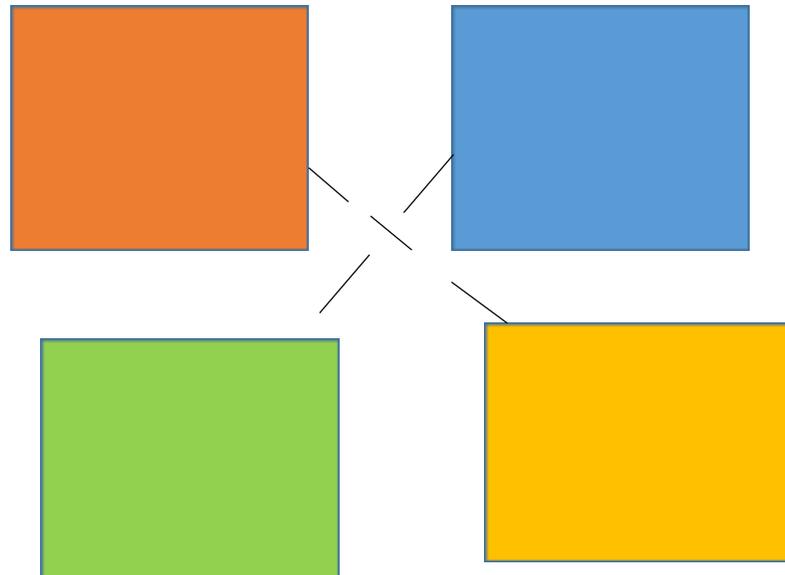
# Isolation

- Teaching is subject based
- Each subject remain responsible for its own teaching programme



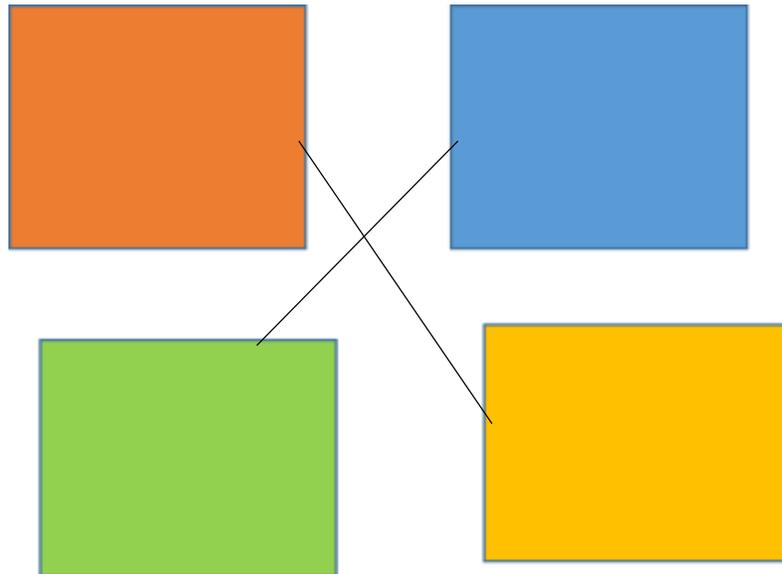
# Awareness

- Teaching is subject based
- Each subject remain responsible for its own teaching programme
- However, the teacher in one subject is made aware of what is covered in other subjects in the curriculum, avoiding duplication



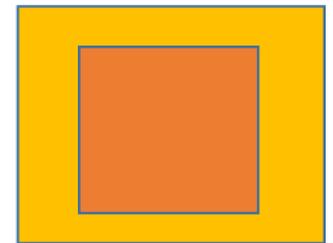
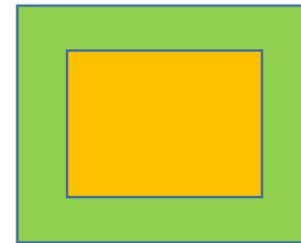
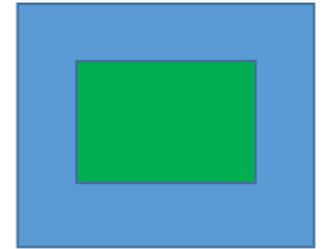
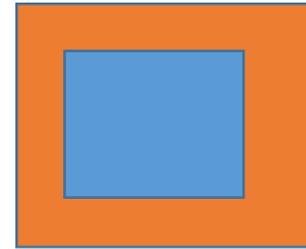
# Harmonization

- Teaching is subject based
- Each subject remain responsible for its own teaching programme
- Teachers of different subjects consult face to face by either informal way or formal meeting.



