



# Team-Based Learning

**Prof. Dr. Vinicius C. Santana**

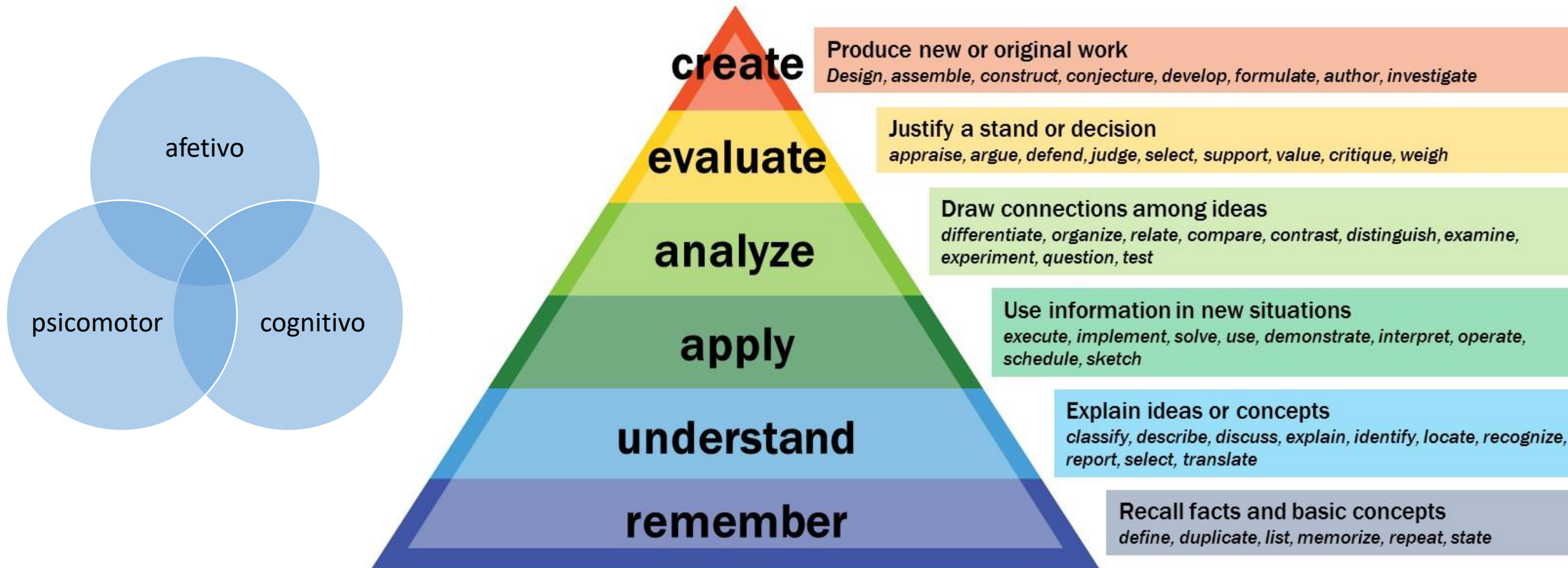
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Pense como aluno.....  
Em qual ambiente prefere estar?



FORMAR X INFORMAR?

# Processo cognitivo na taxonomia de Bloom



# OBJETIVO DE APRENDIZAGEM



## O que é um objetivo de aprendizagem?

1

Use um verbo no infinitivo...

2

Descreva uma tarefa específica

3

Descreva uma condição.

Mensurar a frequência cardíaca de um paciente em repouso.

