

Cognitive Neuroscience 2425 - Small Group Sessions

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1 Welcome to the Small Group Sessions of Cognitive Neuroscience

This book contains the materials for the small group session of the Cognitive Neuroscience course (Academic year 2425). The overarching aim of these sessions is to gain in-depth knowledge about certain sub-topics in Cognitive Neuroscience which, due to time limitation, cannot be covered in detail in the big group sessions. The final outcome will be a group project in which you will create a podcast-like episode on a subtopic of your choosing within Cognitive Neuroscience.



Figure 1.1: The image of a happy and dynamic podcaster recording in a very bad scenario. Be motivated by this guy, but do not be this guy. Recording outdoors is a very bad idea.

1.1 How to Use This Book

This book is organized week by week, following the course structure. Each chapter contains information about what is to be expected for the corresponding week's session. Also, throughout the weeks you will find information about concrete milestones and how to deliver them.

Navigate through the chapters using the sidebar or the next/previous buttons at the bottom of each page.

If you have any questions or need further clarification on the course content, assignments, or any technical issues related to podcast production, please do not hesitate to reach out to the course instructors via email or during office hours. We are here to support your learning journey and ensure you have all the resources you need to succeed in this course.

Remember, this course is not just about learning theoretical aspects of Cognitive Neuroscience but also about learning to communicate this knowledge in a creative and practical way. We encourage you to engage actively with the course materials, participate in discussions during the on-site sessions, and bring your unique perspectives to the episodes you will create.

Good luck, and we look forward to hearing your podcasts!

Part I

Course Information

2 Introduction to Cognitive Neuroscience and the Podcast Project

Welcome to the small group sessions of the Cognitive Neuroscience course! These sessions are conceived to be a learning experience which combines in-depth study of some key areas of cognitive neuroscience with the practical application of science communication through podcast creation.

2.1 Course Overview

This course is designed as a 13-week journey that will take you through all the necessary steps starting from coming out with a scientific question, finding information about it, critically thinking about this information, and to eventually create a summary of the learned information in audio format. Throughout the semester, you will work in groups of 3-4 students to create a 5-10 minute podcast episode on a specific subtopic within cognitive neuroscience.

2.2 Course Objectives

By the end of this course, you will:

1. Gain in-depth knowledge in a specific area within Cognitive Neuroscience
2. Learn to review, critically analyze and synthesize scientific literature
3. Gain experience in interviewing experts scientists in the field
4. Develop proficiency in synthesizing and communicating scientific information to diverse audiences
5. Acquire basic skills in recording and editing audio content generally and on podcast production more concretely
6. Enhance your teamwork and project management skills

2.3 Course Instructors

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Note: While we have office hours, it's usually better if you send us an email in advance so that we can prepare for your questions.

2.4 Getting Started

As we embark on this journey together, keep an open mind, be curious, and *don't be afraid to ask questions*. Cognitive neuroscience is fascinating and complex, and your task is to make it accessible and engaging for the audience.

In the next section, we'll dive into the course roadmap, giving you a clear picture of what to expect in the coming weeks.

Part II

Weekly Content

3 Week 0: Course Kick-off

3.1 Course Structure

The course is structured week-by-week, guiding you through the process of creating your podcast. Each week focuses on specific tasks and milestones, building towards your final product. The workload is distributed between in-person sessions and autonomous group work.

During the in-person sessions we will explain each step in the process and present you with strategies and tools so that you can work efficiently. In addition, some of the in-person time will be dedicated for group work so that you can complement your autonomous work. If you regularly attend the in-person sessions and you deliver all the milestones in their due time, the amount of autonomous work should be minimal.

3.1.1 Let's start at the end (product): Your own CogNeuro Podcast!

The main project of this course is to create a 5 to 10-minute podcast-like recording on a subtopic within Cognitive Neuroscience. Throughout the semester, you'll work through various milestones, from topic selection to the final production of your podcast episode. If you have never worked on a similar project, rest assured, we will walk you through all the steps so that, if you follow along, you will be able to complete the assignment in time.

We will give you a set of broad topics for you to choose from but you will also be able (and encouraged!) to work on a different topic that you find more interesting. If you want to have a more concrete idea of what we are expecting from you, here you can find some of the episodes that were created in the 2324 edition (shared with permission from the authors).

- [Poverty](#)
- [Neurosexism](#)
- [Stereotypes](#)
- [Consciencia](#)
- [Neurosexismo](#)
- [Plasticidad](#)

3.1.2 How We'll Achieve This

- Work in small groups arranged according to topic preferences.
- Follow a weekly program covering all necessary steps.
- Engage in lots of in-session work.
- Complete partial milestones throughout the semester.
- Participate in joint listening sessions of the recordings, Q&A, and feedback.

Here you will find a detailed plan of what we will do on each session (this file will also be available on PRADO).

Roadmap for the Course

3.1.2.1 Week 0: Course Introduction and Roadmap

- **Date:** September 18th
- **Activities:** In this introductory session, we'll go over the course objectives and what you can expect to achieve by the end. We will also cover our expected timeline, deliverable milestones and how we will evaluate your work.

3.1.2.2 Week 1: Topic Selection and Research

- **Date:** September 25th
- **Activities:**
 - Presentation of the skeptical watchlist for Cognitive Neuroscience research.
 - Introduction to available topics along with the selected papers.
 - Students rate their topic preferences (<https://forms.gle/vv24vQnko35txwyt8>)
 - Formation of groups based on topic preferences.

3.1.2.3 Week 2: In-depth Research (Part 1)

- **Date:** September 25th
- **Activities:**
 - Read and analyze the proposed paper for the selected topic.
 - Conduct topic-specific literature searches.
 - Distribute additional papers among group members and start reading.

