

# HOW TO PREPARE & PRESENT EFFECTIVELY

A Practical Guide for Engineering Students

# **A presentation is NOT just slides.**

It's a structured conversation between you and your audience about a topic.

# Why Do Engineers Need Presentation Skills?

- Your ideas have no value if nobody understands them  
*Great engineering without communication = invisible.*
- Clients, professors, and employers judge your competence through your clarity  
*Can you explain complex ideas in a way others understand?*
- Every course from now on will ask you to present something  
*This is not a one-time skill. It's a career skill.*
- The best engineers are also communicators  
*Technical skill + Communication skill = Career advancement.*

# Three Truths About Presentations

Remember these always

## **TRUTH #1: Your audience is busy.**

They don't WANT to listen to you. Make them WANT to.

**TRUTH #2: You already know more  
than your audience.**

Your job is to help them understand what YOU already know.

## **TRUTH #3: Preparation = Confidence.**

The more you prepare, the less nervous you'll be.

# The 5-Step Process

How every presentation should be built

# STEP 1: Understand Your Topic Deeply

- You must know MORE than what you'll present

*Know 10, present 5. This gives you confidence & flexibility.*

- Research from multiple sources, not just one

*Your professor's slides + textbook + internet sources + (if possible) expert interview*

- Write down what you learn in YOUR OWN WORDS first

*Before touching PowerPoint, understand it yourself. Write notes on paper.*

- Ask yourself: 'Can I explain this to someone who knows nothing?'

*If you can't explain simply, you don't understand it yet.*

# STEP 2: Know Your Audience

- Who is listening? (Your professor? Classmates? Your team?)  
*Adjust how technical or simple your explanation will be.*
- What do THEY need to know? (Not what YOU want to tell)  
*Focus on what helps THEM, not what's easiest for you.*
- How much time do you have?  
*10 minutes or 30 minutes changes everything about what you include.*
- What is their background? (Do they know basic terms or not?)  
*Don't use jargon without explaining it.*

# STEP 3: Organize Your Thoughts

- Make a simple outline on paper

*Beginning → Middle → End. Three to five main ideas. Nothing more.*

- Write out your opening sentence

*You'll be nervous at the start. Having it written helps you begin strong.*

- List your main points (3-5 only)

*More than 5 = audience gets confused. Stick to essentials.*

- Write your closing sentence

*End strong. Tell them what to remember.*

# STEP 4: Create Visual Aids

- ONE main idea per slide

*Don't cram everything on one slide.*

- Use visuals (pictures, diagrams, charts) - not just text

*Humans remember 80% of what they see, 20% of what they read.*

- Less text is better

*5-6 bullet points maximum. Use KEY WORDS, not sentences.*

- Consistent design (same colors, fonts, style on every slide)

*Professionalism comes from consistency, not fancy animations.*

# STEP 5: PRACTICE

- Practice 3+ times BEFORE the actual presentation  
*Aloud, not just in your head. Hear yourself say the words.*
- Practice in front of someone else if possible  
*Classmate, friend, family member - anyone. Get feedback.*
- Time yourself every practice  
*Adjust content if you're too fast or too slow.*
- Record yourself (video/voice)  
*Watch/listen to yourself. Notice: Am I too fast? Clear? Making eye contact?*

# How to Research Like a Student

You don't need to be an expert

# How to Research Your Topic

- Start with textbooks or course materials  
*The basics. Foundation of understanding.*
- Use Google Scholar or your university library database  
*Academic articles are more credible than random websites.*
- Find 2-3 reliable sources, read them deeply  
*Don't read 20 sources badly. Read 3 sources well.*
- Take NOTES. Don't copy-paste.  
*Write in your own words. This forces you to understand.*
- Find ONE real example or case study  
*Make it real. Not abstract concept, but actual building/project/situation.*

# Where to Find Good Information

- Academic databases (your university library website)  
*ResearchGate, Google Scholar, JSTOR if your school has access*
- YouTube for tutorials or expert explanations  
*Often clearer than text. But verify credibility of source.*
- Textbooks (physical or digital)  
*Slower to research but more organized and accurate than internet.*
- Industry websites for Turkish context  
*İMO.org.tr, TMMOB websites for professional standards & regulations*
- Interview someone (if possible)  
*Email a professor, email someone in the industry. Many say yes if you're polite.*

# Slide Design Basics

Simple rules for professional-looking slides

# **DESIGN RULE #1: Simplicity is Professional.**

Fancy animations and 10 colors = distraction. Clean design = focus on YOUR words.

