



### Contents

	Page
President's message .....	2
Dogmatism in Medicine .....	3
Are you giving feedback the way it should be? .....	6
Upcoming events .....	8
Photo album- Annual Scientific Sessions – 2016 .....	10
Achievements .....	12

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### **Description of front page picture**

A 19th century spirometer.

Source: Medic Database

<http://www.biusante.parisdescartes.fr/histoire/images>

## President's Message

### Beyond "Search, Teach and Serve"

The Physiological Society of Sri Lanka (PSSL) is completing its 3<sup>rd</sup> decade. There are many academic activities in its annual calendar; which include the regional meeting, physiology quiz, annual academic sessions and three orations. It is an honour and privilege to be the President of the PSSL.



The motto of the PSSL is "Search, Teach and Serve". I believe that the founders of the society correctly identified the motto probably to represent the duties of an academic who is conducting research, teaching and providing service functions. Research is conducted to improve the understanding and to generate new knowledge. Trends in education has modified the teaching into learning or teaching & learning. Learning is acquiring knowledge, gaining skills and changing attitudes to change the behaviour for better living in the world. Services are to apply acquired knowledge to have an impact in the society.

There is a tremendous expansion of knowledge in almost all fields of science and arts but the expected behavioural changes are not forthcoming. The knowledge on many disease conditions is expanding but there is a gap between knowledge and the practice. As a logical argument when knowledge expands about a particular condition the prevalence and incidence of that condition should decrease. But it does not happen so in many occasions.

For example, the incidence and prevalence of diabetes mellitus is increasing in spite of expansion of knowledge and skills related to diabetes. It could be due to the fact that there is no change or inadequate change in behavior in spite of improved knowledge. It indicates that in addition to learning (i.e. acquiring knowledge), developing & gaining skills and changing attitudes, there should be other factors that may be preventing the reduction of prevalence of a disease condition.

Motivation and mobilization of resources are two other factors that can be practiced to have a better impact on controlling a disease condition such as diabetes.

It is interesting to note that Physiology teaches about learning & memory, developing skills as well as motivation. All those are neural functions. Physiologists can contribute to improve learning, impart skills and motivate to change attitudes.

Mobilization of resources is very important to have an impact on the output of learning. Time, material, human resource, money are some components that need to be mobilized to have a better outcome from learning. Mobilization is a subject that comes under the field of management.

Therefore, a Physiologist can go beyond the motto of the PSSL to collaborate with other fields to have a multidisciplinary approach for a better impact by their activities.

# Dogmatism in Medicine

Prof. Susirith Mendis

❖ What is dogmatism? It has been variously defined:

- “It is the tendency to lay down principles as incontrovertibly true, without consideration of evidence or the opinions of others.”
- “It is a viewpoint or system of ideas based on insufficiently examined premises.”
- “It is the tendency to lay down principles as undeniably true.”
- Or if you put it in the adjective form of ‘being dogmatic’: “It is when you are certain that you are right and that everyone else is wrong.”

Henry Bauer in his book “Dogmatism in Science and Medicine” (2012) talks about ‘knowledge monopolies and research cartels’ that ‘manage knowledge’. He goes on to say that science is no longer reliable and asks the question “Can 21st century science become trustworthy again?”

How unsuspectingly do we ‘believe’ in the “facts” of modern medicine? More often than not, isn’t it? When we do that, how many of us realise that we are being unknowingly deceived into being dogmatic? Into ‘believing’ in established dogma?

The history of medicine is a narrative of centuries of patient, hard work. Of meticulous observation and equally meticulous recording of such observations. But what we tend to forget is that this narrative is also replete with ‘error and false conclusions’. And worst of all, erroneous conclusions which some of us are reluctant to accept as such, in the face of new evidence, out of a sense of false pride or loyalty to our old beliefs, even when they have been disproved and are being discarded.

## **Where does dogmatism come into modern medical education and medical practice?**

The most pervasive of traditions in this respect is what I would call the effect of ‘Pedagogical Hierarchy’ – the breeding ground of early dogmatism.

We all tend to stand in the ‘shadow of giants’. It could be religious leaders, political or national leaders, societal leaders and so forth. But I am here, confining myself to teachers – or more precisely, professors in medical schools and consultants/specialists in teaching hospitals.