3.1.2.4 Week 3: In-depth Research (Part 2)

- **Date:** October 2nd
- **Activities:**
 - Continue reading and analyzing the literature.

- Present findings to peers and discuss.
- Identify interesting subtopics for further exploration.
- Present popular science podcasts as examples.
- **Milestone:** Decide on a subtopic, a target audience and provide a tentative title for your podcast episode.

3.1.2.5 Week 4: Episode Outline

- **Date:** October 9th
- **Activities:**
 - Continue refining the content through additional reading.
 - Develop an outline for the podcast episode collaboratively.
 - Decide on the tone (formal, light, fun) of the episode.
 - Assign roles for the final episode (who will speak, etc.).
 - Begin working individually on respective sections.
 - Seek guidance and feedback as needed.

3.1.2.6 Week 5: Preparing Interviews

- **Date:** October 16th
- **Activities:**
 - Identify and research the expert for the interview.
 - Decide on the format for the interview (audio recording or discussion).
 - Develop and select key questions for the interview.
 - Integrate the interview into the episode outline.
 - **Milestone:** Send the outline and questions for review.

3.1.2.7 Week 6: Recording Interviews (Part 1) + Script Writing (Part 1)

- **Date:** October 23rd
- **Activities:**
 - Begin recording interviews with the experts.
 - Learn tips for writing engaging introductions and conclusions.
 - Start writing the script for the episode.
 - Seek guidance and feedback as needed.

3.1.2.8 Week 7: Recording Interviews (Part 2) + Script Writing (Part 2)

- **Date:** October 30th
- **Activities:**
 - Continue recording interviews.

- Review and adjust the episode outline if necessary.
- Continue writing the script.
- **Milestone:** Send script draft for review.

3.1.2.9 Week 8: Script Writing (Part 3) + Intro to Recording

- **Date:** November 6th
- **Activities:**
 - Introduction to podcast recording techniques.
 - Discussion on the importance of recording environment and speaker articulation and delivery.
 - Basic audio recording tools.
 - Incorporate insights from interviews into the episode.
 - Continue refining the script based on feedback.

3.1.2.10 Week 9: Script Writing (Part 4) + Intro to Editing

- **Date:** November 13th
- **Activities:**
 - Introduction to podcast editing techniques.
 - Discussion on the use of transitions, sound effects, and music.
 - Basic audio editing tools.
 - Incorporate insights from interviews into the episode.
 - Continue refining the script based on feedback.

3.1.2.11 Week 10: Recording and Audio Editing (Part 1)

- **Date:** November 20th
- **Activities:**
 - Start recording the episode using the developed script.
 - Seek guidance and feedback as needed.

3.1.2.12 Week 11: Recording and Audio Editing (Part 2)

- **Date:** November 27th
- **Activities:**
 - Continue recording.
 - Support in editing the recorded audio for clarity and coherence.
 - Review and revise the entire podcast episode as a group.
 - Make necessary edits to enhance the episode's flow and quality.

3.1.2.13 Week 12: Podcast Presentation and Group Feedback (Part I)

- **Date:** November 4th
- **Activities:**
 - Listen to the final version of the episodes as a group.
 - Q&A session with other groups.
 - Provide and receive constructive feedback on various aspects of the episode.
 - Vote on different aspects of the podcast (e.g., content, clarity)
 - Discuss feedback and the overall experience.

3.2 Resources

3.2.1 Technical Resources

- This book!
- PRADO platform
- Audio recording software
- Audio editing software
- A regular personal-use computer

3.2.2 Human Resources (for interviews)

- Your peers!
- Researchers from the UGR (PhD students, Postdoctoral researchers, Full Professors)

3.3 Evaluation

Your total grade in this project (which will be 30% of the final grade of the semester) will be divided into two components:

1. **Milestones (3 points)** Three deliverables for intermediate steps:

- Topic selection and title (Week 3) - 1 point
- Episode outline (Week 5) - 1 point
- Script draft (Week 7) - 1 point

We will set specific deadlines for each one of them. In order to get the full mark for each of the milestones, you must submit your assignment before the deadline. We will apply a penalty of 50% for submissions delays < 24h and of 100% for submission delays > 24h.

2. Final Episode (7 points) Key aspects considered:

- Clarity and coherence of the content
- Correct interpretation and integration of the data and ideas
- Format and engagement
- Recording and editing quality

3.3.1 Podcast Evaluation Criteria

Criteria	1 (Unacceptable)	2 (Deficient)	3 (Acceptable)	4 (Good)	5 (Excellent)
Clarity and Coherence (2 points)	The content is confusing and difficult to follow; lacks a clear focus.	The content has some moments of clarity, but overall is difficult to understand.	There is a logical sequence for the most part with some moments of ambiguity.	The content is clear and well articulated throughout most of the podcast.	The content is extremely clear and easy to follow throughout the entire podcast.
Data Interpretation (2 points)	Total lack of or erroneous interpretation of data.	Basic interpretation of data, but with significant errors or misunderstandings.	Correct interpretation of data, but lacks depth or analysis.	Good interpretation of data with detailed analysis.	Exceptional interpretation and profound analysis of the presented data.
Dynamics (2 points)	The content is too dense and/or the format is not suitable for the content.	The format is correct but lacks attentional cues for the audience.	The format is adequate and includes some attentional cues.	The format is adequate and the attentional cues maintain the listener's attention.	The format is ideal and novel; attentional cues make the content integrate fluidly.

