

# Combination of Innovative Teaching Techniques in Pharmacology Seminar Classes

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# OBJECTIVES:

1. To encourage the study of Pharmacology by relating the subject with real life situations
2. To promote critical spirit
3. To develop communication skills



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**Problem-Based Learning**

**Pharmacological News**



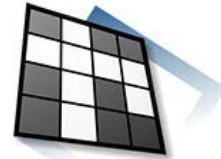
# SEMINAR CLASSES:



**“Pharmacology I”**  
**3<sup>rd</sup> Year**  
**Degree in Pharmacy**

**1<sup>st</sup>**

**Crosswords:** [eclipsecrossword.com](http://eclipsecrossword.com)



**2<sup>nd</sup>**

**Pharmacinema:** Awakenings



**3<sup>rd</sup>**

**Pharmacological News**



**4<sup>th</sup>**

**Pharmacological Trivial:** [kahoot.it](http://kahoot.it)

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**Peer  
Evaluation**

# METHODOLOGY:

- Students in teams of 4
- 6-10 links to news related to the year curriculum ⇒ assigned 1 by supervisor

GENERAL PHARMACOLOGY  
CNS  
IMMUNOLOGY

## CRITICAL ANALYSIS OF THE NEWS ITEM

- Veracity
- Scientific rigor (supported by scientific evidence)
- Interest & potential impact comparison with the standard treatment or drug of reference

## • Development of multimedia content

- Video projection
- Debate
- Peer evaluation

## • Surveys



DEPARTEMENT DE PHARMACOLOGIE  
FARMACOLOGIE I  
GRADU EN FARMACIA  
TERCER CURS

**SEMINARS ON PHARMACOLOGICAL NEWS**  
GIVE YOUR OPINION ABOUT THE ACTIVITY  
(Score: nothing-0; very little-1; little-2; regular-3; quite-4; much-5)

1. I found the selected news interesting	
2. I found the activity helpful to deepen concepts of the theoretical class or to relate the subject with reality	
3. The activity promotes critical analysis of current pharmacological news	
4. I have found rewarding to work in a group	
5. In comparison with other academic activities, I found this activity useful and formative	
6. Recommendations	

# EXAMPLES:

1. <http://www.nationalgeographic.com.au/science/alzheimers-plaques-erased-in-mice-whats-next.aspx>
2. <https://cienciaybiologia.com/enfermedades-neurodegenerativas-alzheimer-esclerosis-parar-progreso/>
3. <http://www.elmostrador.cl/agenda-pais/vida-en-linea/2017/05/08/el-uso-de-cannabis-mejora-la-capacidad-cerebral-en-ratones/>
4. <http://www.ideal.es/miugr/consumir-melatonina-ayuda-20180219102022-nt.html> ;
5. <http://edition.cnn.com/2018/01/08/health/ibuprofen-male-fertility-study/index.html?sr=fbCNN010818ibuprofen-male-fertility-study0352PMStoryGalLink>
6. [https://elpais.com/elpais/2018/01/30/mamas\\_papas/1517303701\\_904491.html](https://elpais.com/elpais/2018/01/30/mamas_papas/1517303701_904491.html)
7. [https://www.medscape.com/viewarticle/893352?nlid=121076\\_3901&src=wnl\\_newsalt\\_180302\\_MSCPEDIT&uac=215937BZ&implID=1572533&faf=1](https://www.medscape.com/viewarticle/893352?nlid=121076_3901&src=wnl_newsalt_180302_MSCPEDIT&uac=215937BZ&implID=1572533&faf=1)

## Pharmacology News

ILLUSTRATED ANNUAL NEWSPAPER

Est. 1869      Thursday, April 19, 2018      Priceless

### Novichok nerve agents

In the 1990s, Sergei Skripal was an officer for Russia's Main Intelligence Directorate (GRU) and worked as a double agent for the UK's Secret Intelligence Service from 1995 until his arrest in Moscow in December 2004. On 4 March 2018, Sergei Skripal and his daughter Yulia were poisoned by means of a Novichok nerve agent.

After three weeks in a critical condition, Yulia regained consciousness and was able to speak; Sergei was in a critical condition during one month until he regained consciousness.

Later in March, the British government accused Russia of attempted murder and announced a series of punitive measures against Russia, including the expulsion of diplomats (more than 100).



The UK's official assessment of the incident was supported by 28 other countries which responded similarly.

Russia denied the accusations and accused Britain to the poisoning.

On 12 April 2018, the Organization for the Prohibition of Chemical Weapons (OPCW) concluded that blood samples confirm the findings of nerve agents like Novichok's.

### Does paracetamol do you more harm than good?

GPs write millions of prescriptions for this painkiller each year and millions more packets are bought over the counter. It has generally been considered cheap, safe and effective. But should we think harder before we pop another pill?