The students tend to ‘believe’ what these ‘giants’ tell them. They copy almost every word that falls from their lips and collect them into copious notes for regurgitation at examination. The students can’t be blamed, though often they are. And most unfortunately, those exalted entities in medical schools and hospitals expect the students to accept what they say, as the saying goes, as ‘Gospel Truth’; as absolute truth. The last word on the subject.

Not only that, we come with our holy texts of medical education. In my department, we too have our holy texts - the Ganong and the Guyton, for example. Others have their Kumar and Clark, Clinical Methods or Ten Teachers. We must encourage students to read their textbooks ‘critically’ and ‘analytically’.

## **Clinical Training**

As we all know, clinical training is a critical aspect of medical education. That is supposedly where “doctors are made”. Unfortunately, we have all experienced ‘Dogmatism at its worst’ in that setting - the most important ‘learning setting’ for medical students. This is an environment where dogmatism is not the all-pervasive “truths” of “holy Texts”; this is the situation where individual dogmatisms hold sway. The Teacher-Consultant’s word is the ultimate truth – the opinion from the ‘Oracle’ him/herself.

How much student ‘learning’ has suffered in consequence – and even their performance at clinical examinations where they are expected to sometimes repeat word for word, and sometimes in the exact sequence, what the ‘oracles’ have spoken – at the grave risk of otherwise failing their ‘clinicals’ – has never been estimated.

Have any one of us as medical students or Interns, MOs, Registrars or even Senior Registrars challenged the consultant when you know that his/her pronouncement on a clinical issue is incorrect or open to debate? How many of us as students, Probationary Lecturers/Senior Lecturers have ever challenged our professor on an academic point?

## **Dogmatism inculcated during Evaluation**

- Type of assessment questions

The MCQ

There are different types of MCQs. The type X (multiple response/ True/False) and the third is type A (single best response).

Do we realise that the type X MCQs breed dogmatism? These inculcate in the minds of students that there are clear cut answers to questions in medicine. They are either True or False. Black or White. No grey areas. No areas for doubt or divided opinion. They entrench the idea of absolutism of modern medicine.

Though there are many reasons cited in the literature as to the disadvantages of type X MCQs, I found none listing ‘breeding dogmatism’ as one of them. And I make bold to say that it does indeed ‘breed dogmatism’.

But instinctively, we have come to realise that this is ‘bad’ in medical education and the type A is now increasingly replacing type X in undergraduate and postgraduate medical examinations.

Furthermore, we now don’t have the ‘old world’ essay questions anymore. For example:

*“The pituitary is the leader of the endocrine orchestra.”* Discuss.

The students’ response is unrestricted here. Among other things, they can compare and contrast the basic assumptions or opinions and make criticisms of each and write as many pages as they like and organize the answer as one sees fit. There is freedom to even come out with one’s own theory – if clearly and logically argued!

One does not have to reproduce texts.

Instead, we have now, SEQs, SAQs and extended SEQs which restrict open thinking and analyses. The answers are pre-set and pre-determined with 'model answers'.

All these contribute to encourage a "non-creative mindset" which in turn, breeds a 'dogmatic mindset'. But instead, we will debate on the objectivity and subjectivity of assessment methods!

Can we move away from assisting in the creation of this 'dogmatic mindset'? Yes. But to do so, we must first admit to its existence. Let us be aware that dogmatism often leads us up blind alleys into 'cul de sacs' of modern scientific medicine. It is a disservice we are doing to the 'spirit of science'. Let us acknowledge that medicine is an imperfect science. Let us take deliberate steps to inculcate and encourage an inquiring mindset in our students.

Let us find ways and means to demonstrate to our students (i) that the teachers are not always right. That they are not infallible. They can be sometimes wrong; and (ii) that a challenge to hierarchy is not only acceptable, but the desired and encouraged attitude.

Then, someday, we can be rid of 'Dogmatism in Medicine'.