Criteria	1 (Unacceptable)	2 (Deficient)	3 (Acceptable)	4 (Good)	5 (Excellent)
Production (1 point)	Poor audio quality and careless editing; constant technical distractions.	Fair audio quality and editing, but with several distractions.	Adequate audio quality and editing, with few distractions.	High-quality audio and professional editing; minimal distractions.	Exceptional audio quality and editing; professional-grade production with no distractions.

Additionally, we will be awarding prizes in categories such as “*Most Interesting Episode*”, “*Most Fun Episode*”, and “*Best Recorded Episode*” based on the votes of your peers. Each prize will add a 0.2 bonus to your whichever mark your podcast got according to the evaluation criteria (up to a maximum of 7 points).

3.4 Topics

We have selected one research paper as a starting point for each topic. You will find these papers below and also on PRADO. The main topics include:

- **Neuroanatomy and plasticity:** (Merabet and Pascual-Leone 2010)
- **Consciousness:** (Sohn 2019)
- **Brain stimulation:** (Yavari et al. 2018)
- **Poverty:** (Farah 2017)
- **Neurosexism:** (Meynell 2013)
- **Stereotypes and prejudices:** (Amodio 2014)

3.5 Next Steps

In the coming weeks, you will dive deeper into one of these topics. You will learn about the parts that you find more interesting and attempt at integrating them together with your work group. The ultimate goal is that you can efficiently communicate all that information to the rest of your classmates. As a bonus, you will also get to learn from their work on the things that they find fascinating! Be prepared to engage in collaborative work, conduct in-depth research, develop your science communication skills, and learn to provide (and to receive) constructive feedback.

3.5.1 References

4 Week 1: Topic Selection and Research

4.1 Objectives

By the end of this week, students will:

- Have a quick recap of the goal of the course to get new students on board
- Be introduced to potential pitfalls in Cognitive Neuroscience research
- Select their preferred topics
- Be assigned to groups based on their preferences

4.2 Milestones and Delivery Dates

We'll review the project milestones and their expected delivery dates. This will help you plan your work and ensure you stay on track throughout the course.

4.3 A Skeptical Approach to Cognitive Neuroscience Research

In this section, we'll discuss common pitfalls and areas of caution in Cognitive Neuroscience research. This "skeptical watchlist" will help you approach your research with a critical eye and ensure the scientific integrity of your podcast content.

You can find the slides for this section below.

4.4 Tasks

1. Review the available topics and associated papers.
2. Consider your interests and rate your preferences for the different topics.

4.5 Next Steps

In the coming weeks, you'll dive deeper into your chosen topic, conduct in-depth research, and begin planning your podcast episode. Start thinking about what aspects of your topic you find most intriguing and what questions you'd like to explore further.

5 Week 2: In-depth Research (Part 1)

5.1 Objectives

By the end of this week, you will:

- Establish initial communication within their respective groups
- Understand how to conduct topic-specific literature searches
- Distribute tasks among group members (reading, recording, editing, speaking, interviewing)
- Begin in-depth reading on their chosen topic

5.1.1 Key Ideas from Previous Weeks

- The recording should **not** be a formal presentation of a paper
- Use the skeptical watchlist while researching (available on this book and on PRADO)

5.2 Group Formation

- Groups have been created based on your 1st or 2nd choice preferences
- Each group consists of 3-5 members for balanced workload and efficiency
- Reach out to your group members and start collaborating
- Be mindful of others' needs and ensure everyone feels comfortable
- If you encounter any issues, please reach out to us for solutions

5.3 In-depth Research

5.3.1 Getting Started

We gave you an initial paper for each one of the topics. Now it is time to review the one for your topic so that you can pull out some ideas and some more references that can guide you deeper into a concrete direction. Here are a few questions that might help you extract the relevant information from the paper:

- What's the main focus of the article?
- Which sections interest you most?
- Do you need additional context to understand certain parts?
- What other studies inspired the authors?

5.3.2 Finding Additional Resources

When conducting online scientific literature searches, you have several options, each with its own trade-offs between search time and output validation time.

1. Traditional Databases

- Platforms like Scopus and PubMed offer comprehensive, curated collections of scientific literature.
- These databases typically require more search time but provide highly reliable, peer-reviewed results.

2. Google Scholar

- A popular middle-ground option that balances search speed and result breadth.
- It offers a user-friendly interface and wide coverage across various disciplines.
- While faster than traditional databases, it may include some non-peer-reviewed content.

3. AI-Powered Tools

- Emerging platforms like Consensus use artificial intelligence to streamline the search process.
- These tools significantly reduce search time but may require additional effort to validate outputs.

Validation of search results is crucial, especially when using faster, more inclusive search methods. Google Scholar may include non-peer-reviewed materials, preprints, or even non-academic sources, which can affect the reliability of your research if not properly vetted. AI-powered tools, while efficient, may occasionally “hallucinate” or generate inaccurate information, particularly when dealing with specific data points or less common topics. These tools might also misinterpret context or nuance in complex scientific discussions. Therefore, it's essential to cross-reference findings, verify sources, and critically evaluate the relevance and accuracy of search results, regardless of the platform used.

