

Traditional vs Integrated teaching

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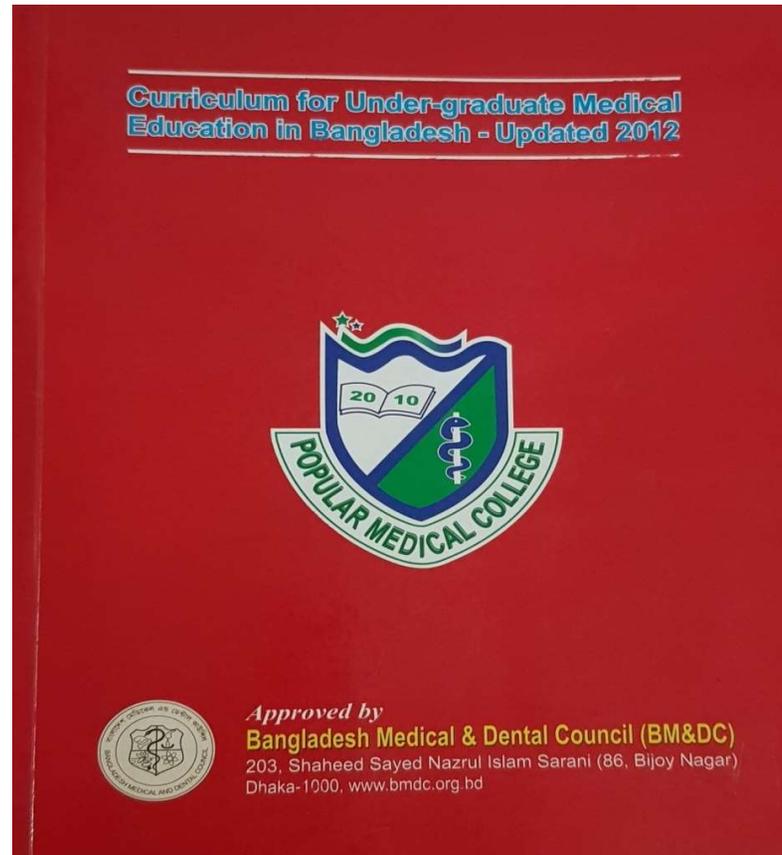
Introduction

- Since Flexner's days, the method of teaching medicine implies that students should first learn basic and biomedical sciences and then move to clinical sciences;
- however, this is not how patients are presented.
- Under Flexner's influence, medical curriculum around the world came to be structured into:
 - Preclinical medicine: learned in lecture theatres, teaching laboratories, dissecting rooms, and libraries
 - Clinical medicine: learned in wards and operating theatres of hospitals

Introduction (contd.)

- A common criticism of this approach
 - students will not see the relevance of basic and biomedical sciences applied to clinical practice
 - it is preferable to encourage students to think as doctors from the day they enter medical school/college.
- Incorporation of integration in curriculum provide the students a holistic rather than fragmented learning perspectives.

Traditional Teaching: Our Curriculum



Traditional Teaching: Our Curriculum

Phase	Duration	Subjects	Examination
1 st phase	1.5 years	Anatomy Physiology Biochemistry	First Professional MBBS
2 nd phase	1 year	Community Medicine Forensic Medicine	Second Professional MBBS
3 rd Phase	1 year	Pharmacology & therapeutics Pathology Microbiology	Third Professional MBBS
4 th Phase	1.5 year	Medicine & Allied subjects Surgery & Allied subjects Obstetrics & Gynecology	Final Professional MBBS

Traditional Teaching

- Most medical schools/colleges utilize the traditional lecture-centric teaching model, which emphasizes attendance and committing to memory basic science and clinical concepts.



