

# Teaching as training for effective scientific communication

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# Disclosure

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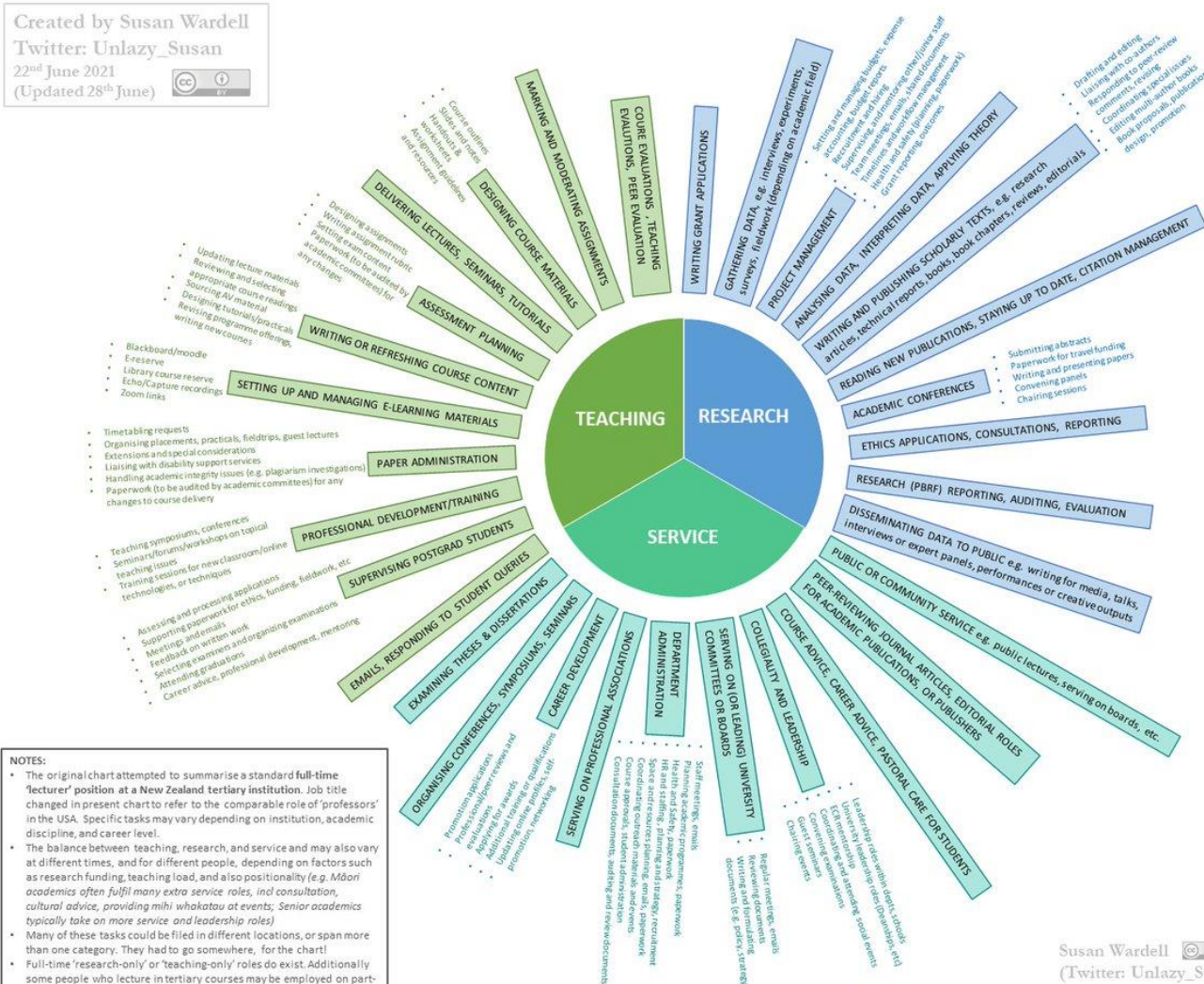
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# Outline

