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EDUCATIONAL FORUM

# Integrated Teaching Program: Incorporation of "SACK" model

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**ABSTRACT**

An Indian Medical Graduate is asserted to possess knowledge, skills, and attitude domains in the undergraduate medical curriculum. He must also possess adequate competencies for patient care. Till the introduction of competency-based curriculum, the disciplines worked as segregated units leading to fragmentation of knowledge and gap between what is learned and its application. The introduction of competency-based curriculum has stressed the need for integrated teaching program (ITP). ITP is meant to provide a holistic view of the topic or theme. However, ITPs' mostly incorporate lectures in continuous sequence as the teaching mode that may lead to decreased attention span among students. A model for conduction of ITP is hence prepared called "SACK" Model. This model can provide a true holistic aspect in ITP conduction. This model would act as a "Feather in the cap" of competency-based curriculum. ITP can be conducted as a single activity involving the departments horizontally and vertically. It can be applied for any disciplines utilizing ITP and for all phases.

**KEY WORDS:** Indian Medical Graduate; Medical Curriculum; Competency; Integrated Teaching Program

## INTRODUCTION

Over the course of a student's education, teachers have become progressively reliant on more passive PowerPoint presentations during lectures.[1] In the present education system in India, an explanatory component like lectures is the major method of imparting medical education that creates a teacher-centered classroom setting in which students are more passive than active learners.[2] Active learning is a student-centered teaching technique that uses interactive strategies to create a more engaging classroom setting as compared with the traditional didactic lecture. The purpose of active learning is to keep students engaged in the matter taught, to provide an environment that increases student performance and at the same time motivates the students to learn, increases classroom satisfaction and facilitates higher-level thinking skills.[2] With the advent of higher education, there is an increasing trend toward shifting from traditional, non-interactive didactic lectures, teacher-centered teaching to more student-centered activities that can actively engage students in the learning process.[3]

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One of the universal objectives of the undergraduate curriculum is to equip students with the knowledge, skills, and attitudes-communication domains[4] so as to provide competent and utmost patient care after graduation.[5] Basic practical skills are competencies that students should positively foster during undergraduate medical training.[4] Both style and content are an integral part of communication skills.[6,7] Attentive listening skills and empathy are some examples of skillful communication.[8] In clinical practice, what is also important is how we deal with patients which like knowledge and skill should also be started early.

## NEED

It has been mentioned by researchers that medical students have a segregated view on basic medical science subjects because they think there is no functional linkage between what is taught to them in pre-clinical years and their future needs as a physician.[9,10] Functional lack of coordination of clinical and basic medical science courses has been emphasized as a cause of this segregated view.[9,11] In clinical practice, dealing with a patient is important (a component of early clinical exposure ECE). Dealing with a patient requires the knowledge of the disease, skill of examination, and the behavior or attitudes toward the patient.

Teaching programs like integrated teaching program (ITP) deals mainly with the knowledge component, which is composed mainly of lectures one after the other, not taking into consideration the attention span. Lectures deal mainly with knowledge and practical's are attributed with skills. The students especially in their 1st year of medical sciences career hardly come across the cases or patients in their curriculum. Therefore, the concept of ECE is introduced in some curriculum. However, ECE requires a lot of efforts in terms of time management, student management, faculty recruitment, etc.

Competency-based curriculum is introduced all over India, which comprises ITP to provide a holistic view of the topic or theme. ITP is also an established part of the curriculum in many colleges. ITP can be modified as per "SACK" model incorporating all the four components and increasing its utility and effectiveness. Hence, this model is proposed, which includes knowledge, skill, and attitude component and is also case-based (actual patient-based). This would provide a true holistic approach to teaching and learning.

## OUTCOMES: (FIGURE 1: LOGIC MODEL)

### Short-Term

- Comprehend the knowledge learned during the integrated learning sessions
- Display the skills in performing tests pertaining to the topic elected
- Increase in motivation for proper examination of patients
- Increased relevance of the subject.

### Intermediate Term

- Apply what was taught in pre-clinical years to present scenario while dealing with patients
- Increase in the level of interpersonal relationships between students and patient during clinical posting
- Increased confidence in the examination of patients
- Increased level of involvement in the examination of patients.

### Long-Term

- Expertise in performance among health professionals
- Provide quality services to the masses
- Establishing a good doctor–patient relationship.

## METHODS

### Implementation: Input

#### *Beneficiaries*

Students of all medical, dental disciplines and allied and all phases who are instructed and taught through ITP. Pre-requisite knowledge is not required by learners.