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Verbo infinitivo

Tarefa específica

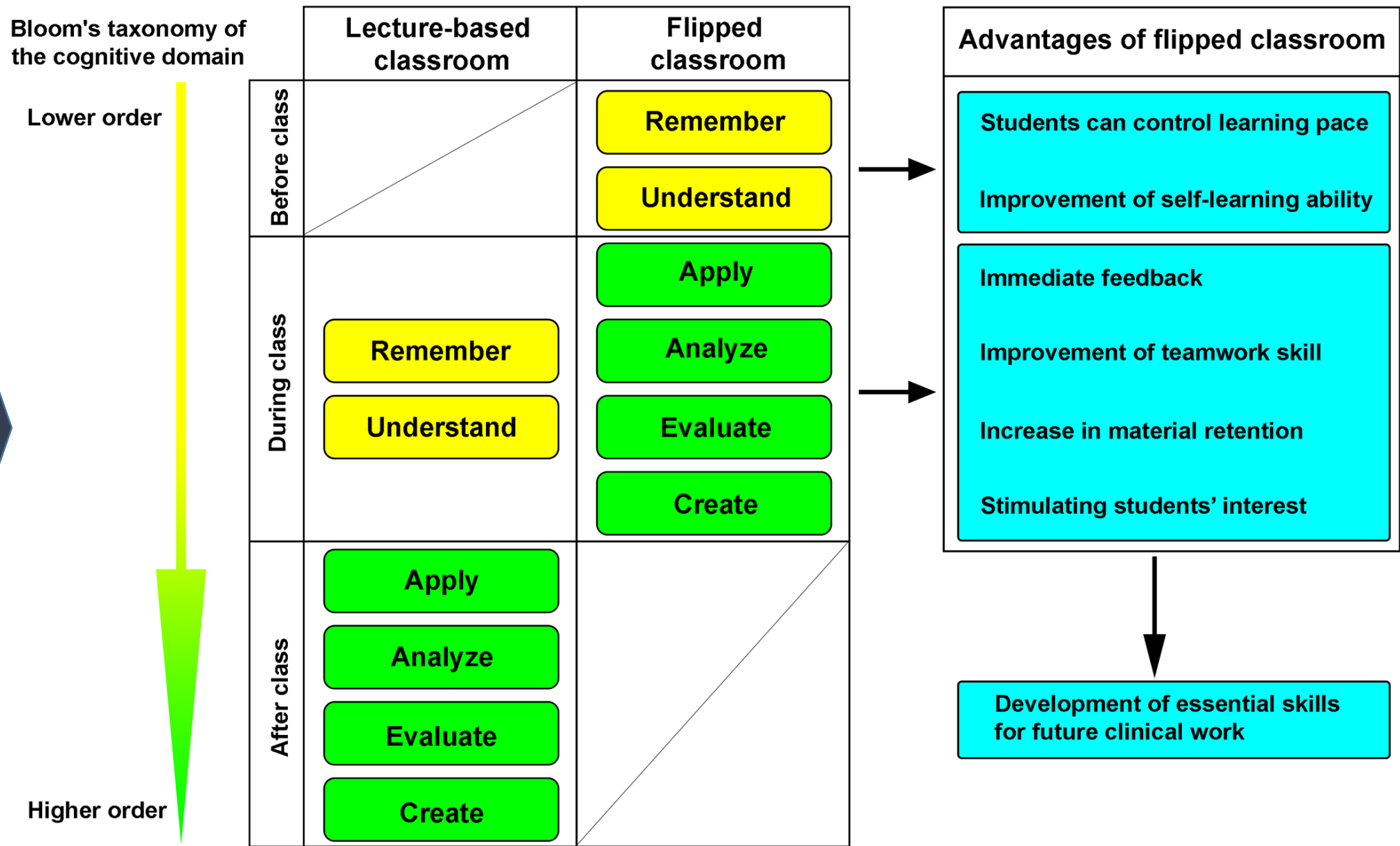
condição

- ✓ Específico
- ✓ Mensurável
- ✓ Alcançável
- ✓ Relevante
- ✓ Domínio de aprendizagem

**O OBJETIVO DE APRENDIZAGEM AJUDA A DEFINIR A METODOLOGIA!**



Porque "invertir" a sala de aula?



# TBL – Team-Based Learning

- Originalmente desenvolvido nos anos 1970 por Dr. Larry Michaelsen para uso em cursos da área de negócios;
- Parmelee et al., definem TBL como: “Uma estratégia de ensino ativa em pequenos grupos que fornece aos estudantes oportunidades de aplicar conceitos através de uma sequencia de atividades que incluem trabalho individual, em grupo e feedback imediato”.



TBL é eficiente...até mais  
que aulas expositivas  
convencionais!!!

[Nurse Educ Today](#). 2018 Jan;60:75-83. doi: 10.1016/j.nedt.2017.09.012. Epub 2017 Sep 28.

## Team based learning in nursing and midwifery higher education; a systematic review of the evidence for change.

[Dearnley C](#)<sup>1</sup>, [Rhodes C](#)<sup>2</sup>, [Roberts P](#)<sup>3</sup>, [Williams P](#)<sup>4</sup>, [Prenton S](#)<sup>5</sup>.

[BMC Med Educ](#). 2018 Apr 10;18(1):77. doi: 10.1186/s12909-018-1179-1.

## Meta-analysis on the effectiveness of team-based learning on medical education in China.

[Chen M](#)<sup>1</sup>, [Ni C](#)<sup>2</sup>, [Hu Y](#)<sup>3</sup>, [Wang M](#)<sup>4</sup>, [Liu L](#)<sup>5</sup>, [Ji X](#)<sup>4</sup>, [Chu H](#)<sup>4</sup>, [Wu W](#)<sup>6</sup>, [Lu C](#)<sup>4</sup>, [Wang S](#)<sup>4</sup>, [Wang S](#)<sup>4</sup>, [Zhao L](#)<sup>7</sup>, [Li Z](#)<sup>8</sup>, [Zhu H](#)<sup>5</sup>, [Wang J](#)<sup>9</sup>, [Xia Y](#)<sup>6</sup>, [Wang X](#)<sup>6</sup>.

[J Vet Med Educ](#). 2013 Winter;40(4):333-41. doi: 10.3138/jvme.0213-034R1.

## Team-based learning increases active engagement and enhances development of teamwork and communication skills in a first-year course for veterinary and animal science undergraduates.

[Hazel SJ](#), [Heberle N](#), [McEwen MM](#), [Adams K](#).

[J Educ Eval Health Prof](#). 2016 Feb 18;13:11. doi: 10.3352/jeehp.2016.13.11. eCollection 2016.

## Flipping the Advanced Cardiac Life Support Classroom with Team-based Learning: Comparison of Cognitive Testing Performance for Medical Students at the University of California, Irvine, United States.

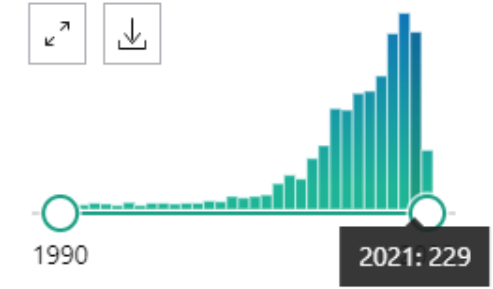
[Bovsen-Osborn M](#)<sup>1</sup>, [Anderson CL](#)<sup>1</sup>, [Navarro R](#)<sup>1</sup>, [Yanuck J](#)<sup>2</sup>, [Strom S](#)<sup>3</sup>, [McCov CE](#)<sup>1</sup>, [Youm J](#)<sup>4</sup>, [Yoma-Wona MF](#)<sup>5</sup>, [Lanadorf MI](#)<sup>1</sup>.

[Med Teach](#). 2016 Mar;38(3):306-11. doi: 10.3109/0142159X.2015.1034663. Epub 2015 Apr 21.