- Introduction
- Science communication
- Teaching
- How teaching benefits effective science communication
- Doctors as Educators as the solution
- Conclusion

# Introduction

Created by Susan Wardell  
Twitter: [Unlazy\\_Susan](#)  
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Susan Wardell   
(Twitter: Unlazy\_Susan)

# Science communication

- Science communication is the explicit intercultural discourse that explains the significance of scientific research, the nature of science, the doing of science, and the content of science.
- Science communication is an interactive process.
- All scientists also have societal responsibilities to communicate their science to the public

Stocklmayer, S.M., M.M. Gore, and C. Bryant, (Eds.), (2001). Science communication in theory and practice. Dordrecht, Netherlands: Kluwer Academic Publishers

# Introduction

- The usefulness of scientific knowledge is limited if that knowledge is not communicated to other people.
- Scientists often communicate their research results in three general ways.
  - publish their results in peer-reviewed journals.
  - Present their results at national and international conferences, university departments.
  - Publish about their work in popular media - magazines, newspapers, tweets, and blogs.

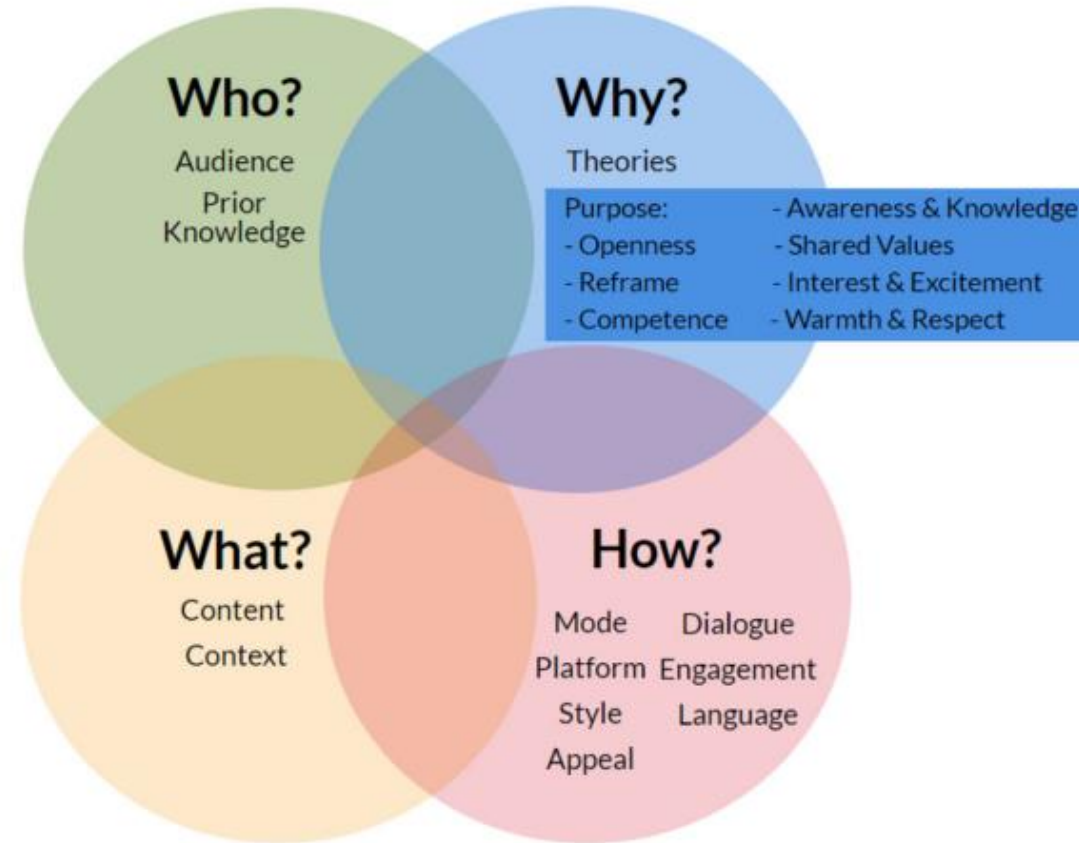
Tell a good story and the whole world will listen