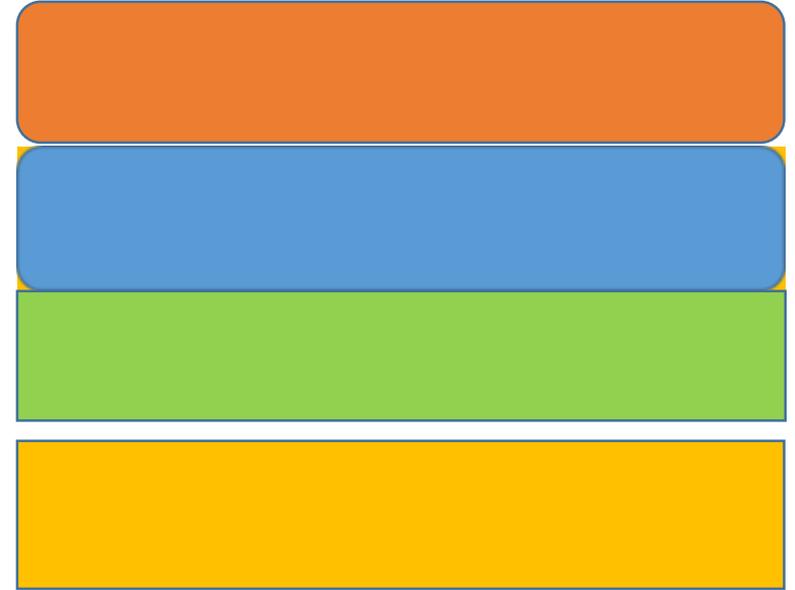
# Nesting

- Teaching is subject based
- Each subject remain responsible for its own teaching programme
- Teacher of different subject communicate
- Content drawn from different subject in the curriculum used to enrich the teaching of one subject



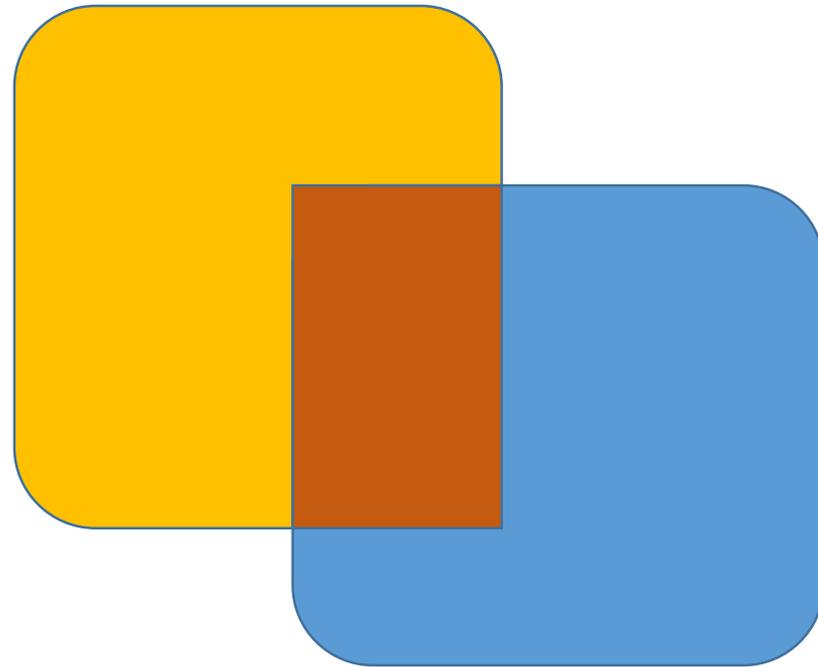
# Temporal co-ordination

- Teaching is subject based
- Each subject remain responsible for its own teaching programme
- The timetable is adjusted so that, the topic in the subject which are related, scheduled at same time, by consulting each other



# Sharing

- Two disciplines agree to plan a joint teaching programme , in which overlapping concepts or ideas emerge as organizing element



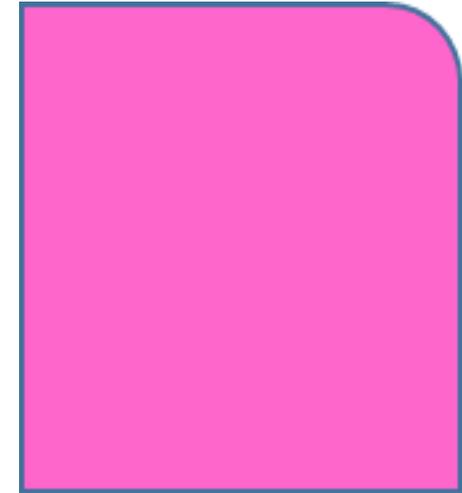
# Correlation

- Teaching is subject based
- Each subject remain responsible for its own teaching programme
- Within this timeframe an integrated teaching session is introduced, which brings together areas of common interest to each subject