**An abstract of the Prof. S.N. Wickramasinghe Memorial Oration 2017 delivered by Prof. Susirith Mendis, Senior Professor of Physiology, Faculty of Medicine, University of Ruhuna, at the Inauguration of the President of the Sri Lanka College of Haematologists.**

## Are you giving feedback the way it should be?

Dr. Pandula Siribaddana

As a medical teacher, you know that effective feedback is a powerful tool that could help your students to become competent professionals. However, as with many other talents, giving effective feedback is not a born talent. Therefore, this article will briefly take you through some of the important aspects related to giving effective feedback to your students in a bid to promote proactive utilization of best practices in giving feedback.

### What do you mean by 'effective feedback'?

Although feedback has been defined in several different ways, there are certain elements that are common to many such definitions. These commonalities include;

- a. Two-way nature of the communication
- b. Feedback being delivered by an 'agent'
- c. Close association between performance and feedback.

Feedbacks being a two-way communication implies that when giving feedback you are not only suppose to talk but should also listen. Feedback being delivered by an 'agent' implies that apart from you as the teacher, there are others – fellow students, patients, other professionals - who can also give feedback to your students. The close association between performance and feedback implies that unless the 'agent' observes a performance, it would not be possible to give effective feedback. In addition, contextual factors such as institutional policies, outcomes of a training and the characteristics of the 'agent' may also determine the nature of the feedback given. Therefore, in-line with these principles, you could become your own master in defining effective feedback - as you will know better regarding the aims and the context of the feedback given.

### What areas do you have to focus when giving feedback?

When giving feedback, you can focus on three different aspects. These are;

- a. The task or the performance
- b. The process undertaken to perform the task
- c. Self-efficacy of the student

Giving feedback regarding the task is more powerful when it is aimed at correcting misconceptions than when trying to fix deficiencies in knowledge. In the latter instance, it may be more effective for you to arrange a teaching session than a feedback session. Feedback regarding the process would enlighten the students about the relationship between the approach adopted by them and the quality in their performance. In other words, by focusing on the process, you would provide the student with insights into alternative approaches - or on 'how to learn'. The focus on self-efficacy would mean you are helping the student to take action by him or herself in relation to the feedback given. Apart from these areas, teachers are compelled to give feedback on a student as a person, which may detach the connection between a student's effort and his or her achievement. Thus, as much as possible, you should avoid feedback – positive and negative – aimed at the students self as a person.



## How do you give effective feedback?

When giving feedback, unless you have a clear plan, it might not turn out to be an effective feedback. Therefore, you will want to structure your feedback using a recognized model. Pendleton's rules and the feedback sandwich are two models used in structuring feedback. However, it should be noted that these models have their own advantages and disadvantages which you should understand through further reading.

### The Pendleton's rules

According to the Pendleton's rules, you must first see how prepared the student is to receive feedback. If the student is ready, you can first give the student the opportunity to comment on the background of material being assessed and to identify what is being done well. Then it is your turn to state what was done well before allowing the student to state 'what could be improved'. Next, you should comment on 'how it could be improved'. Based on the understanding gathered, you and the student could then produce an action plan that facilitates learning and be a starting point for the next feedback session.

#### Pendleton's rules

- Check learner is ready for feedback
- Let learner give comments /background on the material being assessed
- The learner states what was done well
- Observer(s) state what was done well
- Learner states what could be improved
- Observer(s) states **how** it could be improved
- An action plan for improvement is made

### The feedback sandwich (Criticisms sandwich)

In this instance, you start by praising the student for what he or she did and will move-on to discuss minor changes to the observed practice. This will be followed by the main chunk of criticism – the meat - before being



- ← Positive Feedback
- ← Constructive Feedback
- ← Positive Feedback

layered with more praise. You can then provide the student with some minor edits – a thin layer of criticism – before concluding by adding a sprinkle of praise.

### What is the take home message?

Feedback is an essential tool in any (medical) teacher's armory. Not all feedback can be defined as 'effective feedback' as there are certain principles and practices that define such feedback. However, the effectiveness of feedback depends on many factors that should gel together through repeated practice. Therefore, as teachers, we should apply the principles and models discussed herein and in other academic literature, in making us more effective in giving feedback.