▲ Paracetamol - should you keep taking the tablets? Photograph: Joe Gidons/PA

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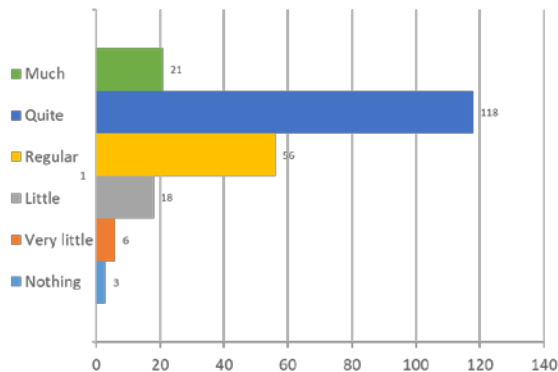
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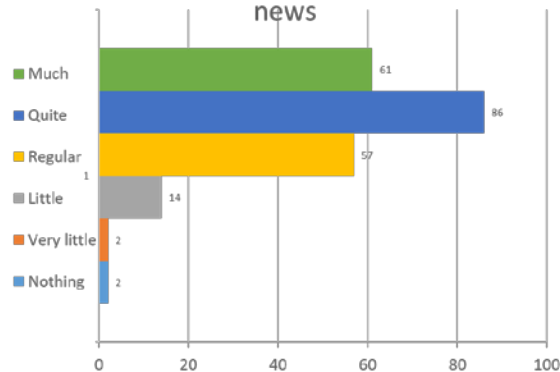
# RESULTS:

## Students' opinions

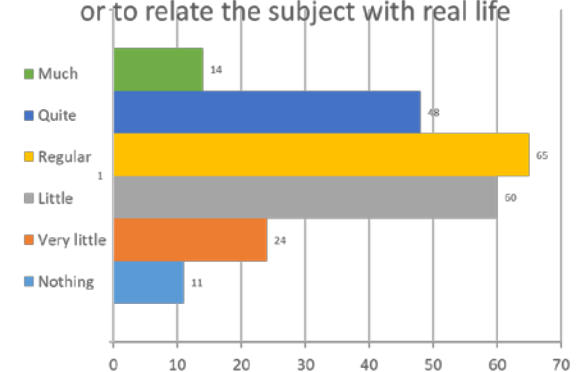
Interest of the selected news



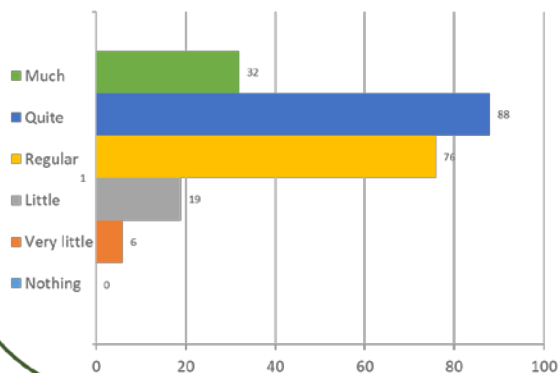
The activity promotes critical analysis of current pharmacological news



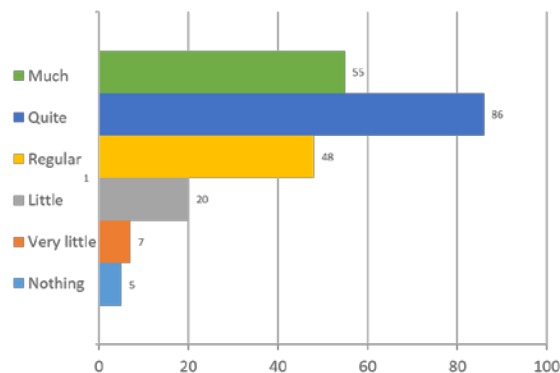
The activity helped me to deepen the concepts of the theoretical class or to relate the subject with real life



The projections or presentations were of good quality & enjoyable



Working in group has been rewarding



### Suggestions:

- Too time-consuming
- Great activity
- Useless
- More detailed instructions
- Post the news ahead of time
- More, please!
- Not enough time to debate
- **Problems with projections!**

# RESULTS:

## Teachers' opinions



- Poor time-management
- Diverse quality of analyses and presentations
- Some failure to look for the original source (article) or compare with standard treatments
- Poor selection of contents
- Some students' lack of multimedia skills
- Students' reluctance to show their work in public and give their personal opinion

## Areas of improvement:

- Time-management
- Post the list of the news & the final documents to help with the evaluation and enhance learning
- Fewer news pieces to be analyzed to promote debate
- Assistance by UV multimedia service to improve the quality & expedite the viewing of the videos

# CONCLUSION:



This activity **promotes active learning** and helps students to **build critical attitudes** and to **develop communication skills**, transversal competences useful for their professional future

