“VIRALIZING THE STORIES OF OVERSHADOWED FEMALES IN STEM”: THE USE OF TIKTOK AS A DIDACTIC TOOL

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INTRODUCTION

- Observations in the placement periods at IESO El Cierzo:
  - Students disengaged from oral activities.
  - Underdeveloped oral production and reception skills.
  - Still, students repeated English expressions derived from the TikTok social medium.
- Result: two guiding questions.

1. **What if we brought TikTok into the classroom in a structured, pedagogically sound way?**
2. **Could it help improve oral production and reception skills?**

PURPOSE & GOALS

MAIN PURPOSE

- To design a didactic unit that focuses on the use of TikTok as a learning tool to improve students' oral production and reception skills.

SPECIFIC GOALS

- To shift away from traditional teaching methodologies.
- To create tasks grounded in students' real communicative needs and social realities.
- To promote learner agency and motivation.
- To raise awareness about gender inequality in STEM.

THEORETICAL FRAMEWORK

ACTION ORIENTED APPROACH (AoA)

- Action-driven at a curriculum and planning level.
- Seeking to fill real-life communicative needs.
- Stated outcome, requiring interaction and mediation to co-construct meaning.
- Students as social agents acting with a purpose.

TASK-BASED LANGUAGE TEACHING (TBLT)

- Lessons divided into task cycles focused on students' learning process:
  - Pre-task: introductory phase, activating previous knowledge .
  - Task: core, focuses on communication rather than on accuracy.
  - Post-task: reflection on the concepts previously presented.

CURRICULAR FRAMEWORK

- **Organic Law 3/2020 (LOMLOE):** Order ECD/867/2024.
  - Approves the curriculum and characteristics of the assessment of Compulsory Education.
  - Authorizes its application in the schools of the Autonomous Community of Aragón.
- Educational expectancies for the **English as a Foreign Language subject**.
  - Comply with the key and specific competences, as well as the essential knowledge contents
- **Sustainable Development Goals** (SDGs) established in the 2030 Agenda.
  - SDGs 5, 10, and 17.

KEY & SPECIFIC COMPETENCES

KEY COMPETENCES

- Linguistic Communication Competence (CCL1, CCL2, CCL3, CCL5).
- Digital Competence (CD1, CD2, CD3, CD4).
- Entrepreneurship Competence (CE3).
- Plurilingual Competence (CP1, CP2, CP3).
- Personal, Social and Learning to Learn Competence (CPSAA3, CPSAA4, CPSAA5).
- Cultural Awareness and Expression Competence (CCEC 3, CCEC4).
- Civic Competence (CC1, CC2, CC3, CC4).

SPECIFIC COMPETENCES

- CE.LEI.1.
- CE.LEI.2.
- CE.LEI.3.
- CE.LEI.4.
- CE.LEI.5.
- CE.LEI.6.

TIMELINE OF THE LEARNING UNIT

SESSION 1

Activation stage, mediation of meaning, interaction, oral reception and production.

SESSION 2

Written reception, focus on form, oral reception and production (interaction).

SESSION 3

Oral reception and production, negotiation of meaning, vocabulary.

SESSION 4

Analysis of the affordances of the TikTok platform, oral reception and production.

SESSION 5

Written production, oral production (interaction).

SESSION 6

Written production, oral production (interaction).

SESSION 7

Final project completion.

MATERIALS

AUTHENTICITY

- Authentic materials: 10 TikTok videos extracted from a corpus.

ORIGINALITY

- The designed materials have been created from scratch using digital tools.

OTHER RESOURCES

- AI used to design WAGOLLs and a written reception text.
- Two activities extracted from the subject “Communicating in English”.
- Digital platforms.

AI GENERATED TEXT

Rosalind Franklin

A stolen life story.

Rosalind Franklin was a brilliant British scientist who played an important role in discovering the structure of DNA. She was born in London in 1920 and showed a love for science from a young age. By the time she was a teenager, she had decided she wanted to become a scientist.