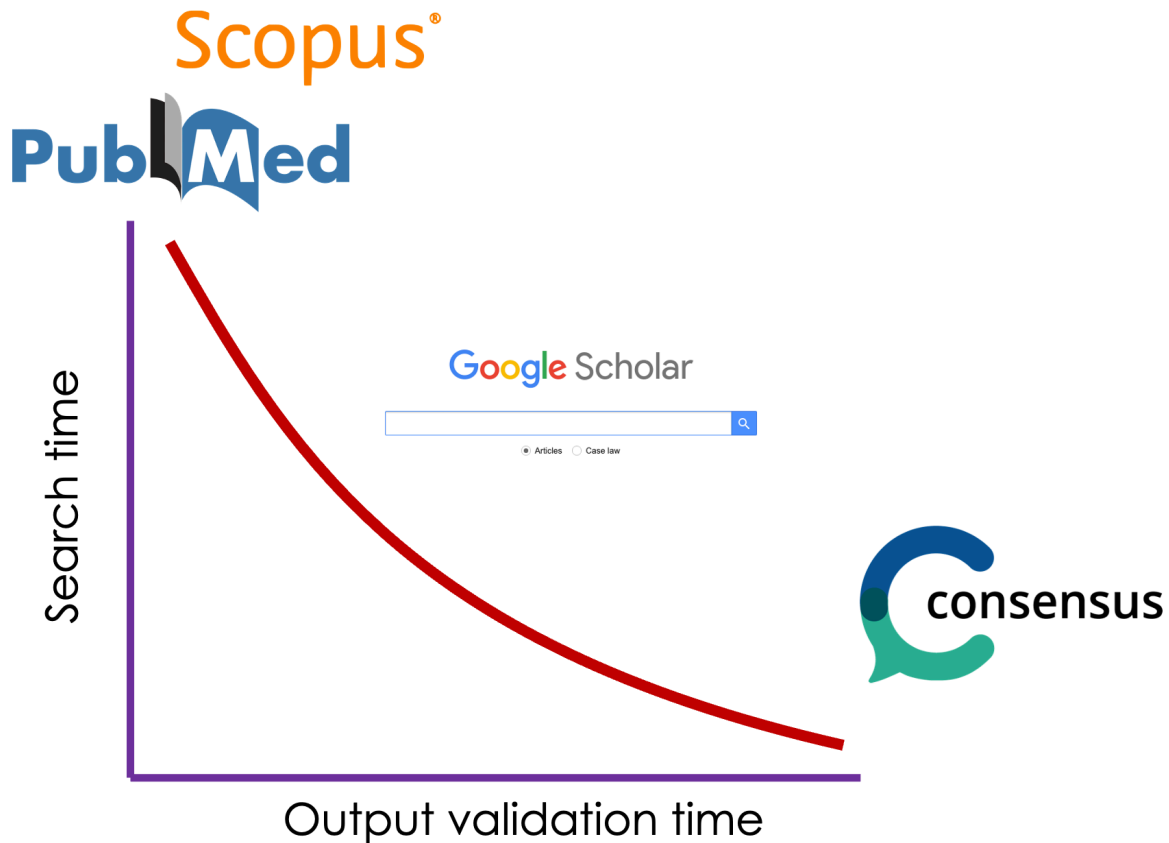


Figure 5.1: Schematic depiction of the trade off between search time and validation time

When choosing a search method, consider your research needs:

- For thorough, highly validated results, traditional databases may be preferable.
- For quick, broad searches, Google Scholar offers a good balance.
- For rapid literature reviews or initial explorations, AI-powered tools can be valuable, but exercise caution and verify findings.

Remember, the faster the search process, the more time you might need to spend validating the results. Choose the approach that best fits your research goals and time constraints, and always maintain a critical eye when reviewing your findings.

5.3.3 Accessing papers:

- Use university network or VPN for paywalled journals
- Try different versions if available
- Reach out to us if you can't access a paper

5.3.4 Alternative Research Methods

Explore other platforms for ideas as well as for information:

- YouTube channels (e.g., [kurzgesagt](#), [AsapSCIENCE](#), [WIRED](#))
- Podcasts (e.g., [Brain Inspired](#), [StarTalk](#), [Lex Fridman Podcast](#))

Remember to use your skeptical watchlist when exploring these sources!

5.4 Tasks for This Week

1. Connect with your group members
2. Review the suggested paper for your topic
3. Conduct initial literature searches
4. Distribute reading tasks among group members
5. Begin in-depth reading of your assigned materials

5.5 Potential questions we anticipate

Q: How many papers do we need to read?

A: There's no set minimum or maximum. Focus on quality and relevance.

Q: What if I find conflicting information in different papers?

A: This is normal in science! Use your skeptical watchlist to evaluate the papers' credibility. If you can't decide, consider discussing both perspectives in your podcast – competing accounts are part of scientific progress.

5.6 Next Steps

In the next week, we'll focus on narrowing down your topic into a central and manageable idea and on defining your target audience.

6 Week 3: In-depth Research (Part 2)

6.1 Objectives

By the end of this week, you will have to submit **the first milestone**. This will be the one of the most important steps in your podcast creation: you have to decide on the topic of the podcast, frame it for a concrete target audience and provide a tentative title.

6.1.1 Key Ideas from Previous Weeks

- Decide on a sub-topic within your main topic
- Attribute different roles to group members is a great way to maximize efficiency
- The recording should **not** be a formal presentation of a paper
- Use the skeptical watchlist while researching (available on this book and on PRADO)

6.2 In-depth Research II

By now, you should already have, at least, a tentative idea of what you want to talk about. Now, it is time to further fine-tune that idea to make it more concrete. Keep in mind that the final product will have a maximum duration of 10 minutes. Thus you should strive for either:

- Cover a narrow sub-topic within the broader umbrella topic you were assigned to
- Provide a shallower overview of a broad topic.

Both options are totally fine as long as you find it interesting (and that you are able to communicate your enthusiasm to the audience). Keep these two options in mind while digging through research so you can decide where to focus your efforts.

6.3 Defining Your Podcast Audience

When creating a science-based podcast (or any kind of podcast, tbh), one of the most crucial decisions you'll make is choosing your target audience. This choice should be made early in the planning process, as it will significantly influence various aspects of your podcast, including content, format, tone, and language.