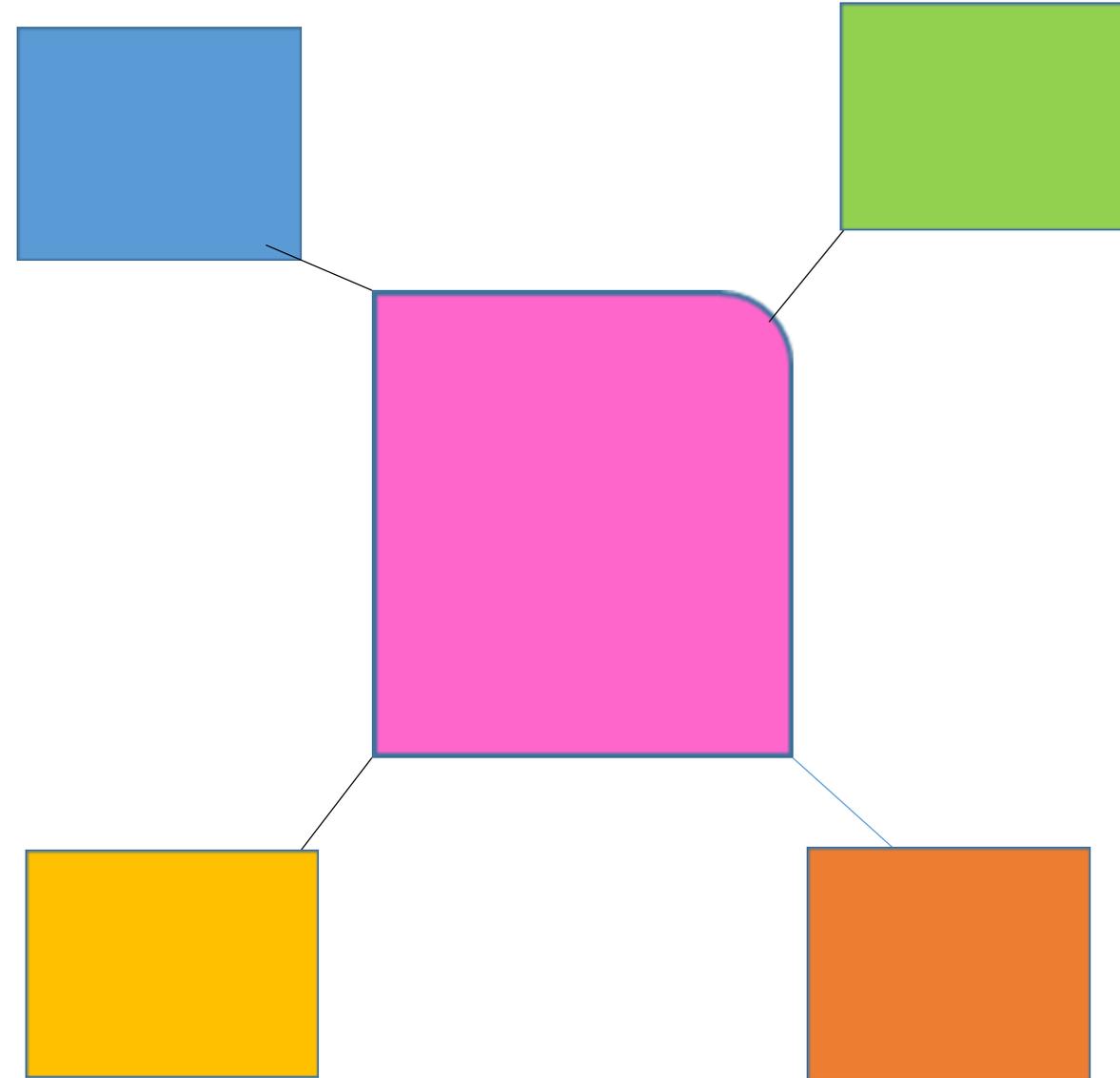
# Complementary

- Teaching is subject based & integrated
- The integrated session represent a major feature in the curriculum
- Teaching may be a theme or topic in which disciplines contribute
- Examination should be integrated also



# Multidisciplinary

- This step brings together a number of subject areas in a single course with themes, problems or issues as the focus of teaching.
- The subjects/ disciplines still preserve their identity



# Steps of Integration in Curriculum implementation

1. Train the teaching faculty:
2. Measure the Level of integration:
3. Assign the responsibilities
4. Develop integrated teaching modules or sessions
5. Design Integrated Assessment:
6. Delivery of the integrated curriculum:

# Advantages of integrated teaching

- Achieving higher level objective
- Minimize repletion
- Avoiding information overload
- Making learning effective
- Motivating students
- Benefitting stuff

# Disadvantages of integrated teaching

- Losing subject identity
- Requiring inter-departmental planning
- Costly in comparison to traditional teaching
- Less content coverage
- Adverse effect on student guidance relating to career choice
- Establishing a coherent framework
- Demanding of staff time

# Integrated teaching in MBBS curriculum 2021

- Total topics – 102
- Total hours – 259
- Phase I - 12 topics
- Phase II – 7 topics
- Phase III – 10 topics
- Phase IV – 42 topics common  
departmental 31 topics  
Medicine- 10, surgery- 11, Obs & Gynae-10

# **Modalities of implementing integrated teaching as per MBBS curriculum 2021**

- Teachers of the concerned phase and departments must be present during the session as per identified topics and objective
- Teachers will be the facilitators of each session
- Students must actively participate in the sessions and have to submit the summary of each session to the concerned department as assignment.
- The assignment will be the part of practical in the summative assessment
- Students need to get some take home message from every session
- Schedule of the integrated teaching session will be set at the phase committee meeting in collaboration with MEU & academic co-ordinator

# REFERENCES

1. Malik AS, Malik RH. Twelve tips for developing an integrated curriculum. *Med Teach*. 2011;33:99-104.
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Thank  
you!