She studied chemistry at the University of Cambridge. After finishing her degree, she had worked on coal and carbon structures before she moved to study biology and X-ray images. In 1951, she started working at King's College in London. There, she took a famous photo of DNA using X-ray technology. The image, called Photo 51, showed the double helix shape of DNA.

However, Rosalind did not receive credit for her work at the time. Without her permission, two scientists—James Watson and Francis Crick had seen Photo 51 and used it to help create their own model of DNA. In 1962, they won the Nobel Prize, but Rosalind had already died from cancer in 1958, at the age of 37.

For many years, people had forgotten her contribution. Today, she is finally recognized as one of the key figures in the discovery of DNA. Her story shows how women in science were often ignored or treated unfairly just because they were women.

Rosalind Franklin's life reminds us of the importance of gender equality. Everyone—no matter their gender—deserves the same respect, opportunities, and recognition.

TASKS EXTRACTED FROM "COMMUNICATING IN ENGLISH"

TikTok Videos — Class 1

HEADLINES!

Create a headline that summarizes the content of each of the videos your colleagues have explained (including yours).

Video 1

Video 2

CHARACTERISTICS CHART

VIDEO

TONE AND REGISTER (FORMAL / INFORMAL)	NARRATIVE STRUCTURE	GRAMMAR: MOST FREQUENTLY USED TENSES	WORDS USED TO CONVEY EMOTIONS