6.3.1 Why Audience Matters

1. **Content Depth:** The level of detail and complexity in your discussions will vary greatly depending on whether you're addressing neuroscience specialists or the general public.
2. **Language Use:** Technical jargon appropriate for scientists might confuse a lay audience, while oversimplification could bore experts.
3. **Topic Selection:** Your audience's background knowledge and interests will guide which topics are most relevant and engaging.
4. **Format and Style:** The podcast's structure, length of the sections, and presentation style should cater to your audience's preferences and listening habits.

6.3.2 Potential Target Audiences

Consider these example audience categories to aid your definition of your podcast's focus:

1. **Specialist Neuroscientists:**
 - Highly technical content
 - In-depth discussions of current research
 - Use of field-specific terminology
2. **General Scientists:**
 - Broader scientific context
 - Interdisciplinary connections
 - Less neuroscience-specific jargon
3. **Psychologists without Scientific Background:**
 - Focus on practical applications
 - Simplified explanations of neuroscientific concepts
 - Connections to psychological theories and practices
4. **General Population:**
 - Emphasis on relatable examples and real-world implications

- Clear, jargon-free explanations
- More time spent on foundational concepts

This list is not exhaustive and other types of audiences can be considered. But bear in mind that by clearly defining your target audience in advance, you can create a more focused, engaging, and effective product. This clarity will guide your content creation process and help you build an engaging episode.

6.4 Tasks for This Week

1. Narrow down your topic
2. Select a target audience
3. Continue your in-depth reading

6.5 Milestone 1

Use the following Google Form to deliver Milestone 1. Only one member of the group needs to input the information for the entire grupo. The deadline for submission will be the end of the week.

Cargando...

6.6 Next Steps

As you dive into your research, start thinking about how you'll synthesize this information for your podcast. In the coming weeks, we'll focus on outlining your episode.

7 Week 4: Episode Outline

7.1 Objectives

Throughout this week you will:

- Continue refining the content through additional reading.
- Develop an outline for the podcast episode collaboratively.
- Decide on the tone (formal, light, fun) of the episode.
- Assign roles for the final episode (who will speak, etc.).
- Begin working individually on respective sections.
- Seek guidance and feedback as needed.

7.2 Key Ideas from Previous Sessions

- Always keep in mind who your target audience is while you tailor the content and format of your work.
- Focus on a narrow sub-topic within your main topic. Conveying a few ideas effectively is better than swamping the audience in information.
- Attribute different roles to group members is a great way to maximize efficiency
- The recording should **not** be a formal presentation of a paper
- Use the skeptical watchlist while researching (available on this book and on PRADO)

7.3 Tasks

1. Refine Content:

- Identify key points and supporting details to include in the episode.
- Conduct further reading on your selected topic. This keeps coming back again and again. And it does so for a reason! Reading and researching is keep to inform your opinion.

IMPORTANT NOTE!! Not everything that you find (every paper, study, podcast) needs to be included or unpacked in the episode. Sometimes, this extra bits of information allow you to structure the ideas and to enrich the overall narrative with a novel angle but this might be not directly apparent for the a

2. Develop Episode Outline:

- Work together to create a structured outline for the podcast episode.
- Ensure the outline flows logically from one section to the next.

3. Decide on Tone:

- Discuss as a group whether the episode should be formal, light-hearted, or a mix.
- Choose a tone that fits the topic and your audience.

4. Assign Roles:

- Determine who will speak in each part of the episode.
- Assign specific sections to each group member for detailed preparation.

5. Individual Work:

- Begin drafting your assigned sections.
- Incorporate feedback from peers and instructors as you go.

6. Seek Guidance:

- Reach out to your instructors or peers for feedback and support as needed.
- Ensure that everyone is on track and any issues are addressed promptly.

7.4 Next Steps

Stay focused and collaborative as you work through these tasks. Your efforts now will set a solid foundation for the upcoming stages of your podcast project. In the following week we will talk about interviewing experts.

8 Week 5: Preparing the Interviews

8.1 Quick Recap

At this stage, you should have narrowed down your search space and started researching a specific subtopic within Cognitive Neuroscience. We're now moving into the optional phase of preparing for expert interviews. Also, it is time for **milestone 2!**

8.2 Objectives

By the end of the week you will:

- Have decided whether you want to interview the expert or not
- Continue in-depth reading of your subtopic
- Deliver milestone 2: a draft of the podcast outline

8.3 The Experts

We've selected a group of experts based on your subtopics. These are researchers currently working in Granada or with a history of collaborations at the UGR.

- All experts are friendly but very busy, so be mindful of their time.
- They have agreed to talk to you and are looking forward to your emails.
- Not all experts are comfortable with being recorded, so be prepared to be flexible with the format.
- Some subtopics have two experts, others only one. If you have more than one, consider talking to both only if you think that they can offer different perspectives.

8.4 Researching Your Expert

Before reaching out, it's important to understand who your expert is:

1. Use Google Scholar to research your expert:
 - Read titles and abstracts of their top-cited articles and most recent publications.
 - Check if they have a personal website stating their research interests.
 - Understand their career stage and what that means for your research.
2. Consider what information the expert can provide:
 - Keep in mind that your research question and their expertise may not completely overlap.
 - Different expert profiles might provide different types of information:
 - A global view on the topic
 - Answers to specific questions
 - Clarification of conflicting findings
 - Methodological nuances
 - Different perspectives you might be missing

8.5 Choosing an Interview Format

Consider different formats for the interview:

- Audio recording
- Informal chat
- Real-time Q&A (in person or online)
- Q&A via email

Be prepared to negotiate the format with the expert based on their preferences and availability.

