



PEA
Plataforma Ensino Ativo

Active Learning

Sofia Sá

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PEA

Métodos basilares de ensino

Expositivo - Lecture

"A lecture is a talk someone gives in order to teach people about a particular subject, usually at a university or college"¹

Interrogativo

Fazer perguntas durante a aula

1 - <https://www.collinsdictionary.com/pt/dictionary/english/lecture>

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Active Learning

Bonwell & Eison,
1991

"Instructional activities involving students in doing things and thinking about what they are doing."¹

Felder & Brent,
2009

"Anything **course-related** that **all students** in a class session are called upon to do other than simply **watching, listening** and **taking notes**"²

1 - Bonwell, C. C., & Eison, J. A. (1991). Active Learning: Creating Excitement in the Classroom. ERIC Digest. <https://files.eric.ed.gov/fulltext/ED336049.pdf>

2 - Felder, Richard & Brent, Rebecca. (2009). Active learning: An introduction. ASQ Higher Education Brief. 2. <https://www.engr.ncsu.edu/wp-content/uploads/drive/1YB2KK3wLqP3EhXyYdKtE9-4mBJzc2rc2/Active%20Learning%20Tutorial.pdf>

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A nossa escolha...



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Participação botão

Slides base 1 - https://drive.google.com/file/d/1g1AQSLOCZdi3HG64rWQM0F5q959ye_QA/view?usp=sharing

Slides base 2 - <https://drive.google.com/file/d/1AIPx06jhC9-j8Ag78KxL8xEvGBM-q4L/view?usp=sharing>

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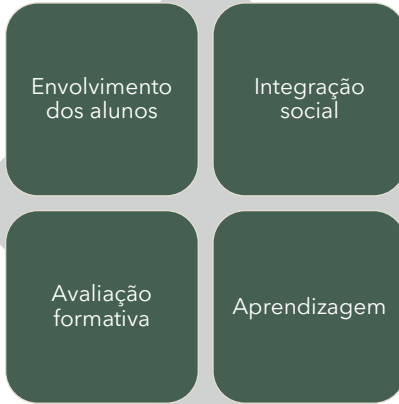
Exercício temporizado

Timers - https://drive.google.com/file/d/1UUvvdFMWEbF_OiYiNoQ0ganNXvvtLUw/view?usp=sharing

Slides base - <https://drive.google.com/file/d/1I3tC00mz5Ik1a7YZAHj5gFPbd8vMCZb/view?usp=sharing>

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Vantagens de utilizar active learning nas aulas



Cartoon - Julian W. "Bud" Blake, @Tiger

Mentimeter word cloud



Excelentes videos para começar :)
<https://www.youtube.com/watch?v=Sd0fAenuAnw>
<https://www.youtube.com/watch?v=beOWtcUVG0s>
<https://www.loom.com/share/37f7073551b94a3687f812f2510e006e>

Research corner

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PEA

Australian Journal of Teacher Education

In Defence of the Lecture

R. Scott Webster
Deakin University

It needs to be recognised that the process of passively accepting and memorizing information which is 'banked' nevertheless does require some cognitive activity.

The capacity for **attentive listening is necessary for lectures** and does not appear to be required by other formats of learning. The art of listening appears to be readily valued in the corporate world (e.g. Branson, 2014)

Lectures provide the ideal opportunity for the embodied academic to present her **thoughtful argument** over a forty to fifty-minute session **relatively uninterrupted**.

Webster, R. (2015). In defence of the lecture. *Australian Journal of Teacher Education (Online)*, 40(10), 88.
<https://files.eric.ed.gov/fulltext/EJ1078748.pdf>

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Lecture is not a Dirty Word, How to Use Active Lecture to Increase Student Engagement

Jess L. Gregory¹

¹ Department of Educational Leadership and Policy Studies, Southern Connecticut State University, New Haven, CT, USA

Like any other technique employed by educators, there are **both effective and ineffective** ways to deliver content through a **lecture format**.

While it seems like lecture is the opposite of active learning, there are strategies to make the **delivery of information more active**

Active lecturing strategies **maximize student learning of course content, engaging** both modern learners and teachers at higher levels.