Traditional Teaching: Criticism

- Overwhelming content and scope of lectures lead to information overload
- Promote rote learning: memorizing, recall, regurgitate in examination
- Lecture tends to create in students a high dependency on teacher
- Keep students in a passive situation
- Little opportunities to process the new knowledge
- Teaching skill, changing attitude and encouraging higher order thinking is not possible
- Does not facilitate problem solving abilities
- Does not allow self direction in learning

Traditional Teaching: Benefits

- Lectures are an efficient means of transferring knowledge and concepts.
- They can be used to stimulate interest, explain concept and provide core knowledge and direct student learning if used effectively.

Integrated Teaching

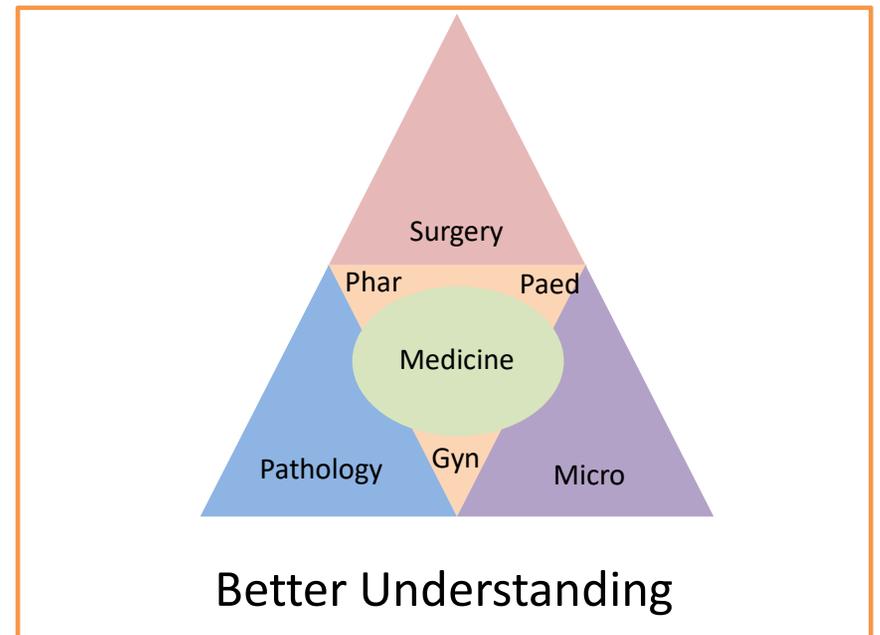
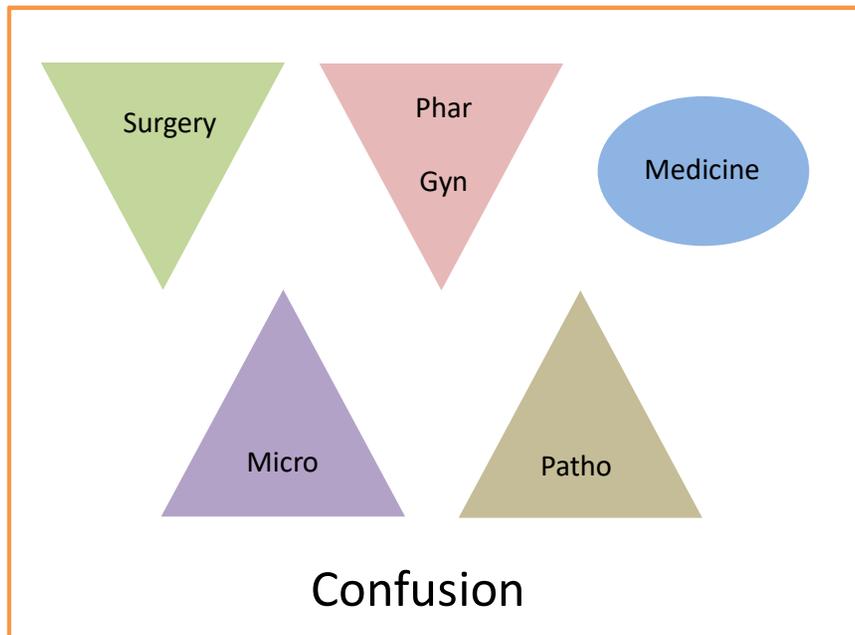
- Shoemaker et al. defined an integrated curriculum as