## Effects of Team-Based Learning on short-term and long-term retention of factual knowledge.

[Emke AR](#)<sup>1</sup>, [Butler AC](#)<sup>2</sup>, [Larsen DP](#)<sup>1</sup>.

RESULTS BY YEAR



1,5K publicações

“Team-based learning”



## The effectiveness of team-based learning on learning outcomes in health professions education: BEME Guide No. 30.

[Fatmi M<sup>1</sup>](#), [Hartling L](#), [Hillier T](#), [Campbell S](#), [Oswald AE](#).

### Author information

#### Abstract

**BACKGROUND:** Team-Based Learning (TBL) is a student-centred active learning method, requiring less faculty time than other active learning methods. While TBL may have pedagogical value, individual studies present inconsistent findings. The aim of this systematic review was to assess the effectiveness of TBL on improving learning outcomes in health professions education.

**METHODS:** A peer-reviewed systematic review protocol was registered with the Best Evidence in Medical Education (BEME) organization. After comprehensive literature searching, title and full-text review were completed by two independent reviewers. Included studies assessed TBL and a valid comparator in health professions. Included studies were assessed for methodological quality by two independent reviewers. Studies were categorised by outcomes using the Kirkpatrick framework.

**RESULTS:** Of 330 screened titles, 14 were included. Seven studies reported significant increase in knowledge scores for the TBL group, four reported no difference and three showed improvement but did not comment on statistical significance. Only one study reported significant improvement in learner reaction for the TBL group while another study reported a significant difference favouring the comparator.

**CONCLUSIONS:** Despite improvement in knowledge scores, there was mixed learner reaction. This may reflect the increased demands on learners in this student-centred teaching strategy, although further study is needed.

**The effectiveness of team-based learning on learning outcomes in health professions education: BEME Guide No. 30.**

Fatmi M<sup>1</sup>, Hartling L, Hillier T, Campbell S, Oswald AE.

**RESULTS:** Of 330 screened titles, 14 were included. Seven studies reported significant increase in knowledge scores for the TBL group, four reported no difference and three showed improvement but did not comment on statistical significance.

## A controlled study of team-based learning for undergraduate clinical neurology education.

Tan NC<sup>1</sup>, Kandiah N, Chan YH, Umapathi T, Lee SH, Tan K.

### Author information

#### Abstract

**BACKGROUND:** Team-based learning (TBL), a new active learning method, has not been reported for neurology education. We aimed to determine if TBL was more effective than passive learning (PL) in improving knowledge outcomes in two key neurology topics - neurological localization and neurological emergencies.

**METHODS:** We conducted a modified crossover study during a nine-week internal medicine posting involving 49 third-year medical undergraduates, using TBL as the active intervention, compared against self-reading as a PL control, for teaching the two topics. Primary outcome was the mean percentage change in test scores immediately after (post-test 1) and 48 hours after TBL (post-test 2), compared to a baseline pre-test. Student engagement was the secondary outcome.

**RESULTS:** Mean percentage change in scores was greater in the TBL versus the PL group in post-test 1 (8.8% vs 4.3%,  $p = 0.023$ ) and post-test 2 (11.4% vs 3.4%,  $p = 0.001$ ). After adjustment for gender and second year examination grades, mean percentage change in scores remained greater in the TBL versus the PL group for post-test 1 (10.3% vs 5.8%, mean difference 4.5%, 95% CI 0.7 - 8.3%,  $p = 0.021$ ) and post-test 2 (13.0% vs 4.9%, mean difference 8.1%, 95% CI 3.7 - 12.5%,  $p = 0.001$ ), indicating further score improvement 48 hours post-TBL. Academically weaker students, identified by poorer examination grades, showed a greater increase in scores with TBL versus strong students ( $p < 0.02$ ). Measures of engagement were high in the TBL group, suggesting that continued improvements in scores 48 hours post-TBL may result from self-directed learning.

**CONCLUSIONS:** Compared to PL, TBL showed greater improvement in knowledge scores, with continued improvement up to 48 hours later. This effect is larger in academically weaker students. TBL is an effective method for improving knowledge in neurological localization and neurological emergencies in undergraduates.

## A controlled study of team-based learning for undergraduate clinical neurology education.

Tan NC<sup>1</sup>, Kandiah N, Chan YH, Umapathi T, Lee SH, Tan K.