MENTIMETER

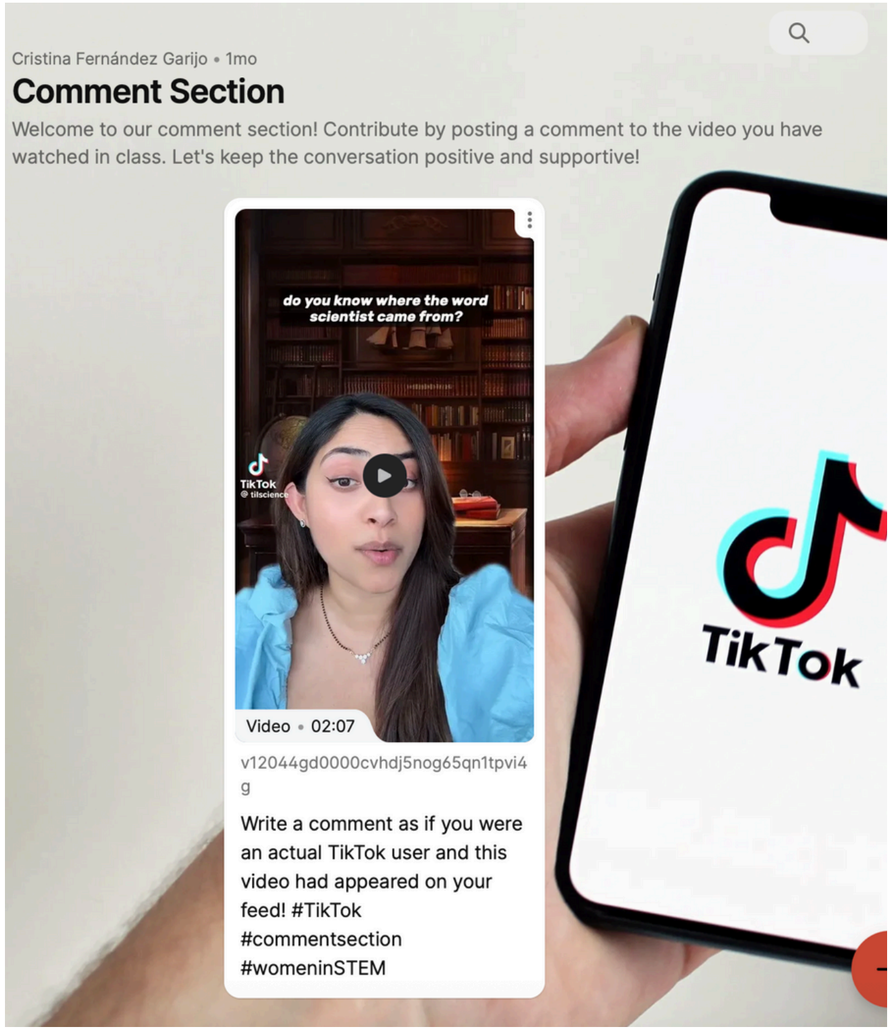
Mentimeter

Are you familiar with the TikTok app?

Yes

No

PADLET



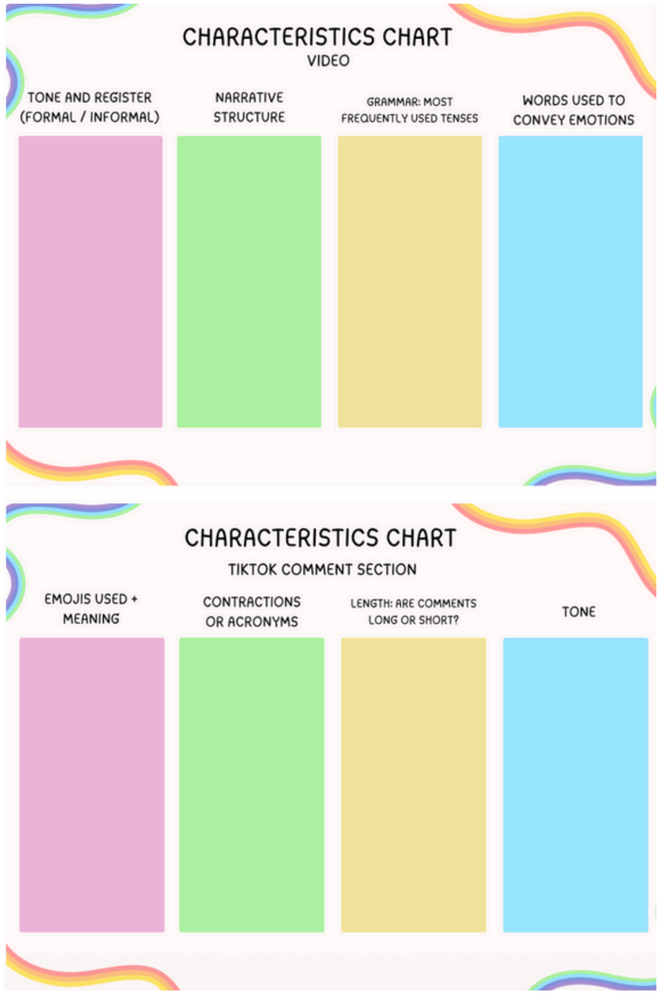
ORAL RECEPTION & PRODUCTION

- Interwoven in all of the sessions.
- Skills presented in context, not isolated.
- From receiving comprehensible authentic input to producing purposeful output.
- In all of the sessions oral production is included in various forms:
  - Class discussion.
  - Group work.
  - Cooperative activities,
  - Negotiation of meaning.
  - Peer review.
  - Co-construction of meaning.
- Purposefully integrated to provide students' with the tools for the completion of the final outcome.