8.6 Reaching Out to the Expert

When contacting the expert there are a few things that you should keep in mind:

- Be formal until told otherwise.
- Reach out via email (no need to cc course instructors).
- Introduce yourselves: Who are you? What are you interested in? What is your proposal?
- Offer several possibilities regarding the interview format.
- Try to capture their attention while being respectful of their time.

8.7 Preparing for the Interview

Once you’ve scheduled the interview:

1. Prepare thoroughly:
 - Familiarize yourself with the relevant part of the expert’s field.
 - Send questions in advance if possible, allowing the expert to prepare.
 - If recording, test your equipment beforehand.
 - Decide who will conduct the interview to avoid overwhelming the expert.
2. During the interview:
 - Be punctual and respectful.
 - Be ready to intake as much information as possible.
 - Ask for clarification if needed, but avoid confrontation.
 - Take notes, even if you’re recording.
 - Stick to the agreed-upon time.
 - Thank the expert and inform them about your plans for the gathered material.

8.8 Milestone 2

Draft an episode outline and role assignments by the end of the week. You will be able to submit the assignment as a task on PRADO. We will give you feedback as soon as possible so that you can integrate it and improve it. What does a podcast outline look like, you ask? There is no single correct format, as the outline depends directly on your chosen podcast style. However, there are a several elements that any outline should include:

1. The structure in sections and/or topics to be covered
2. Brief notes on the content of each section
3. The approximate timestamps of when each section starts
4. Labels indicating who is going to speak in each section
5. Elements for listener engagement (e.g., pop-culture examples, direct questions, call-to-action)
6. Planned transitions between segments
7. Any sound effects or music cues

And here’s an example Outline for an ~8-minute podcast on “Perceptual Illusions”

Podcast Outline

Title: “Tricking the Brain: The Fascinating World of Perceptual Illusions”
00:00 - 00:10 | Jingle - Intro music

00:10 - 01:00 | Welcome (Host A) - Fade out of the jingle throughout

- Welcome listeners
- Brief explanation of perceptual illusions
- Tease interesting examples to come

01:00 - 03:00 | Visual Illusions (Host B) - Subtle background music

- Explain how visual illusions work
- Signal two famous examples (Rabbit-Duck illusion, Rubin's vase). "I'm sure you have seen"
- Transition: "But it's not just our eyes that can be fooled..."

03:00 - 05:00 | Auditory Illusions (Host A)

- Introduction to auditory illusions
- Showcase the McGurk effect with listeners mentally visualizing the mouth movements (play audio example)
- Explain the science behind it

05:00 - 07:00 | Interview Inset (Host B & Guest Expert) - Subtle background music

- Briefly introduce guest neuroscientist: "We got the opportunity to talk with..."
- Q1: Why did our brains evolve to be susceptible to illusions?
- Q2: Are some people more prone to experiencing illusions than others?

07:00 - 08:00 | Outside the Lab (Host A) - Sound effects

- Illusions around us:
 - Art and design
 - Films

08:00 - 08:30 | Outro

- Concluding message: "What we perceive with our senses, is not necessarily there..."
- Thank listeners
- Outro song

Sound Effects/Music:

- Intro jingle: Stock music
- Subtle background music during segments: Stock music
- Sound effects: Stock audio
- Outro song: [There, there by Radiohead](#)

8.9 Next Steps

After conducting your interview(s), you'll need to synthesize the information you've gathered with your existing research. It is important to note that not all the information maybe necessary in the final product. The interview(s) will help shape your podcast episode and ensure you're presenting a well-rounded, informed perspective on your chosen topic.

Remember, the goal is not just to collect information and paste it in the audio file, but to use this opportunity to gain deeper insights into your subject area and potentially uncover new angles for your podcast.

9 Week 6: Script Writing

9.1 Quick Recap

At this stage, you should have an outline for your episode, which should guide more specific reading and interviewing. Remember, the deadline for Milestone 3 (Script draft) is still a few weeks from now but it is a good idea to already start working on it.

9.2 The Writing Process

The general flow of creating your podcast episode should follow this pattern:

Idea -> Reading -> Outline -> Reading -> Writing (first draft)

Before diving into the script, ensure you have:

1. A concrete a manageable topic
2. A detailed outline of the episode
3. A target audience
4. A tone for your podcast

9.3 Types of Podcast Scripts

There are three main types of podcast scripts:

1. **Fully scripted:** Everything you intend to say is planned out. This makes recording and editing easier but can sound less spontaneous unless you bring a bit of acting to it.
2. **Bullet script:** More suitable for conversational podcasts. It allows for a natural flow while keeping the discussion on track.
3. **Talking points:** The least structured approach. You only have main points, allowing the conversation to develop naturally.

Choose the type that best fits the style of your group members and the content that you chose.

9.4 Who Should Write the Script?

As with lit. search, distributing roles here can also be very effective. For instance, your group could do the following:

- Person X writes the initial draft
- Person Y edits the first draft
- Person Z takes the draft and the edits and create a polished version

Another valid option is to do cross-section editing:

- Person X writes section 1
- Person Y writes section 2
- Person X edits section 2
- Person Y edits section 1
- Person X and Y incorporate edits of their sections

The writer should consider who will read the script and use language that the speaker is comfortable with.

9.5 Content Tips

9.5.1 1. Engaging Introduction

Start with a captivating introduction to hook your listeners. Consider:

- A thought-provoking question
- A brief anecdote
- A teaser about the episode's topic

9.5.2 2. Clear and Concise Language

- Use clear, concise language. It is counterproductive to include complicated terms when they are not needed.
- Avoid jargon or overly technical terms. Think that this is not a written work so the audience should (ideally) not have to go back to re-listen some parts to understand them.
- Explain complex concepts in an simple way. This is 80% of your job as a communicator!