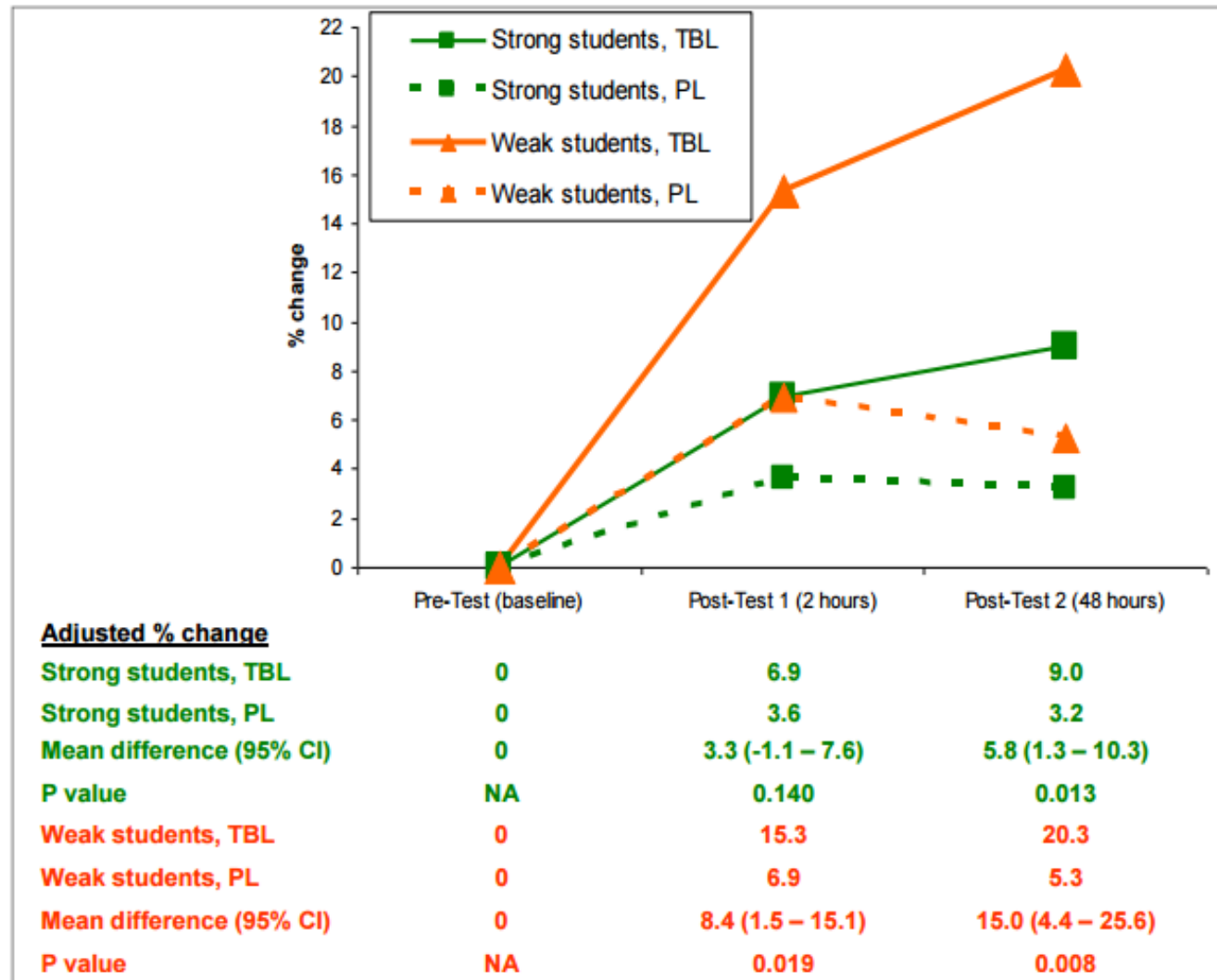


Figure 3 Adjusted mean percentage change in test scores, strong vs weak students.



Qual a principal dificuldade para **inclusão** do TBL em uma matriz tradicional?

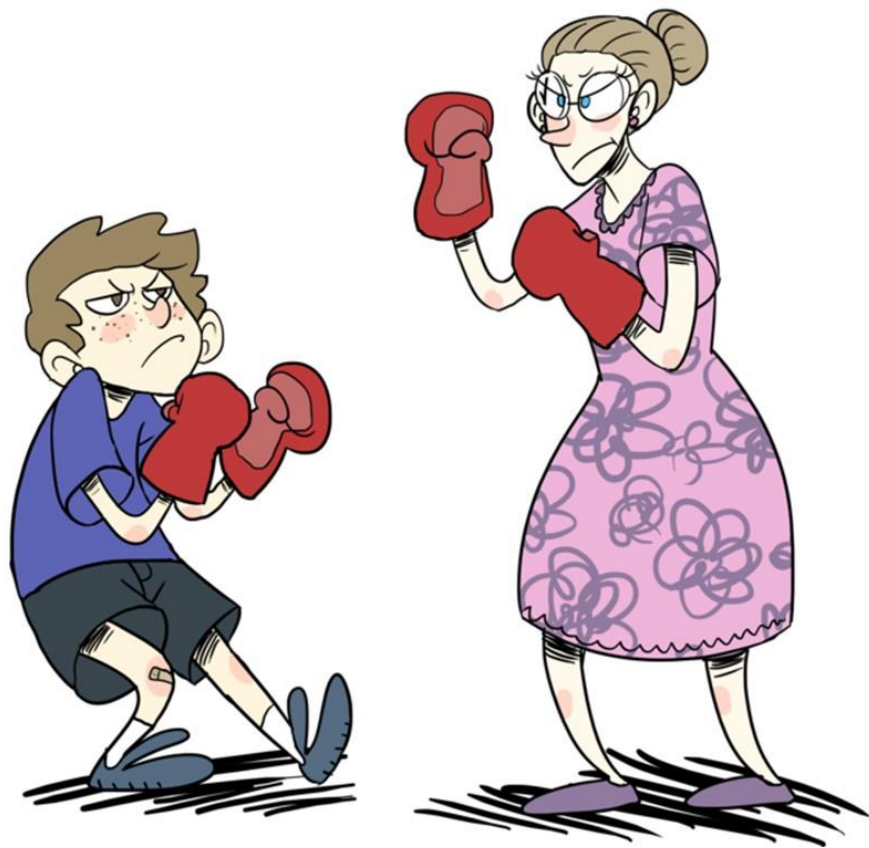


**Sair da nossa zona de conforto!**



# MUDANÇA DE PARADIGMA...

**Estudantes** saem da posição de receptores passivos da informação para a condição de **responsáveis** pela aquisição do conhecimento e de uma equipe que trabalha **resolvendo** problemas realísticos.



**Professor** deixa de ser alguém que oferece informação se torna aquele que contextualiza o aprendizado e maneja o processo educacional, agindo como **facilitador** da aprendizagem.

# PRECISAMOS TER CUIDADO!

*Am J Pharm Educ.* 2015 May 25;79(4):51. doi: 10.5688/ajpe79451.