**Dr Pandula Siribaddana is Senior Lecturer in Medical Education, Postgraduate Institute of Medicine, University of Colombo.**



## Upcoming events

### Regional Meeting of the PSSL

**Date: Friday 10<sup>th</sup> March 2017**

**Venue: Auditorium of Faculty of Health-Care Sciences, Eastern University, Batticaloa.**

#### **Programme**

8.15- 8.30 am - Registration

#### Inauguration

8.30- 8.35 am -Lighting the oil lamp

8.35- 8.40 am -Welcome address

8.40- 8.50 am -Address by the Dean of FHCS – Dr. Angela Arulpragasam

8.50- 9.20 am -Address by the President of PSSL- Prof. K.G. Somasiri

9.20- 9.30 am -Vote of thanks

#### Presentations

9.30-10.00 am - Phase I curriculum of FHCS, EUSL with emphasis on Physiology  
Dr.M.Thayabaran, Head, Department of Human Biology, FHCS

10.00- 10.30 am - Relevance of laboratory practicals in the context of modular curriculum  
Prof. V.Parameswaran, Professor of Physiology, FHCS.

10.30 – 11.00 am - Discussion & Tea

11.00- 11.30 pm - Revealing the mystery of Batticaloa lagoon  
Dr.K.Arulnithy, Consultant Cardiologist, THB

11.30- 12.00- Cardiopulmonary Exercise Testing, setting exercise intensity, and training zones  
Dr Robert Cramb, Exercise Physiologist,  
Durham University, UK

12.00-12.30pm – Exercise Referral Systems for the management of chronic NCDs: how can we motivate  
Patients to be active?  
Prof. Emily J Oliver (PhD., CPsychol, AFBPsS, SFHEA)  
Durham University, UK

12.30- 1.00 pm- Demonstration on lung function testing

1.00 pm - Lunch & closing remarks

4.00 pm onwards- Fellowship and site seeing tour around Batticaloa city

# PROFESSOR CARLO FONSEKA CHALLENGE TROPHY

## 5<sup>th</sup> Inter-Medical School Physiology Quiz

15<sup>th</sup> of July 2017

At

Faculty of Medicine, University of Ruhuna.

**UIMSPQ** Prof. A. Raman Challenge Trophy  
15<sup>th</sup> Inter-Medical School Physiology Quiz  
16<sup>th</sup> & 17<sup>th</sup> August 2017  
University of Malaya, Kuala Lumpur, Malaysia

**Registration fees:**  
USD 70 per participant

**Closing date:**  
31<sup>st</sup> March 2017

For registration, please click the following link:

**REGISTER HERE**

❖ All Universities are welcomed and invited to participate  
❖ A university team consists of a minimum of 3 to a maximum of 5 student participants  
❖ Registration fees includes accommodation and food

Refresher Course by:

**Prof. Walter F. Boron, MD, PhD**  
WF Boron, EL Boulpaep:  
Medical Physiology

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Jointly organised by:  
Department of Physiology  
Faculty of Medicine

UNIVERSITY OF MALAYA  
The Society for Physiology  
TS/P

## Photo album

Annual Scientific Sessions – 2016 held on the 25<sup>th</sup> and 26<sup>th</sup> November 2016, at the Faculty of Medicine, University of Colombo.



Welcome address by  
Dr Sudharshani Wasalathanthri,  
President (2015/16)



Address by the Guest of Honour  
Prof Jennifer Perera,  
Dean, Faculty of Medicine, Colombo



Address by the Chief Guest  
Prof Ajith de Alwis,  
Project Director at the Coordinating  
Secretariat for Science Technology  
and Innovation (COSTI)



Dr Rohan Gunawardena delivering the  
K N Seneviratne Oration  
“When the Heart and the Brain Disagree”



Prof Kamani H Tennekoon delivering the Valentine Basnayake Oration  
"Breast Cancer: A glimpse into genetics and potential drug leads"



Dr Deepthi de Silva delivering the A C E Koch Oration  
"Exploring the complexities of congenital heart disease"



Prof. Carlo Fonseca presents the award to Prof. Sampath Gunawardene for the Best oral presentation



## Achievements

Prof. Tharaka Dassanayake (Department of Physiology, Faculty of Medicine, University of Peradeniya) delivered the prestigious "KSM Oration 2017" titled "Cognitive Toxicity: From pesticides to pharmaceuticals" on 15<sup>th</sup> February 2017.