“*education that is organized in such a way that it cuts across subject-matter lines, bringing together various aspects of the curriculum into meaningful association to focus upon broad areas of study*”

Integrated Teaching

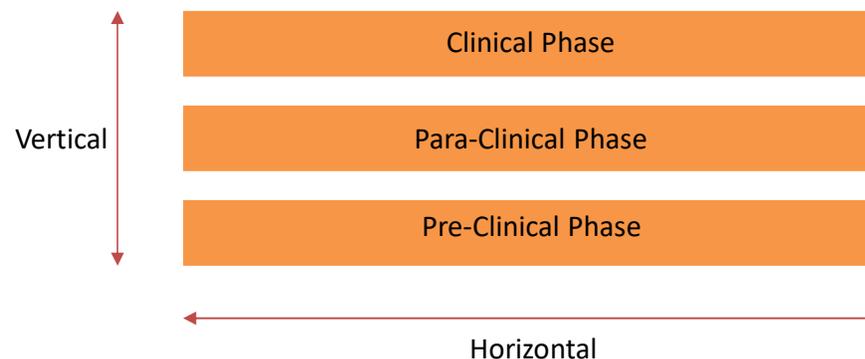
Tuberculosis: Traditional

Tuberculosis: Integrated



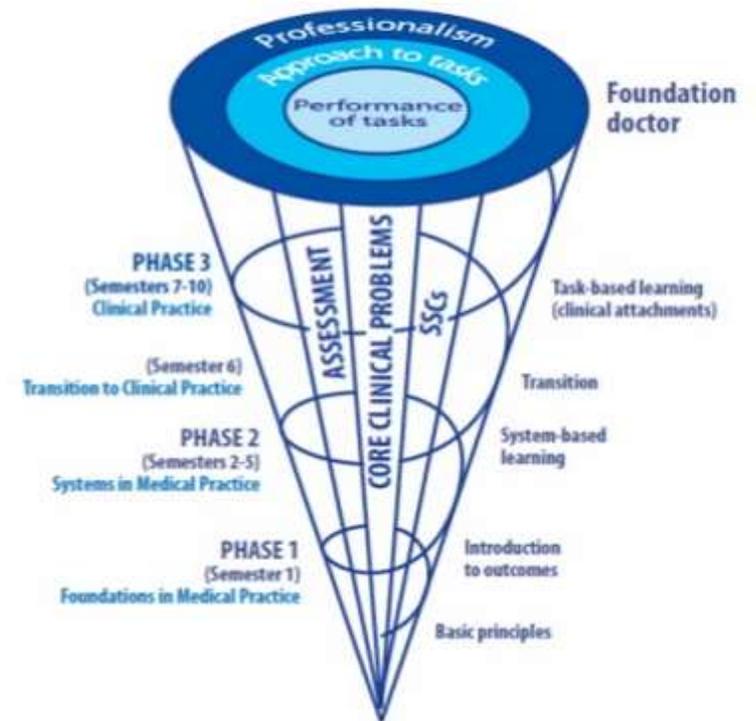
Integrated Teaching: Types

- **Horizontal:** Combined teaching-learning of renal structure and function by **Anatomy** and **Physiology**
- **Vertical:** Combined teaching-learning of renal failure by **Pathology** and **Medicine** departments.
- **Hybrid (Both):** Combined teaching-learning of renal failure by the departments of **Physiology, Pathology, Medicine** and **Surgery**



Integrated Teaching: Types (contd.)

- Spiral: the basic and clinical sciences are continually integrated as students' progress from learning the “normal” to the abnormal before the significant clinical portion of their education.