GOOD  
STORY

HOW TO TELL  
A GOOD  
STORY  
FROM A BUNCH  
OF RANDOM FACTS

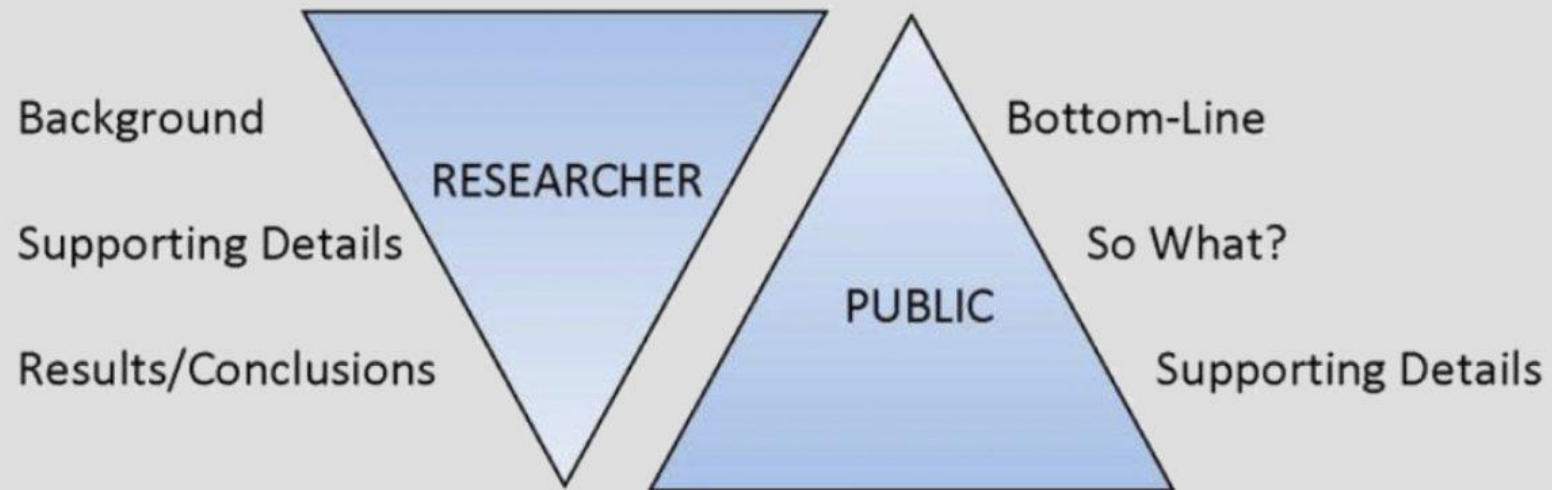
## The Essential Elements for Effective Science Communication