9.5.3 3. Engage the Audience

- Ask questions
- Share relatable stories
- Use examples and references the audience might know

9.5.4 4. Take-home Message

In some cases, it might be a good idea to end with the key ideas you want listeners to retain. This is particularly true if you have a long(er) podcast >7-8 minutes and/or if you have included several ideas and you have not talked about the first ones during the second half of the show. Think very strategically: does re-taking an idea already discussed benefit the overall message? For rather short communications, there is no obligation to include a recap of everything discussed, so only include it if it *adds something*. Can you summarise your ideas into a one-liner? Do you want to open more related questions to hint at distant connections?

9.5.5 5. Continuous Research

Don't hesitate to do more research as you write. This is a good thing! New questions may arise, requiring further investigation.

9.6 Format Tips

1. Format for easy reading:

- Use a conversational tone
- Write short sentences
- Use bullet points or headings
- Include cues for pauses, emphasis, and tone

2. Practice reading aloud:

- Identify awkward phrasing
- Edit for clarity and flow
- Remember that what works for silent reading might not work when read aloud

3. Cite your sources:

- Adds credibility
- Helps listeners find more information
- **IMPORTANT:** There's no need to cite APA style (i.e., Last Name, Name, Title, Journal, Number, Page) as this is not a written report. Citations must be conversational as the full references will be included in a separate document.

9.7 Interview Tips

1. **Be concise:** Tailor questions to what you expect from the interview
2. **Focused questions:** Don't ask questions that cover the entire scope of the episode
3. **Balance:** Don't make the expert the center of the episode
4. **Avoid broad closing questions:** Don't ask the expert to summarize everything in one sentence

9.8 General Tips

1. **Stay Adaptable:** Be open to feedback and willing to improve
2. **Evaluate and Iterate:** Assess what's working and make adjustments
3. **Quality over Quantity:** Sometimes less information, presented clearly, is more effective

9.9 Next Steps

After completing your script draft:

1. Review it as a group
2. Practice reading it aloud
3. Make necessary revisions
4. Prepare for the recording phase

Remember, a good script is the foundation of a great podcast episode. Take your time, be thorough, and don't be afraid to revise and improve as you go along.

10 Week 7: Recording Interviews (Part 2) + Script Writing (Part 2)

This week is a continuation of week 6 for autonomous work, for getting feedback from the course instructors and to deliver the **third milestone**.

10.1 Objectives

- Continue recording interviews.
- Review and adjust the episode outline if necessary.
- Continue writing the script.

10.2 Key Ideas from Previous Sessions

- Importance of high-quality interviews for efficiently acquiring information.
- Structuring a compelling script for the podcast episode.
- If you are including the interviews, ensure they are well integrated.

10.3 Tasks

1. Recording Interviews:

- Continue with the interview recordings.

2. Review and Adjust Outline:

- Revisit the episode outline and make necessary adjustments based on new insights from the interviews.

3. Script Writing:

- Continue drafting the script for your podcast episode.
- Ensure the script flows logically and incorporates feedback from previous sessions.

4. Do you need feedback?

- Reach out! Use the allocated times for this week's session to come ask for questions.

10.4 Milestone 3

Send us the current draft of your script by the end of this week. This script needs to be as detailed as your podcast format needs it to be. If you are going to a fully-scripted type of podcast, then everything that you will say needs to be written; if you are going to an intermediate type, then include as many information as you will need during the recording; if you are going for total improvisation make sure the have listed at least some talking points so that the conversation does not divert too much.

You will have a task in PRADO for one of your group members to upload the file.

10.5 Next Steps

In the next couple of sessions we will do an introduction to podcast recording tools and techniques and basic audio editing techniques. While this week involves a significant amount of autonomous work, remember to reach out for guidance and feedback as needed. Collaborative efforts and continual refinement are key to creating a successful podcast episode.

11 Week 8: Recording

11.1 Quick Recap

At this stage, you should have an initial draft of your script and either have received or are about to receive feedback on it.

11.2 The Recording Process

The general flow for creating your podcast episode should follow this pattern:

Idea -> Reading -> Outline -> Reading -> Writing (first draft) -> Feedback -> Polish script -> Recording

Ensure you have a curated script before beginning the recording process.

11.3 When Should We Start Recording?

It's important to start recording once you have a polished script. This will make the recording process smoother and more efficient.

11.4 Who Should Record?

Distributing roles can be an effective strategy:

1. Speaking:

- The voice is your main medium of communication (similar to the font in a written essay)
- Work on articulation, tone, and pacing
- Familiarize yourself with the script (know when and what to emphasize)
- Encourage authenticity: Let your personality guide your performance

2. Recording:

- Handle equipment (microphones, recording software)
- Manage the recording environment
- Practice, practice, practice
- Challenge yourself (e.g., start and stop recording suddenly, push the computer)

3. Producing:

- Act as a pilot listener. How does it feel?
- Ensure logical and engaging content
- Determine if anything needs to be re-recorded

11.5 Recording Equipment and Software

11.5.1 Equipment:

- External microphones
- Cell phone
- Headphones
- Quiet environment (avoid big, empty rooms)

11.5.2 Software:

- Your cell phone's built-in recording app may be sufficient
- For online recording or multiple audio tracks, consider using <https://zencastr.com/>

11.5.3 Audio Format:

- Choose mp3 for easier handling later
- Use online platforms for format conversion if needed (e.g., <https://convertio.co/es/ogg-mp3/>)

11.6 Final Remarks

Remember that while technical aspects are important, the content of your podcast is paramount. Use these tools and techniques to enhance your message, not overshadow it. Always listen to your final product and be willing to make adjustments to ensure the best possible quality.