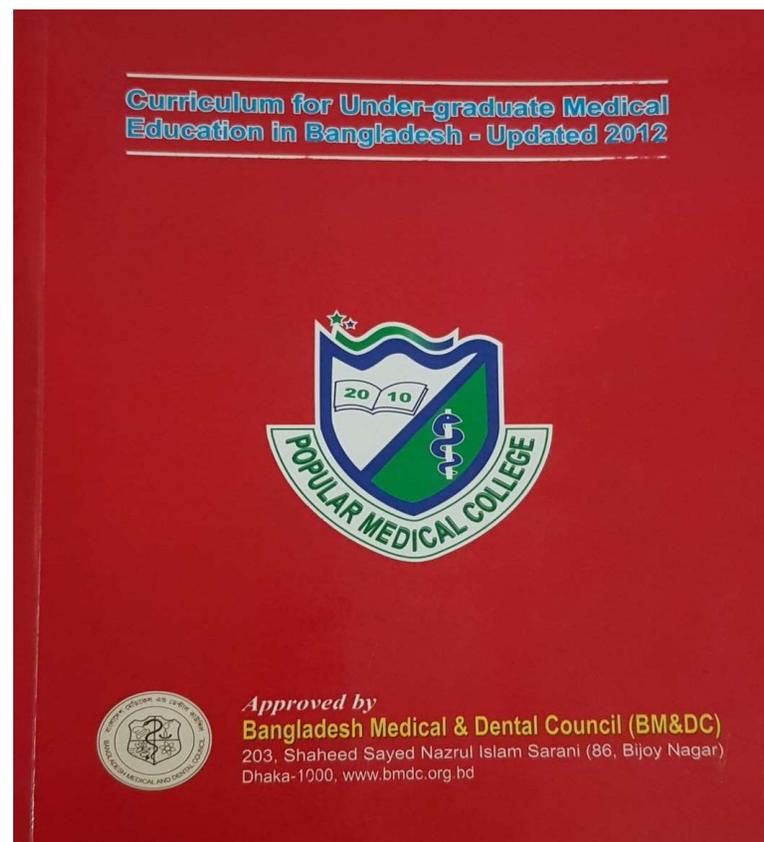
Integrated Teaching : Benefits

- Integrated teaching reduces fragmentation of medical courses
- Prevents repetition and waste of time
- Students learn to apply their knowledge to clinical practice
- Promotes interdepartmental collaboration
- Rationalization of teaching resources

Integrated Teaching : Barriers

- Lack of time
- Work-load of teachers
- Inadequate teachers' training
- Lack of teacher's skills in medical education
- Negative attitude
- Not properly emphasize in curriculum

Integrated Teaching: Our Curriculum



Integral Teaching: Our Curriculum

Integrated teaching in our curriculum

- 1st Phase - 30 hrs (Anatomy, Physiology, Biochemistry)
- 2nd Phase - 5 hrs (Community medicine), 5 hrs (Forensic medicine)
- 3rd Phase - No hr is allocated
- 4th Phase - 20 hrs (Medicine), 20 hrs (Surgery), 15 hrs (OBGYN)

Integrated Teaching: Study 1

Original Article

Scope of integrated teaching in a medical college: A study from South India

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Integrated Teaching: Study 1

Table 1: Assessment of students regarding the topic

Parameter assessed	Pretest	Posttest	P
Pathognomic feature of scrub typhus	30 (44.8)	62 (92.5)	<0.05
Earliest symptom of scrub typhus	47 (70.1)	65 (97.0)	<0.05
Complication of scrub typhus	42 (62.7)	61 (91.0)	<0.05
Treatment of scrub typhus	29 (43.3)	63 (94.0)	<0.05
Characteristic of the causative organism	28 (41.8)	56 (83.6)	<0.05
Causative organism	42 (62.7)	65 (97.0)	<0.05
Diagnosis of scrub typhus	9 (13.4)	48 (71.6)	<0.05
Characteristics of vector	22 (32.8)	39 (58.2)	<0.05
Vector for scrub typhus	13 (19.4)	61 (91.0)	<0.05
Differential diagnosis	39 (58.2)	57 (85.1)	<0.05