## **Student Perceptions of Team-based Learning vs Traditional Lecture-based Learning.**

Frame TR<sup>1</sup>, Cailor SM<sup>2</sup>, Gryka RJ<sup>2</sup>, Chen AM<sup>2</sup>, Kiersma ME<sup>3</sup>, Sheppard L<sup>3</sup>.

### **+** Author information

#### **Abstract**

**OBJECTIVE:** To evaluate pharmacy student perceptions of team-based learning (TBL) vs traditional lecture-based learning formats.

**METHODS:** First professional year pharmacy students (N=111) at two universities used TBL in different courses during different semesters (fall vs spring). Students completed a 22-item team perceptions instrument before and after the fall semester. A 14-item teaching style preference instrument was completed at the end of the spring semester. Data were analyzed using Wilcoxon signed rank test and Mann-Whitney U test.

**RESULTS:** Students who experienced TBL in the fall and went back to traditional format in the spring reported improved perceptions of teams and preferred TBL format over a traditional format more than students who experienced a traditional format followed by TBL. Students at both universities agreed that the TBL format assists with critical-thinking, problem-solving, and examination preparation. Students also agreed that teams should consist of individuals with different personalities and learning styles.

**CONCLUSION:** When building teams, faculty members should consider ways to diversify teams by considering different views, perspectives, and strengths. Offering TBL early in the curriculum prior to traditional lecture-based formats is better received by students, as evidenced by anecdotal reports from students possibly because it allows students time to realize the benefits and assist them in building teamwork-related skills.

# Leituras...

Parmelee DX, Michaelsen LK. **Twelve tips for doing effective Team-Based Learning (TBL).** Med Teach. 2010;32(2):118-22.

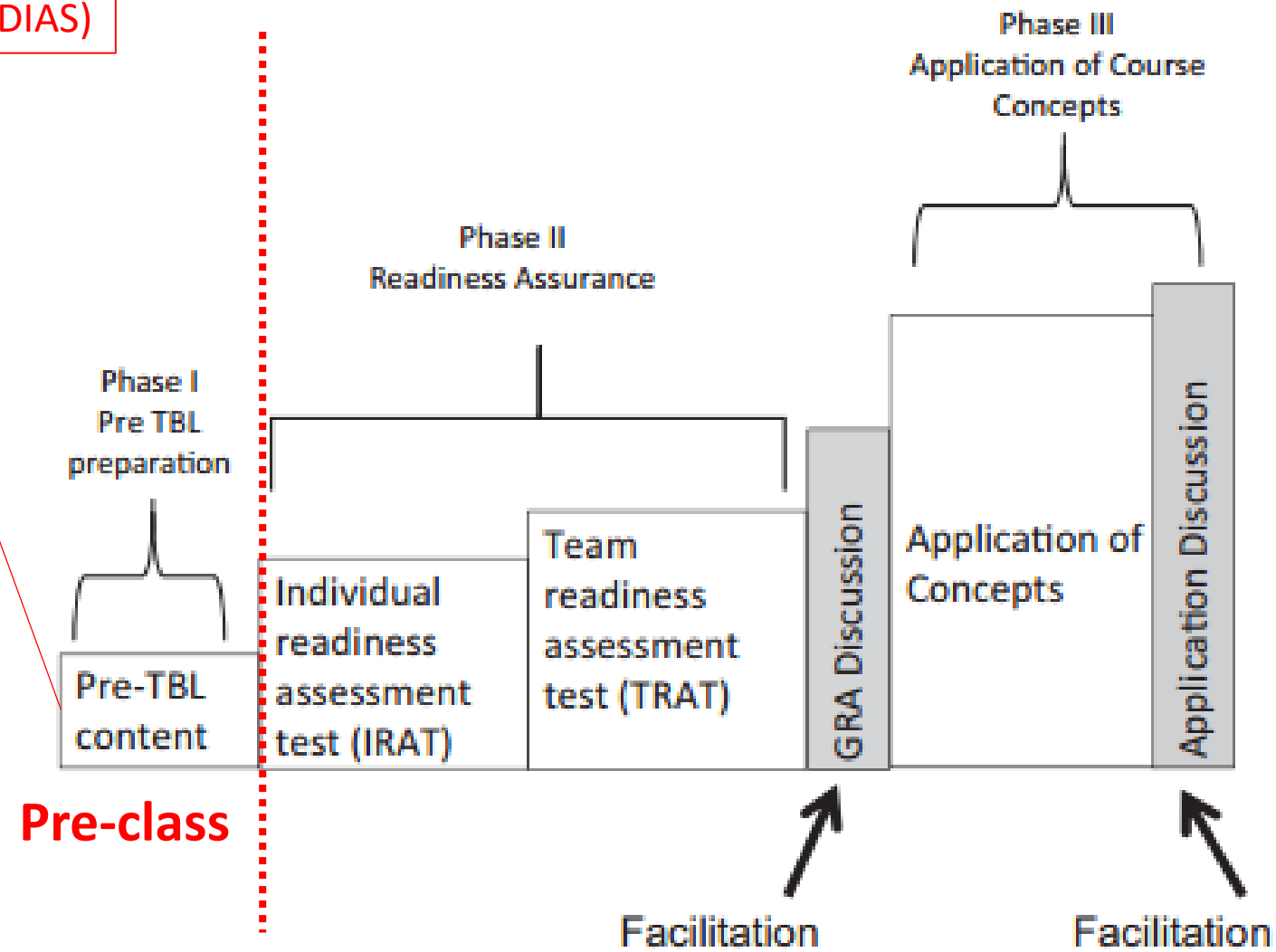
Parmelee, Dean, et al. "**Team-based learning: a practical guide: AMEE guide no. 65.**" Medical Teacher 34.5 (2012): e275-e287.