# 5 Simple Design Rules

- Use 2-3 colors maximum

*One main color, one accent color. Consistent throughout.*

- Font: Use one style for titles, one for body text

*Professional: Calibri, Arial, Georgia. Avoid Comic Sans, cursive fonts.*

- Font size: Titles 36-44pt, body text 16-18pt

*Your professor at the back should read it without squinting.*

- One visual per slide (photo, diagram, chart)

*Text-only slides are boring. Images help memory.*

- Leave empty space

*Don't fill every inch. White space = clean, professional look.*

# Design: What NOT to Do

- ✗ Don't read from slides  
*Your audience can read. Explain and interpret instead.*
- ✗ Don't use too many colors or fonts  
*= Looks unprofessional. Appears like a beginner made it.*
- ✗ Don't add music or animations 'just because'  
*They distract. Use them only if they help explain something.*
- ✗ Don't make slides too crowded with text  
*5-6 bullets max per slide. If you need more, use next slide.*

# How to Speak & Deliver

Connecting with your audience

# Body Language: What Your Body Says

- Stand up. Don't sit or lean.  
*Shows confidence. Engage the room.*
- Look at people's faces (different people, not just one)  
*Connection. They feel heard.*
- Hand gestures are OK (but not constant)  
*Emphasize important points with your hands. Natural is better.*
- Smile if the topic allows it  
*You seem friendly and approachable. People want to listen.*
- Don't pace back and forth (standing still is better)  
*Constant movement = nervousness. Stand in one place or move with purpose.*

# Your Voice: Speed, Tone, Silence

- Speak SLOWLY and CLEARLY

*Slower than you think is natural. Nervous people talk too fast.*

- Vary your tone (not monotone)

*Make important points SOUND important (pause, raise voice slightly).*

- Silence is powerful

*After an important point, STOP for 2-3 seconds. Silence lets it sink in.*

- Avoid 'umm', 'uh', 'like'

*Pause instead. Silence > filler words. Gets easier with practice.*

- Speak to be UNDERSTOOD, not to impress

*Clear simple words > fancy jargon nobody understands.*

# Engagement: Make Them WANT to Listen

- Start with a question or surprising fact  
*'How many of you have...' 'What if...'* Grabs attention immediately.
- Tell a story or give a real example  
*Humans remember stories, not facts. Make it real.*
- Ask the audience questions (not rhetorical)  
*Pause for answers. Involves them. They stay engaged.*
- Show why it matters to THEM  
*Not why it matters to you. What's in it for audience? That's engagement.*

# It's OK to Be Nervous

- Nervousness is normal (even professionals get nervous)  
*It means you care about doing well.*
- Practice reduces nervousness by 80%  
*The more prepared you are, the less nervous you'll be.*
- Take deep breaths before starting  
*Deep breath = calms your nervous system.*
- First 30 seconds are hardest, then it gets easier  
*Push through the opening. After that, you'll find rhythm.*

# **Common Mistakes Students Make**

Learn from others' mistakes

# Mistakes That Hurt Your Grade/Reputation

- Reading word-for-word from slides  
*Shows you don't understand. Audience gets bored.*
- No preparation or practice  
*Visible immediately. You stumble, lose time, seem unprofessional.*
- Arriving at last minute  
*No time to test equipment, setup, calm nerves.*
- Not knowing your opening & closing well  
*Weak start = audience is already disengaged. Weak end = leaves bad impression.*
- Ignoring your audience (looking only at screen)  
*They feel ignored. Disconnect. Less attention.*

# What Makes a Presentation GOOD

- ✓ You clearly understand your topic  
*You can answer questions without slides.*
- ✓ Simple, clean design (not fancy)  
*Professionalism = simplicity.*
- ✓ Obvious opening and closing  
*Audience knows where you start and where it ends.*
- ✓ Good pacing (not too fast, not too slow)  
*You pause, let ideas sink in.*
- ✓ Engagement (you connect with audience)  
*They're not just sitting - they're thinking.*

# Simple Framework: The 3-Part Structure

- OPENING (5-10% of your time)

*Hook them. Question? Surprising fact? Real example? Make them interested.*

- MIDDLE (80-85% of your time)

*Main content. 3-5 main points explained clearly. Visual examples help.*

- CLOSING (5-10% of your time)

*Summarize main idea. Tell them what to remember. End strong.*

# Presentation Checklist (Before You Present)

- Researched thoroughly (more than you'll present)
- Written outline made (on paper first, before slides)
- Slides created with consistent design
- Practiced 3+ times aloud
- Timed yourself (know if you're too fast/slow)
- Tested equipment (projector, mic, WiFi)
- Know your opening sentence by heart

**You are not performing. You are  
teaching.**

Your job is to help others understand something. That's it.  
Everything else follows from that.

**By the end of this course, you should say:**

*"I know how to research a topic,  
understand it deeply, organize my thoughts,  
create clear visuals, and explain it to others.  
I can do this."*