Table 2: Ranking of various parameters of integrated teaching (n=68)

Characteristics	1 (poor)	2 (fair)	3 (good)	4 (very good)	5 (excellent)
Achievements of objective	-	-	8 (11.9)	30 (44.8)	29 (43.3)
Interest of the audience	-	2 (3.0)	18 (26.9)	27 (40.3)	20 (29.9)
Confinement to the topic	-	3 (4.5)	8 (11.9)	30 (44.8)	26 (38.8)
Proper management of time	-	3 (4.5)	7 (10.5)	29 (43.3)	28 (41.8)
Appropriate use of audiovisual aids	3 (4.5)	5 (7.5)	19 (28.4)	25 (37.3)	15 (22.4)
Interaction with students	2 (3.0)	10 (14.9)	16 (23.9)	26 (38.8)	13 (19.4)
Venue arrangement	1 (1.5)	5 (7.5)	17 (25.4)	26 (38.8)	18 (26.9)
Overall rating	-	1 (1.5)	11 (16.4)	38 (56.7)	17 (25.4)

Integrated Teaching: Study 2

International Journal of Advances in Medicine
Behera BK et al. Int J Adv Med. 2017 Jun;4(3):640-644
<http://www.ijmedicine.com>

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Original Research Article

DOI: <http://dx.doi.org/10.18203/2349-3933.ijam20171921>

Evaluation of impact of an integrated lecture method of teaching among undergraduate medical students, compared to traditional didactical lectures in reference to antenatal care

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Integrated Teaching: Study 2

Table 1: Difference of mean knowledge score between traditional groups and integrated groups.

Group statistics							
	Group	N	Mean	Std. deviation	Std. error mean	Z-value	p value at 95%CI
Pre-test Knowledge	Traditional	48	6.178	2.054	0.290	8.69	P<0.0001
	Integrated	48	9.888	2.144	0.303		Significant
	Total	96					
Post-test Knowledge	Traditional	48	12.40	1.869	0.264	5.41	P<0.0001
	Integrated	48	14.46	1.864	0.264		Significant
	Total	96					

Difference of mean knowledge score between traditional groups and integrated groups.

Table 2: Comparison of mean attitude score between traditional group and integrated groups.

Group statistics							
	Group	N	Mean rank	Std. deviation	Std. error mean	Z value	p value at 95%CI
Pre-test attitude	Traditional	48	48.88	2.451	0.301	1.55	P=0.1211
	Integrated	48	48.09	2.545	0.315		
	Total	96					
Post-test attitude	Traditional	48	36.95	1.972	0.265	57.05	P<0.0001
	Integrated	48	60.00	1.977	0.260		
	Total	96					

Comparison of mean attitude score between traditional group and integrated groups.

Integrated Teaching: Study 2

Table 3: Comparison between pre-test traditional knowledge with post –test traditional knowledge and pre-test integrated knowledge with post-test integrated knowledge.

Group statistics							
Attributes	Group	N	Mean	SD	SE	Z	P-value
Pre-test knowledge	Traditional	48	6.178	2.054	0.290	15.51	P<0.0001 Highly Significant
Post-test knowledge	Traditional	48	12.40	1.869	0.264		
Pre-test knowledge	Integrated	48	9.89	2.14	0.303	11.17	P<0.0001 Highly Significant
Post-test knowledge	Integrated	48	14.46	1.86	0.264		

Comparison between pre-test traditional knowledge with post –test traditional knowledge and pre-test integrated knowledge with post-test integrated knowledge.

Conclusion

- Curriculum reform in medical education is both difficult and challenging,
- Considering and understanding the issues emerging from the reform may help the academic community to succeed in the new curriculum practice.
- Designing curriculum integration, as a component of the reform, should begin with an in-depth understanding of the setting in which it will be implemented.
- Curriculum integration evaluation should entail collecting information about its issues and benefits using different instruments and methodologies.

Thank You

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