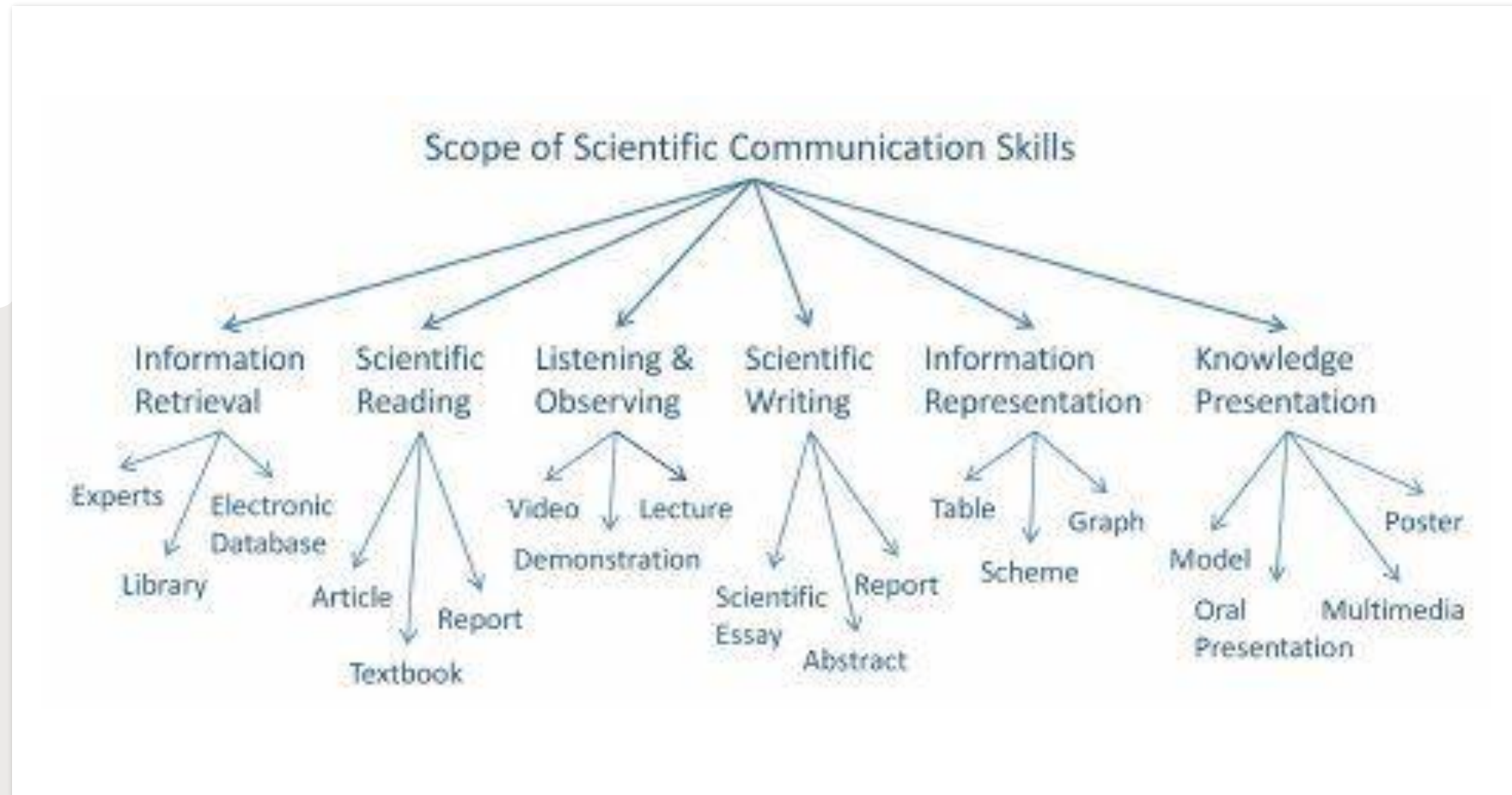


**Fig. 1** Overview of the Essential Elements for Effective Science Communication (EEES) framework (adapted from Wack et al., 2021). Elements are organized into interrelated strategic categories of who, why, what, and how. The element of purpose is broken down into important SciComm objectives as defined by Besley et al. (2018)



## Different styles of communication





Scientific communication

# Teaching

Teaching is closely related to learning

Teaching and learning process can be defined as a transformation process of knowledge from teachers to students.

# Science communication and teaching

Science teachers are  
science communicators.

Science communication  
and formal science  
education both have the  
same main goal: to engage  
their target audiences in  
science

# Teaching skills that contribute to improving science communication skills

- Audience Adaptation
- Clarity and Simplification
- Engagement and Storytelling
- Visual and Written Communication
- Question Handling
- Presentation Skills

# How does teaching contribute to improving science communication skills

- Confidence
- Time Management
- Ethical Considerations
- Peer Collaboration
- Promotes Critical Thinking
- Feedback and Evaluation



# Doctors as Educators

# Doctors as Educators to the Rescue





# Overview of the programme

Day 1 – Adult learning theories and learning styles, Session planning and objective setting, Presentation skills, Virtual teaching.

Day 2 – Large group teaching, Managing the learning environment, Teaching small groups, Evaluation of teaching, On the job teaching.