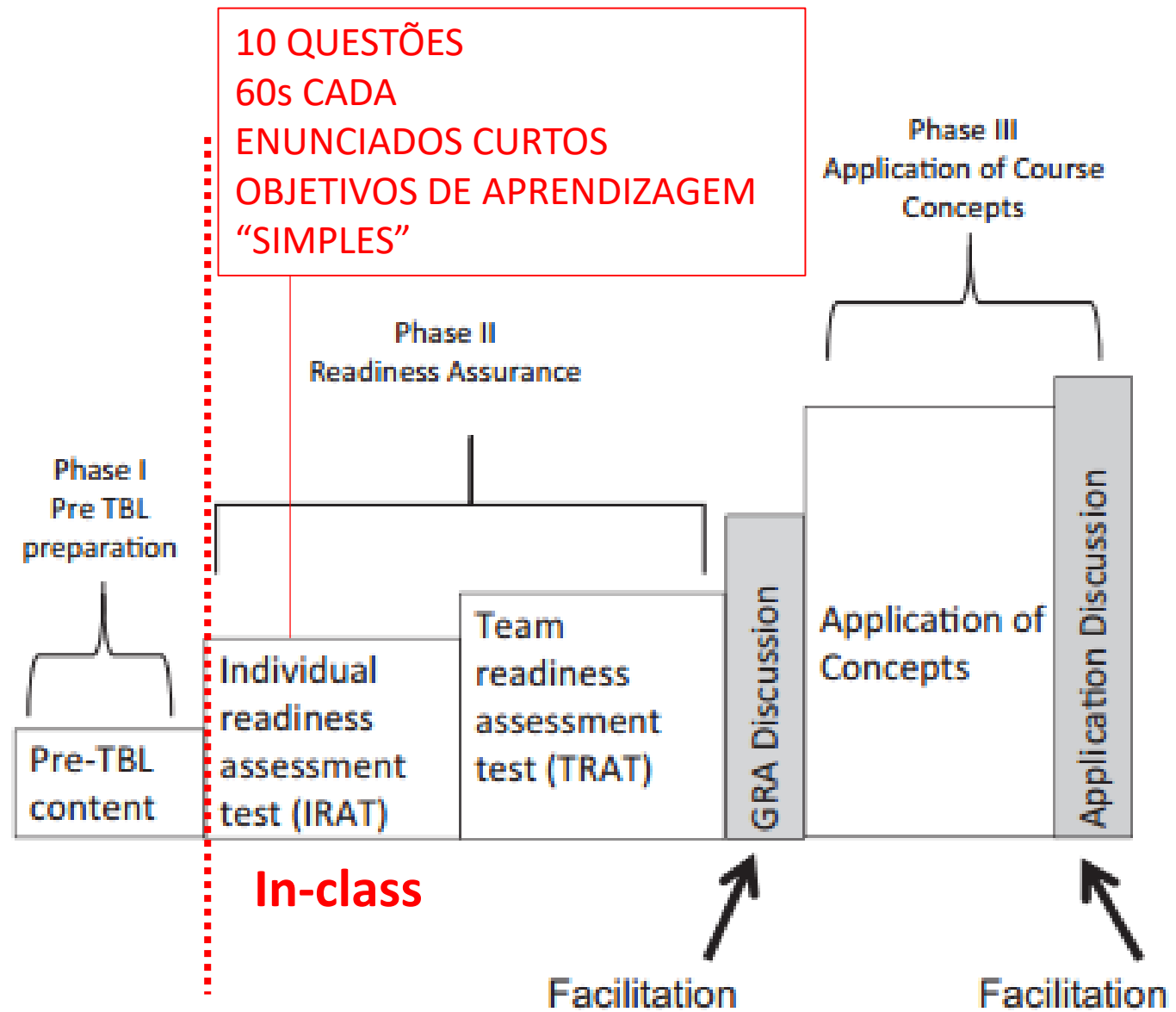
Gullo C, Ha TC, Cook S. **Twelve tips for facilitating team-based learning.** Med Teach. 2015;37(9):819-24.

Burgess, A., van Diggele, C., Roberts, C. et al. **Team-based learning: design, facilitation and participation.** BMC Med Educ 20, 461 (2020).