As you move forward with recording, don't hesitate to seek feedback from your peers or instructors. The process of creating a podcast is iterative, and each round of feedback can help improve your final product.

11.7 Next Steps

Next week we will talk about editing audio files. This process can greatly change the feeling of your podcast. Good luck finishing your scripts, and remember to enjoy the process of bringing your ideas to life through audio!

12 Week 9: Editing

12.1 Quick Recap

At this stage, you should have an initial draft of your script and either have received or are about to receive feedback on it.

12.2 The Editing Process

The general flow for creating your podcast episode should follow this pattern:

Idea -> Reading -> Outline -> Reading -> Writing (first draft) -> Feedback -> Polish script -> Recording -> Editing

Editing might require you to re-record some bits. This is normal. The listener will not know when certain sentences were recorded. Do use that opportunity to your advantage!

12.2.1 Equipment:

- Computer
- Headphones
- Time, patience, and creativity!

12.2.2 Software:

- If you're familiar with an audio editing program, use it!
- Audacity is a popular choice
- For more advanced editing, consider Descript (<https://www.descript.com/>) or Hindenburg Journalist (<https://hindenburg.com/academy/trial/>)

12.3 Tips for Quality Recording and Editing

1. **Focus on content:** Audio is a coarse format, so content is key!
2. **Enhance your recording:** Consider adding background music, sound effects, or transitions
3. **Avoid common pitfalls:**
 - Eliminate background noises
 - Use a microphone that doesn't introduce buzzing
 - If multiple people are speaking, avoid talking over each other
4. **Listen and judge:** Always review your recording to ensure you're satisfied with the result

12.4 Final Remarks

Remember that content is what is central. The format (music, transitions, edits) is just a nice envelope but one that will have a direct impact on how your audience takes in the message. Thus, it is a very important aspect that, if done poorly, can ruin the entire experience before it even begins.

12.5 Next Steps

The next couple of weeks will be devoted to recording! Do spend time crafting the recordings and polishing them during post-production. Good luck with your edits, and remember to enjoy the process!

13 Week 10: Recording and Audio Editing (Part 1)

Now you are ready to start recording and editing. This week you will be working autonomously but you can always seek guidance during of the in-person session or via email.

13.1 Objectives

- Start recording the episode using the developed script.
- Start gathering all the audio files needed (e.g., songs, jingles, different recordings)

13.2 Tasks

Start Recording! Ensure that the recording environment is quiet and free of interruptions.

13.3 Tips

- **Recording Environment:**
 - Choose a quiet place to record to minimize background noise.
 - Use a good quality microphone and check levels before starting.
- **Script Usage:**
 - Follow the script closely but feel free to make natural adjustments.
 - Practice sections beforehand to ensure a smooth delivery.

13.4 Next Steps

- Continue recording and start audio editing.
- Review and refine the entire podcast episode.

Remember, this week is critical for setting the foundation of your final podcast episode. Take your time to ensure high-quality recordings and don't hesitate to ask for help when needed.

14 Week 11: Recording and Audio Editing (Part 2) and Final product

As we approach the end, you will continue with recording, editing, re-recording and re-editing as many times as needed. This week you will be working autonomously but you can always seek guidance during of the in-person session or via email. By the end of the week you should submit your podcast.

14.1 Objectives

- Continue recording if any bits are missing still.
- Review and revise the entire podcast episode as a group.
- Make necessary edits to enhance the episode's flow and quality.
- Submit the assignment

14.2 Tasks

1. Audio Editing:

- Begin editing the recorded audio to improve clarity and coherence.
- Remove any unnecessary parts or background noise.
- Add background music, sound effects, transitions, etc.

2. Review and Revise:

- Listen to the entire podcast episode as a group.
- Provide feedback on the flow, coherence, and overall quality.
- Make necessary edits to enhance the episode.

3. Submit the final podcast:

- We will open a platform in Prado
- One of your group members must submit a single audio file (.mp3) and a pdf with the references used.

14.3 Next Steps

- In the next two sessions we will listen to the recordings of all the groups. This will be beneficial for your group both as listeners and as creators. Also, you will have the opportunity of voting the podcast that you like most.

This week is crucial for refining your podcast episode. Make sure to address all feedback and focus on producing a high-quality final product.

15 Week 12: Podcast Presentations and Group Feedback

You've made it to the finish line – great work! You've embarked on a CogNeuro journey to become podcast creators. Let's take a quick look back at what you've pulled off in this course. Along the way, hopefully, you have acquired a set of very valuable skills from lit. search to audio editing. But also, some less easy to notice skills such as synthesizing tons of information and simplifying it down to its core elements. Congratulations on all of this!

This week we will jointly listen to the recordings of all the groups. This exercise will help you learn about *what* the others have done and *how* they have done it. It is a great opportunity to get ideas and, more importantly, to learn more about other areas of Cognitive Neuroscience: the better of a job they have done, the more you will be able to learn!



Figure 15.1: The image a podcaster's brain podcasting about brains

We will encourage you to ask questions to the creators and to give them **constructive** feedback. You will also be on the other end of this feedback so, again, great opportunity to learn and to improve. After listening to each podcast you all will vote the podcast on different aspects (e.g., content, format) so that we can give the final prizes based on the opinions of your peers.

Fonally, we will gather feedback from all students on the entire podcast project so that we can improve it for the following year.

Let's make this session lively and engaging. Your participation and feedback are crucial for the success of this activity!

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