Day 3 – Workplace based assessment, Educational supervision/mentoring, Personal Development Plan.

# Adult learning theories and learning styles

- Definition of learning
- Kolb's learning cycle
- Approaches to learning
- Factors associated with successful learning
- Describe the different styles adults learn
- Identify how you can help your students learn better
- how to tailor teaching approaches to particular learning styles

# Session planning and objective setting

- Recognise the components of a good objective
- Distinguish between aims and objectives
- Design well-written objectives
- Plan a teaching session in any setting

# Presentation skills

- Apply presentation style and techniques that support learning
- Monitor your verbal and nonverbal communication- THE DOS AND DONTs OF PRESENTATION
- Use learning resources and audio-visual aids effectively to enhance your presentation.
- Recognise features of a good/bad presentation
- Use questions effectively.

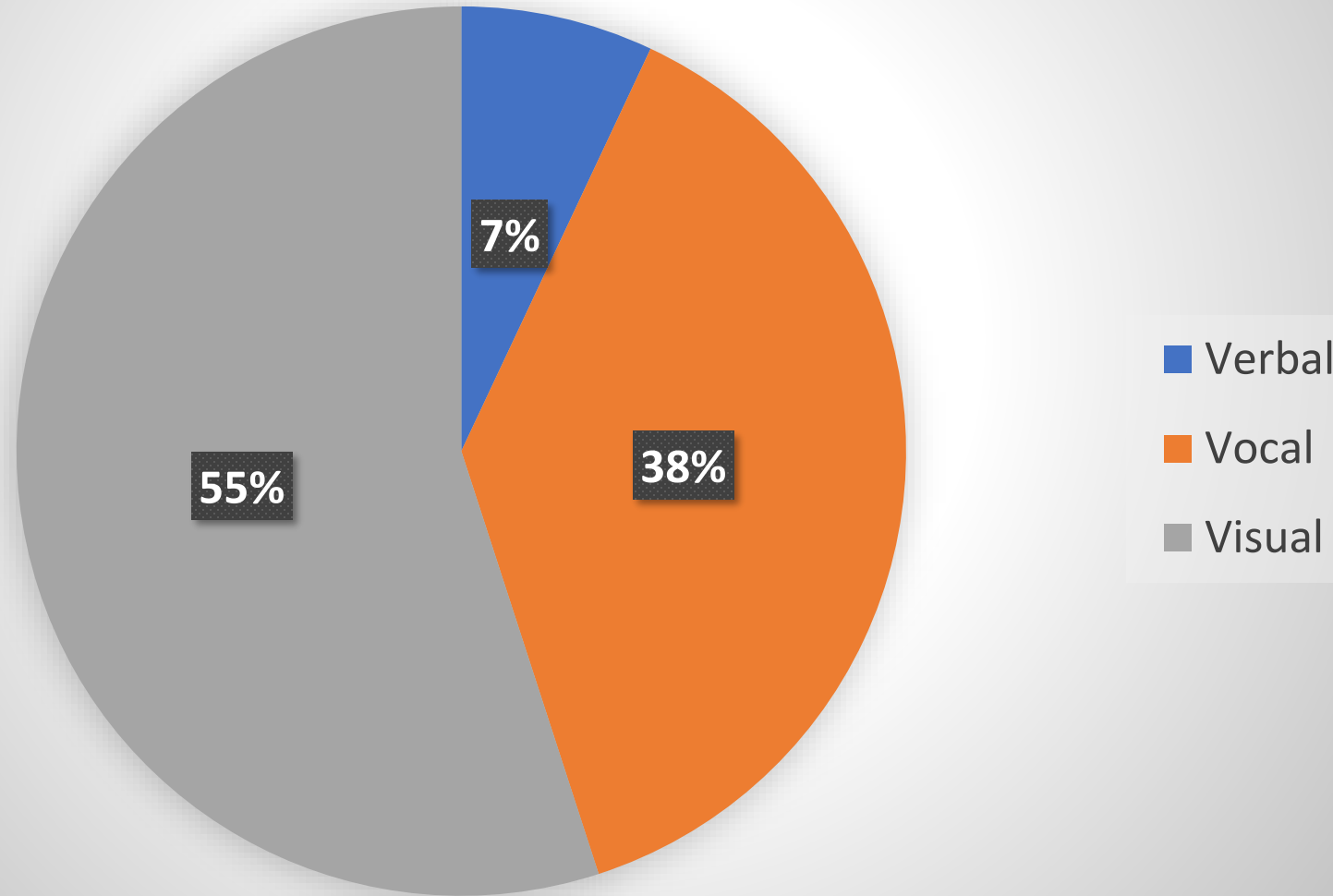
# Process of making an effective Presentation