#### *Facilitators*

This model can be utilized from 1st year to final year curriculum as horizontal or vertical ITP. Facilitators having expertise one each from the concerned departments including an in-charge clinician should be involved.

#### *Facilities required*

A moderately equipped lecture hall with teaching aids such as blackboard and liquid crystal display projector is a pre-requisite. Clinical material should include the actual patient related to the theme of ITP SACK model, for example, a diabetic patient. The relative of the patient should accompany the patient to the classroom.

The "SACK model"©: (Diary no: 2115/2015-CO/L; Date of Receipt: 09/03/2015)

SACK model stands for:
S= Skill based
A= Attitude based
C= Case-based (case as an actual patient)
K= Knowledge-based.

### Implementation: Process

There should be meeting of the in-charges from the Departments of Anatomy, Physiology, and Biochemistry to finalize the topic for the ITP, dates, and scheduling of the events to conduct the ITP as per the SACK model at the beginning of the session. (An example from pre-clinical departments conducting horizontal ITP with the topic 'Diabetes Mellitus' is explained further in detail).

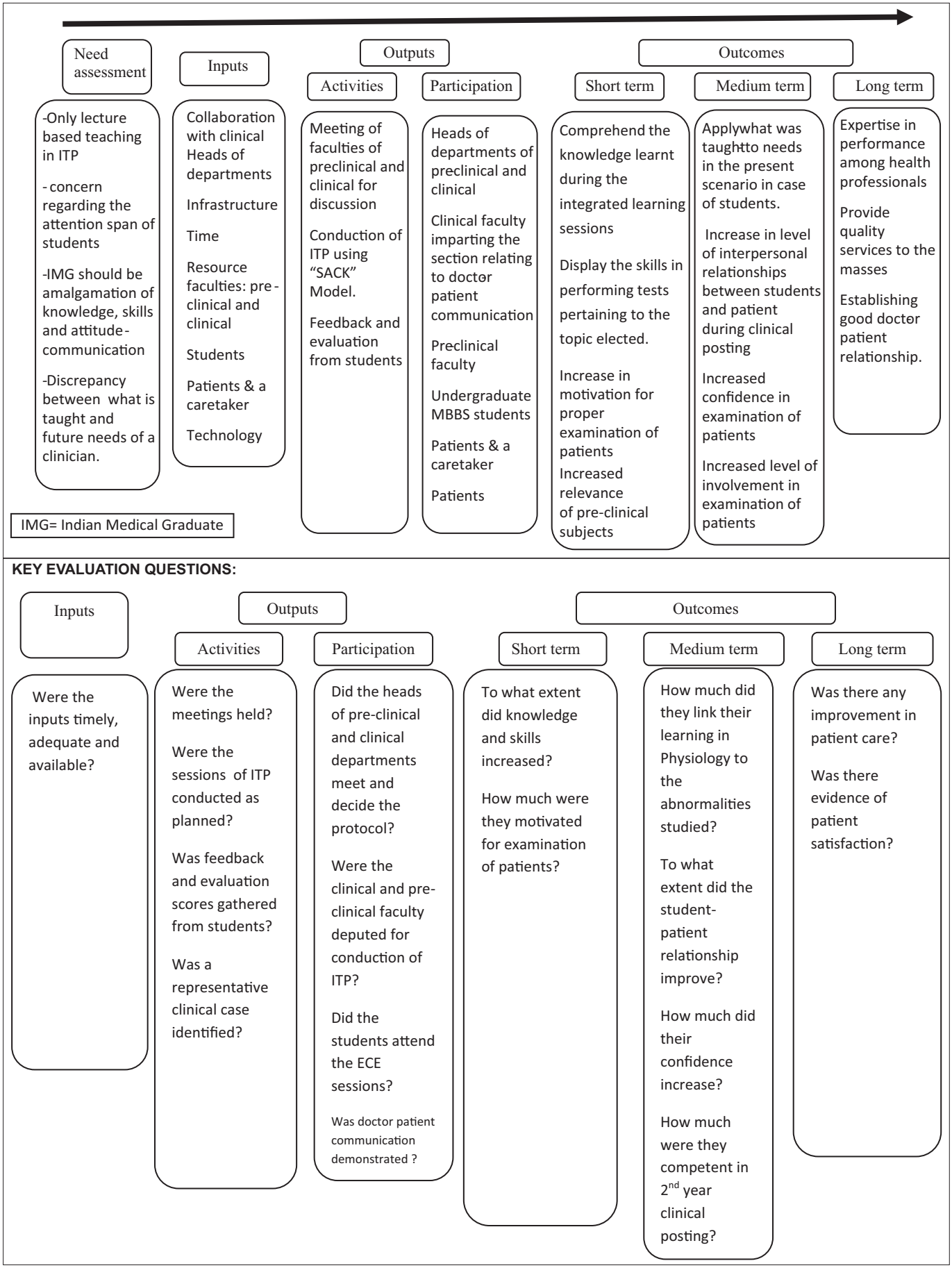


**Figure 1:** LOGIC MODEL: Aim: To evaluate "SACK" Model © in conduction of Integrated Teaching Program (ITP). (Example of preclinical subject given)