Active learning plays a major role in first year student retention as well as **positive influences on social integration**

Gregory, J. L. (2013). Lecture Is Not a Dirty Word: How to Use Active Lecture to Increase Student Engagement. *International Journal of Higher Education*, 2(4), 116-122. <http://www.sciedu.ca/journal/index.php/ijhe/article/view/3413/2082>

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Active learning increases student performance in science, engineering, and mathematics

Scott Freeman^{a,1}, Sarah L. Eddy^a, Miles McDonough^a, Michelle K. Smith^b, Nnadozie Okoroafor^a, Hannah Jordt^a, and Mary Pat Wenderoth^a

^aDepartment of Biology, University of Washington, Seattle, WA 98195; and ^bSchool of Biology and Ecology, University of Maine, Orono, ME 04469

Edited* by Bruce Alberts, University of California, San Francisco, CA, and approved April 15, 2014 (received for review October 8, 2013)

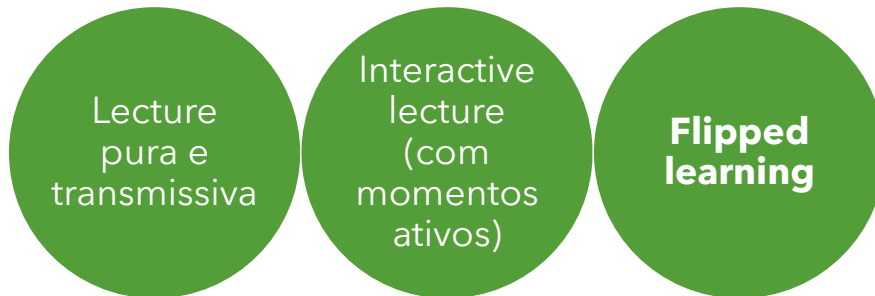
“The results raise questions about the continued use of traditional lecturing as a control in research studies, and support active learning as the preferred, empirically validated teaching practice in regular classrooms”

5941 citações ☺

Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, 111(23), 8410-8415. <https://www.pnas.org/content/pnas/111/23/8410.full.pdf>

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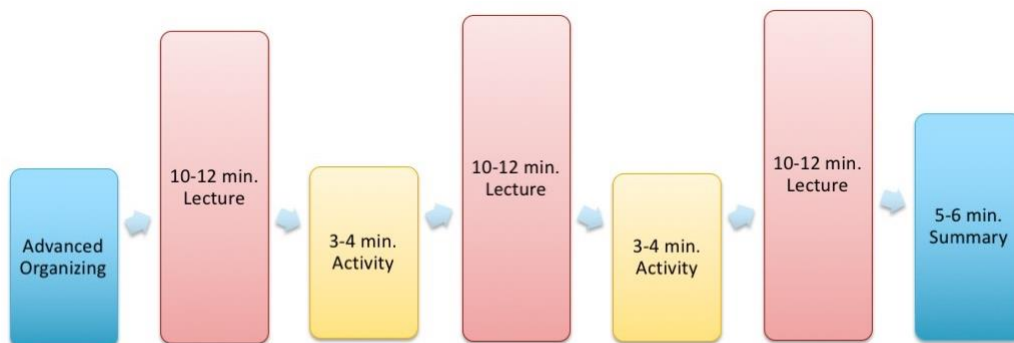
Active learning... como?



Flipped learning - *Finding time for active learning*

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Interactive lectures



Adapted from Thinking Together: Collaborative Learning in the Sciences – Harvard University – Derek Bok Center

Materials leves sobre interactive lectures

<https://serc.carleton.edu/introgeo/interactive/whatis.html>

<https://www.mcgill.ca/tls/instructors/strategies/interactive-lectures>

https://www.cmich.edu/office_provost/CIS/Pages/Explore%20Teaching%20and%20Learning/Exploring%20Instructional%20Methods/Interactive-Lecture.aspx

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Clique na
imagem para
aceder ao
nosso
Jamboard 😊



Sites de apoio à criação e utilização do Jamboard

Jamboard Step by step (Sofia) - https://www.loom.com/share/cb807748cc7249e38a5e72530ef58e09?sharedAppSource=personal_library

Site do Jamboard - <https://jamboard.google.com/>

Vídeo de como usar jamboard - <https://www.youtube.com/watch?v=S9m4HCjOkcA>

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TRABALHOS EM PEQUENOS GRUPOS
(SALAS SIMULTÂNEAS)

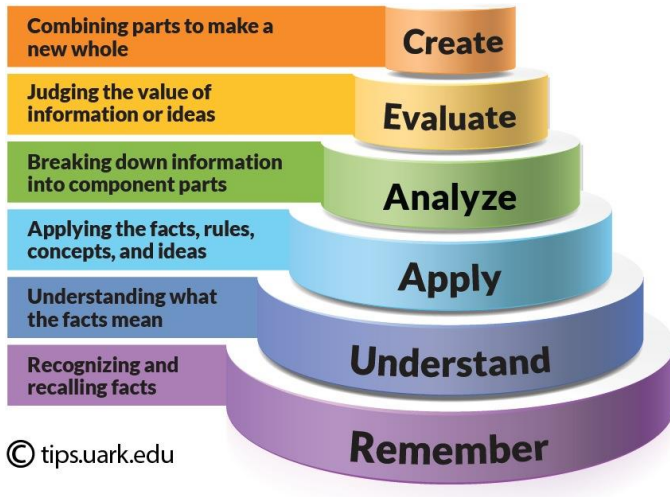
Passos para salas simultâneas em zoom -

<https://drive.google.com/file/d/1xE8ntskukWvl7Yl2WDuv4wX8dWRGoaub/view?usp=sharing>