- Establish objectives
- Analyze the audience
- Create a preliminary plan
- Select resource materials
- Organize and develop materials
- Rehearse the presentation
- Deliver the presentation
- Review the presentation through feedback

# Concerns of learners

- Clarity and visibility of slides
- Relevance of materials to needs
- Focus on key issues
- Effective engagement of the audience
- Clarity of the message
- Enthusiasm of the presenter

# The 3Vs of communication





10/11/2023



# Virtual teaching

- Define virtual teaching
- List advantages and disadvantages of virtual teaching
- Identify virtual teaching tools
- Use Zoom to teach online effectively.

# Evaluation of teaching

- Discuss teaching evaluation.
- Select appropriate evaluation methods and develop teaching on basis of feedback
- Apply classroom assessment techniques to teaching sessions.

# When to Evaluate

## Kirkpatrick's Four Levels of Evaluation



**Figure 2** Kirkpatrick's four-level training evaluation model.  
Reproduced from.<sup>41</sup>



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PHYSICIANS



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**TIME: 9:00AM TO 5PM (NIGERIAN TIME; GMT+1)**

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**COURSE OBJECTIVES**

LEARN HOW TO :

PLAN TEACHING SESSIONS  
MAXIMISE TEACHING OPPORTUNITIES  
DO WORKPLACE BASED ASSESSMENT  
EVALUATE YOUR TEACHING  
IMPLEMENT A PERSONAL DEVELOPMENT PLAN (PDP)  
SUPERVISE AND MENTOR TRAINEES



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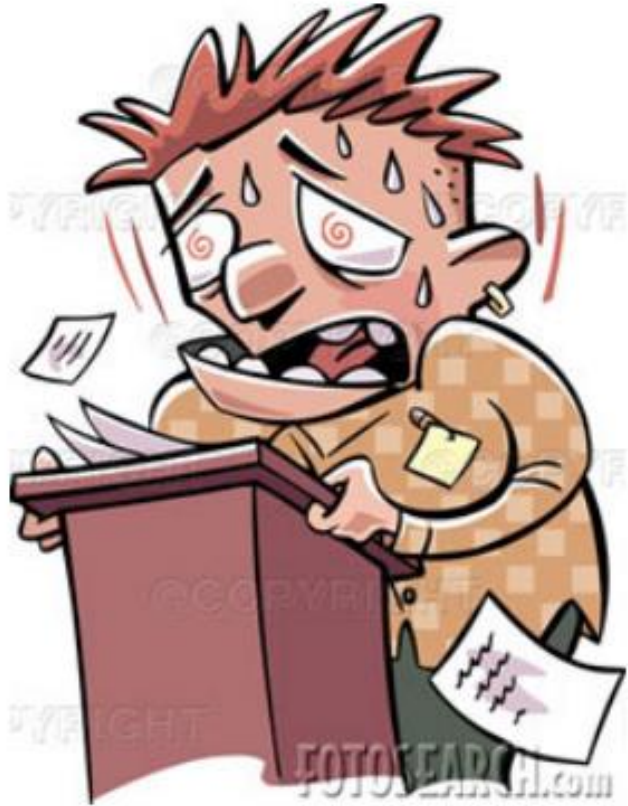
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ONLY 60 SPACES AVAILABLE ON A FIRST COME, FIRST SERVED BASIS

# Conclusion



**THANK YOU**  
**FOR LISTENING**