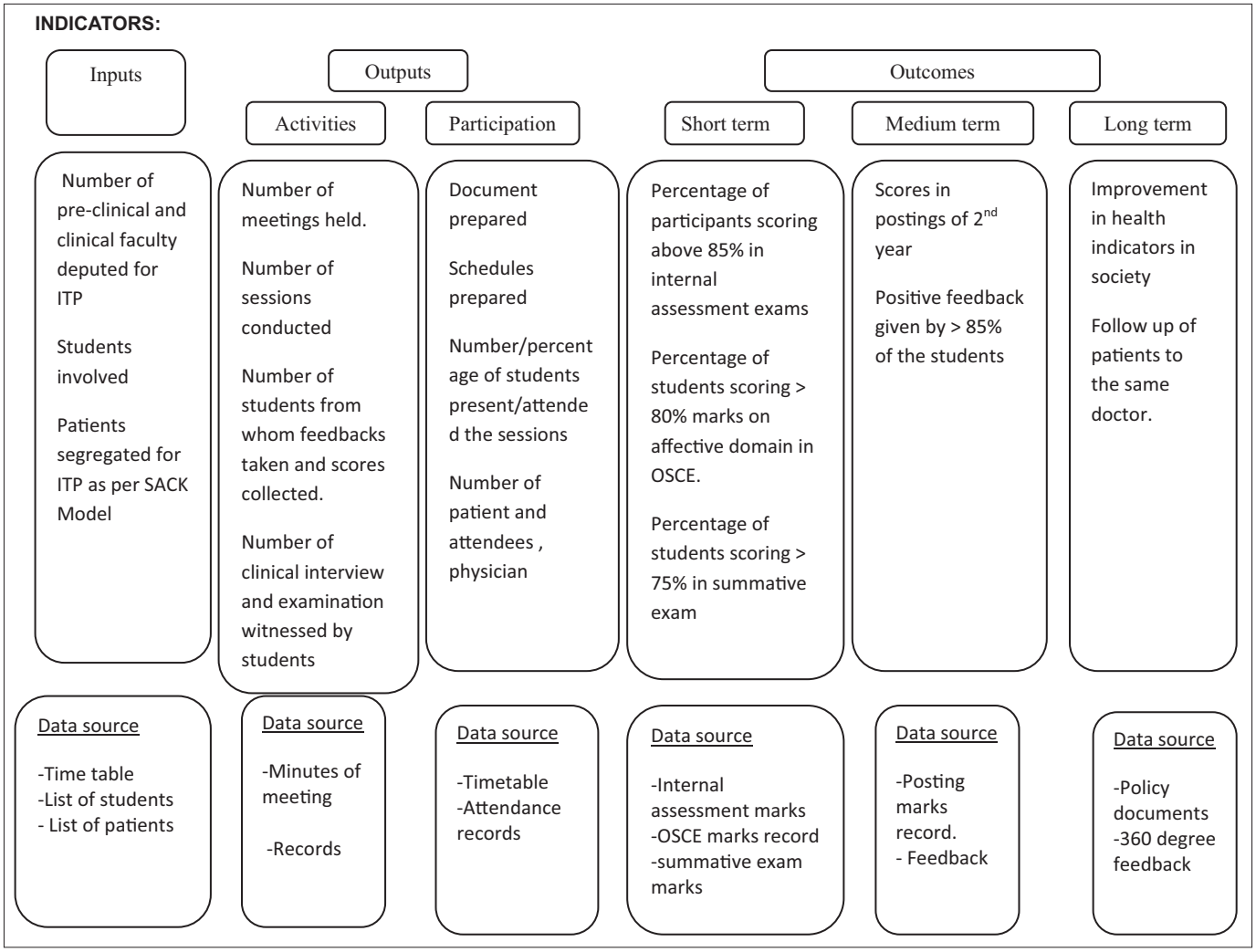


**Figure 1:** LOGIC MODEL: Aim: To evaluate "SACK" Model © in conduction of Integrated Teaching Program (ITP). (Example of preclinical subject given)

The clinical department has to be finalized as per the topic chosen. A separate dedicated meeting should be held with the in-charge from the clinical department.