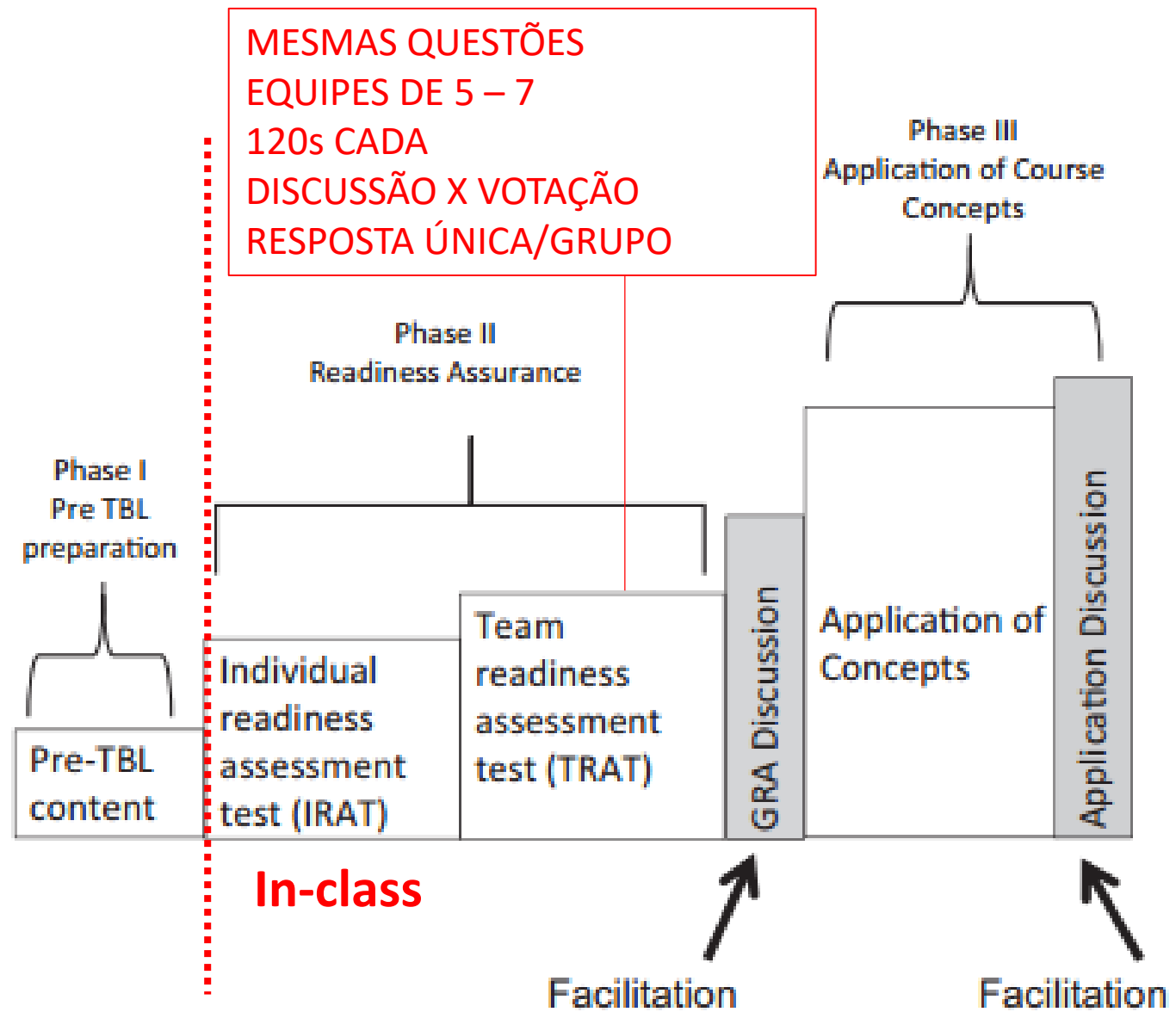
Malik AS, Malik RH. **Twelve tips for conducting team-based learning session online in synchronous setting.** Med Teach. 2021 Apr 9:1-8.

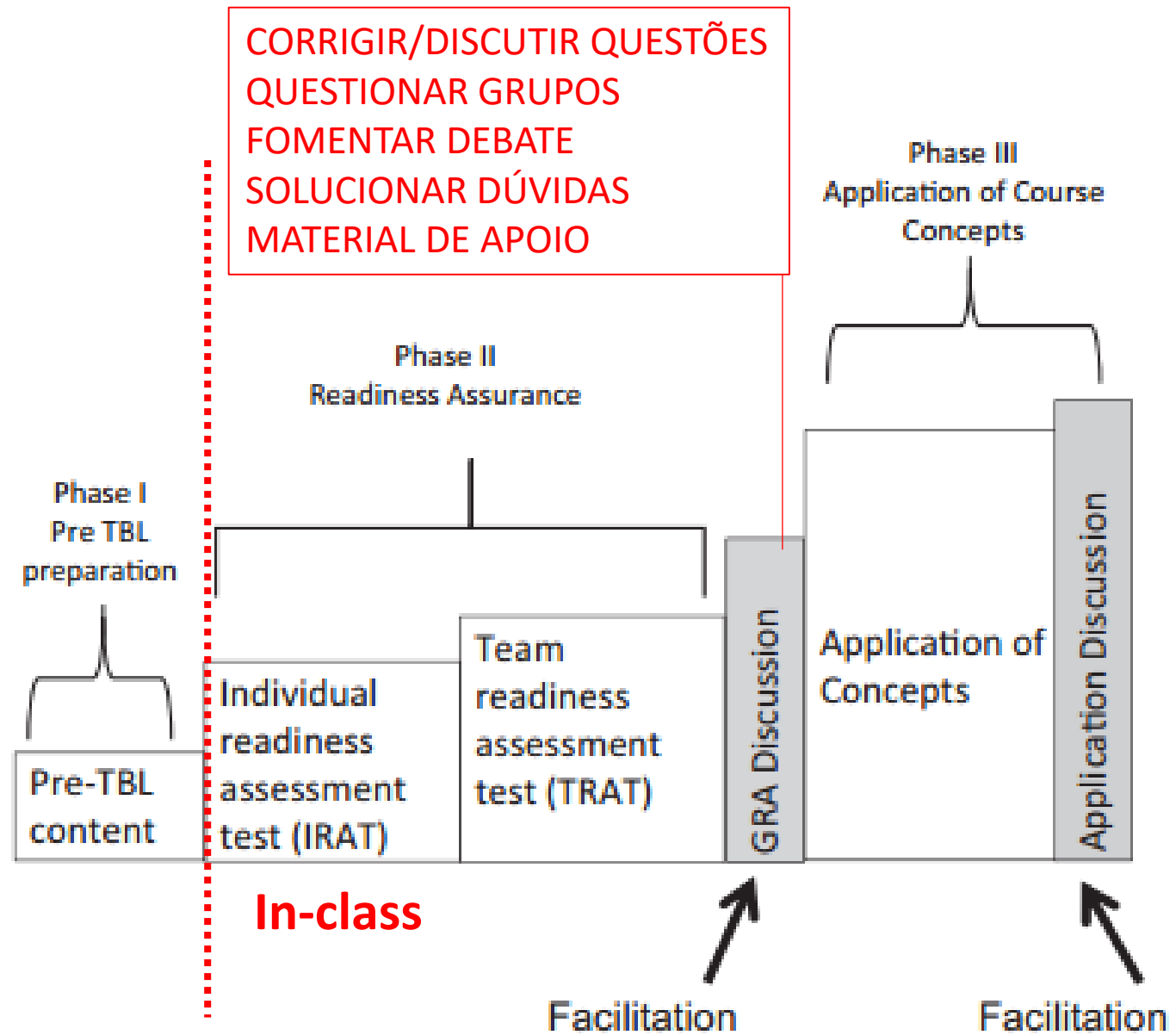
INDICAÇÃO ESPECÍFICA  
DÊ TEMPO AOS ALUNOS (DIAS)