Passos para salas simultâneas em Teams - <https://www.youtube.com/watch?v=DMfsilBhW7A>

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Taxonomia de Bloom



Para **compreender** um conceito, temos que nos lembrar dele primeiro

Para **aplicar** esse conceito, temos primeiro que compreendê-lo

Para **avaliar** um processo, é necessário analisá-lo

Para **criar** algo, é necessário avaliar as diferentes hipóteses e selecionar a mais adequada

<https://tips.uark.edu/using-blooms-taxonomy/>

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Atividades de Active learning

KNOWING or REMEMBERING	COMPREHENDING or UNDERSTANDING	APPLYING	ANALYZING	SYNTHESIZING or EVALUATING	CREATING
Lecture Video Illustrations Examples Visuals	Questions Discussion Review Test Reports Exercises	Practice Demonstrations Presentations Projects Role play Micro-teach	Problem solving Case Studies Critical Incidents Discussion Questioning Test	Projects Problem solving Case studies Plan development Constructing Simulation	Simulations Critiques Complex case study Design/ development Product generation Producing
Lower order thinking			Higher order thinking		

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3 Dicas do IST

I

Instruções!

Sempre escritas. Se só disser as instruções é provável que muitos não ouçam

S

Segurança!

Se acreditar que funciona... vai funcionar!

Evite a hiper segurança, como começar com 4 atividades =s na 1ª aula

Comece por aquela que lhe parece mais tranquila. Experimente. Domine. Acrescente

T

Timers!

São a chave! (Não dão tempo a ninguém de se sentir desconfortável)

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Artigos fundamentais 😊

- Prince, M. (2004). Does active learning work? A review of the research. *Journal of engineering education*, 93(3), 223-231. https://www.engr.ncsu.edu/wp-content/uploads/drive/1smSpn4AiHSh8z7a0MHDBwhb_JhcoLQml/2004-Prince_AL.pdf.
- Drake, E., & Battaglia, D. (2014). Teaching and learning in active learning classrooms. *The Faculty Center for Innovative Teaching: Central Michigan University*. http://news.medicina.ulisboa.pt/wp-content/uploads/2016/08/NP_41-1.pdf.
- Brame, C. (2016). Active learning. Vanderbilt University Center for Teaching. Retrieved [today's date] from <https://cft.vanderbilt.edu/active-learning/>.
- Bunce, D. M., Flens, E. A., & Neiles, K. Y. (2010). How long can students pay attention in class? A study of student attention decline using clickers. *Journal of Chemical Education*, 87(12), 1438-1443. https://www.academia.edu/29418572/How_Long_Can_Students_Pay_Attention_in_Class_A_Study_of_Student_Attention_Decline_Using_Clickers
- Christersson, C., & Staaf, P. (2019). *Promoting active learning in universities: Thematic peer group report*. European University Association. <https://eua.eu/resources/publications/814:promoting-active-learning-in-universities-thematic-peer-group-report.html>

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Links úteis

- Enquetes do zoom - https://www.loom.com/share/1b789f03a4614ff2a48ce1037bdd8684?sharedAppSource=personal_library
- Relatórios no zoom - https://www.loom.com/share/aec8381d79904a56a105296057ff84f3?sharedAppSource=personal_library
- Opções de gravação zoom - https://www.loom.com/share/c24c0f96b5e84bc3b1e5220a21d43c7f?sharedAppSource=personal_library
- Vídeo sobre o tempo de atenção - <https://www.youtube.com/watch?v=Yb6Ff4fQWV4&t=>
- Breakout rooms - https://www.youtube.com/watch?v=9_IH0wx1hOA
- Polling - <https://www.youtube.com/watch?v=qN57sZ5qy6k>
- Mentimeter - www.mentimeter.com
- Kahoot - <https://kahoot.com/schools-u/>
- Imagens de posições de braços - <https://www.google.com/search?sxsr=AleKk02ZB94msEaMBCWZoTt4SAFzcN9kxw:1585749777827&q=icons+arms+positions&tbm=isch&source=univ&sa=X&ved=2ahUKewjsy9ahssfoAhXEnFwKHWgFCB8QsAR6BAgHEAE&biw=1440&bih=827&dpr=1.5>

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“The evidence is such that not incorporating active learning [is] so unscientific it’s actually unethical at this point.”

Clarissa Dirks



SOFIA SÁ



968 115 800 |
sofiasap@tecnico.ulisboa.pt

Programa para aproximar o ecrã - <https://zoomit.en.softonic.com/>

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