The in-charge from the clinical department should be requested to be equipped with the following: Summary of the patient inclusive of the relevant history, clinical findings, and laboratory reports; a PowerPoint presentation of the lab reports and video of any specific clinical features to be shown to the learners.

The clinician should also be asked to focus on the attitudinal aspects such as communication with the patient and his/her relative. There should be a point to point protocol prepared regarding the scheduling of the ITP. There can be two approaches: (1) Either the case can be shown first followed by the lectures by the three departments in which they would apply what is observed and learned during patient exposure followed by the practical work by students or (2) there can be relay teaching by the facilitators of the three departments, followed by practical session followed by presentation on patient where the learners would apply the knowledge.

Conduction of ITP using "SACK" model with an example topic of 'Diabetes Mellitus'. To conduct the ITP as per SACK model, the patient should be identified from the clinical departments. For example, suppose there is a patient in the Medicine Department or Pediatric Department. The in-charge clinician should be consulted, and after due permission from the head of the department, the patient should be booked. In-charge clinician who would discuss the patient should be handed over the checklist to be brought along with the patient. A relative should also be asked to accompany the patient. In-charge clinician should be made aware about the objectives of the clinical session such as pointing toward the communication skills between a doctor and patient and toward relatives and relevance of the knowledge of anatomy, physiology, and biochemistry in diabetes mellitus. In-charge clinician should be briefed about the contents to be covered in the lecture sessions and practicals.

The lectures can be conducted first in the form of relay teaching. The facilitators from the departments of Anatomy, Physiology, and Biochemistry would actively impart the knowledge pertaining to the cognitive domain so that it

reflects the "knowledge" and "understanding" level on revised bloom's taxonomy. It can be done in sessions, for example, on the 1st day, if the patient is shown, it can be followed by an interactive lecture by Anatomy and Physiology department (Total time: 2 h).

In the second session, this can be followed by conducting practical in congruence with the topic of diabetes mellitus in batches. The department of Biochemistry should be roped in. The students would perform the various tests on blood and urine to detect the presence of sugars. This would pertain to psychomotor domain and would reflect "set" level of psychomotor domain. These practical which were part of the syllabus would not be held again.

Then, in the third session, the lecture pertaining to biochemistry can be conducted, followed by summarization (Total time: 1 h).

The patient can be shown at the first or the last stage of the SACK model, which would pertain to the attitude domain reflecting "valuing" level of attitude domain. While explaining the patient, it is feasible if videos of the important signs and symptoms can be projected for a large class size during the demonstration.

An actual patient is preferred in SACK model since the actual doctor–patient relationship is an art and forms the central function and heart in a clinical setting.[6,8,12,13] This model can also be expanded to various topics like nephrotic syndrome.[14]

### Summarization

The topic should be summarized with a view to complete the concept of integration emphasizing the core concepts from each domain.

### Implementation: Output

#### *Evaluation*

Evaluation can be conducted as per Kirkpatrick model of evaluation. Level 1 of reaction can be gathered using structured feedback. The feedback can include closed-ended questions on 5-point Likert scale with questions pertaining to input, process, and output. Level 2 of learning can be divided into multiple-choice questions involving clinical case scenarios and brief answer questions which can be given as pre-test before the start of the program and at the post-test at the end of the program. The psychomotor domain can be tested at the end of the practical by asking them to perform the test. Class average normalized gain can be utilized to evaluate the effectiveness of the intervention. Focus group discussion should be conducted to probe into the strengths, weaknesses, and modifications if any to be incorporated in the SACK model of conducting the ITP. The logic model for evaluation of "SACK" model is provided as Figure 1.

## DISCUSSION

In a study that utilized "SACK" model for students of 1st-year MBBS, the students appreciated the components, especially the component of a real patient and the doctor–patient interaction.[14]

As "SACK model" is an innovative and a simple model, studies from other authors incorporating "SACK" model have yet not been published.

### Strengths of "SACK" Model

SACK model is a stand-alone resource for incorporation in ITP.

There can be one ITP incorporating the SACK model to reduce the burden on the curriculum and increasing the output of the strategy.

It can act as an accolade to competency-based curriculum.

### Limitations of "SACK" Model

Limitation of "SACK" model is the assessment of the attitude component which needs the incorporation of valid tools.

## CONCLUSION

SACK model stands for skill-based, attitude-based, case-based (patient), and knowledge-based model that can be utilized for varied topics and varied disciplines such as medical, dental, and allied.

### Future Directives

SACK model can be utilized for either teaching purpose or research purpose or both.

The educational effectiveness of SACK model can also be tested incorporating randomized controlled trials.

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