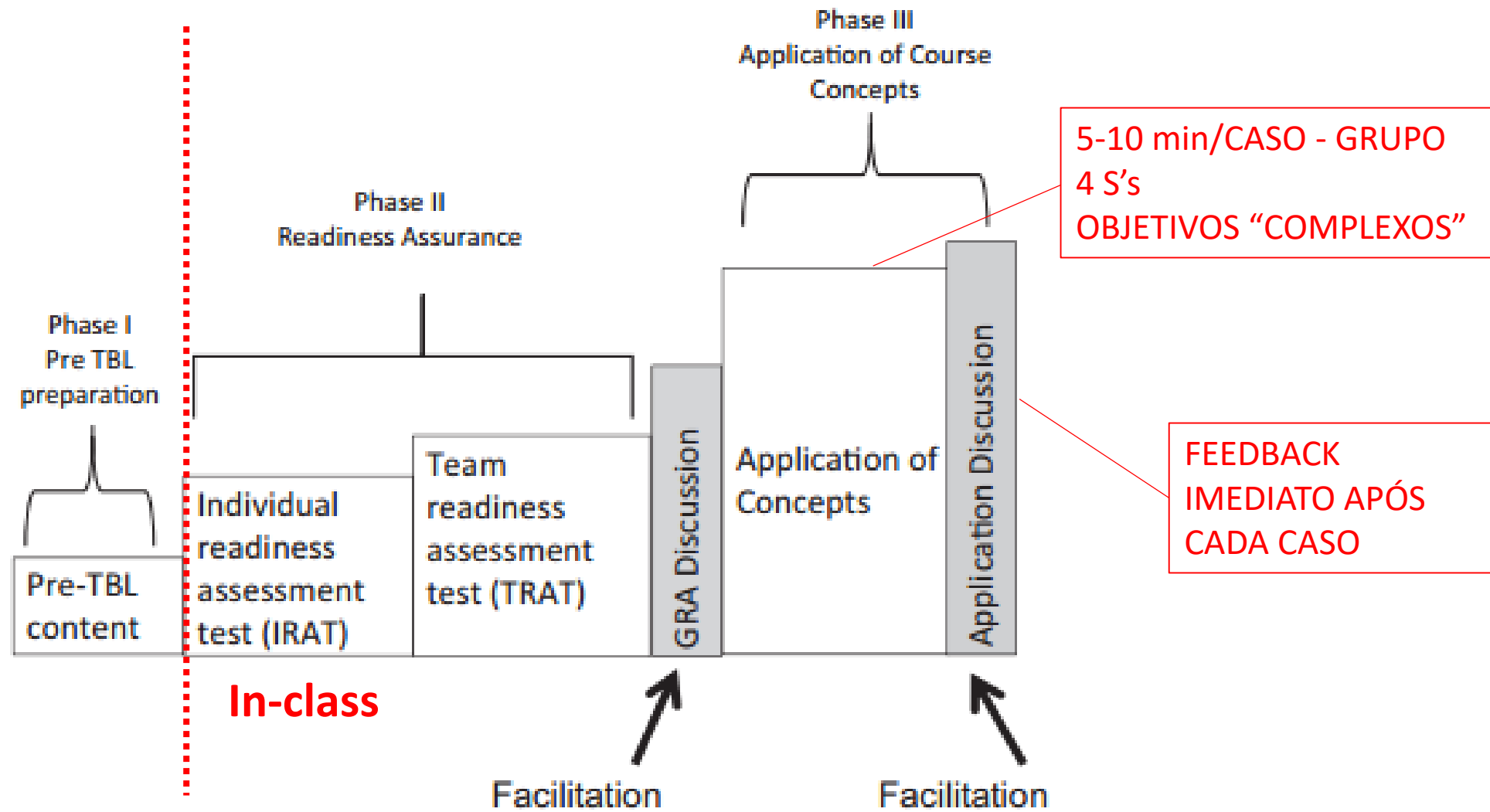












iRAT

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gRAT

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Feedback

tAPP

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## Take home message

- Sete elementos chave no TBL:
  - Formação da equipe
  - iRAT (planejar bem as questões)
  - Feedback imediato
  - Resolução de problemas contextualizados
  - Os 4 S's (significant problem, same problem, specific choice, and simultaneous report),
  - Avaliação = incentivo
  - Peer review

tenki ขอบคุณคุณ takk спасибо kam sah hamnida  
дзякуй hvála dhanyavadagalu tack  
gracias mési xièxie tanemirt  
arigatô bedankt rahmet enkosi mochchakkeram trugarez dank je  
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sagolun mahalo didi madioba chokrane rahmat  
murakoze taiku sukriya obrigado dakujem  
terima kasih misaotra welaïn mercé najis tuke اراكش  
asante grazie nandri 謝謝 mersi kőszönőm sobodi  
mauruuru nandri 謝謝 mersi nanni vinaka  
matondo căm on ban go raibh maith agat merci paldies ngiyabonga



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