COOPERATIVE ACTIVITIES

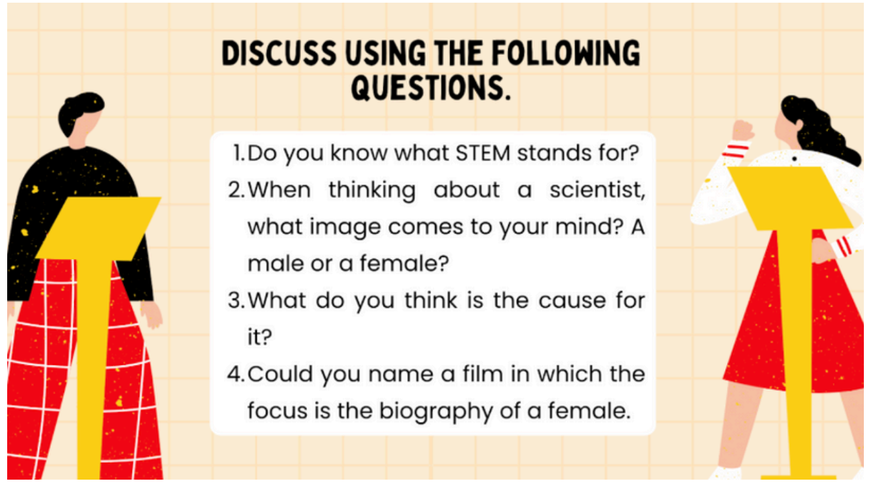
Session 1: group of experts.

GROUP WORK



Session 4: group work, negotiation of meaning, & peer review.

DISCUSSION



Session 2: discussion.

OTHER INTEGRATED SKILLS

WRITTEN RECEPTION & FOCUS ON FORM

- Session 2:
  - Task: students read a text to practice written reception.
  - Post-task: students focus on form, which is taught indirectly.

WRITTEN PRODUCTION

- Sessions 5 & 6: writing cycle including research, planning, drafting, peer-assessment, and editing (scrip creation).

MEDIATION

- Bridge between the integration of all of the skills.
- Mediation of texts & interpretation and co-construction of meaning.
- Learners as social agents / mediators of language.
- Reflects real-world communication.

WRITTEN RECEPTION AND FOCUS ON FORM

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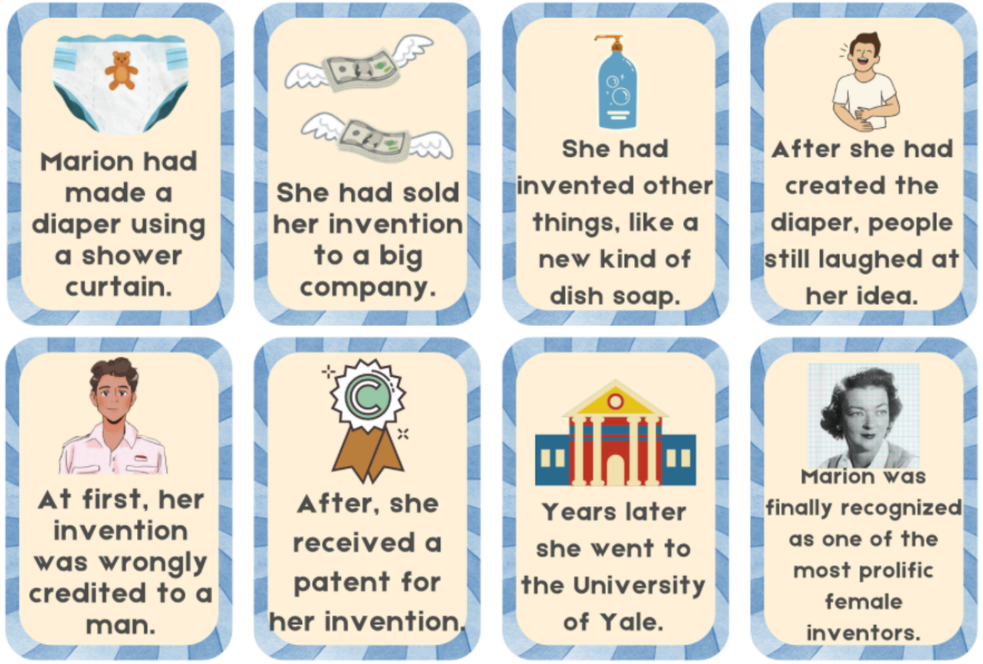
Answer the following questions about the text.

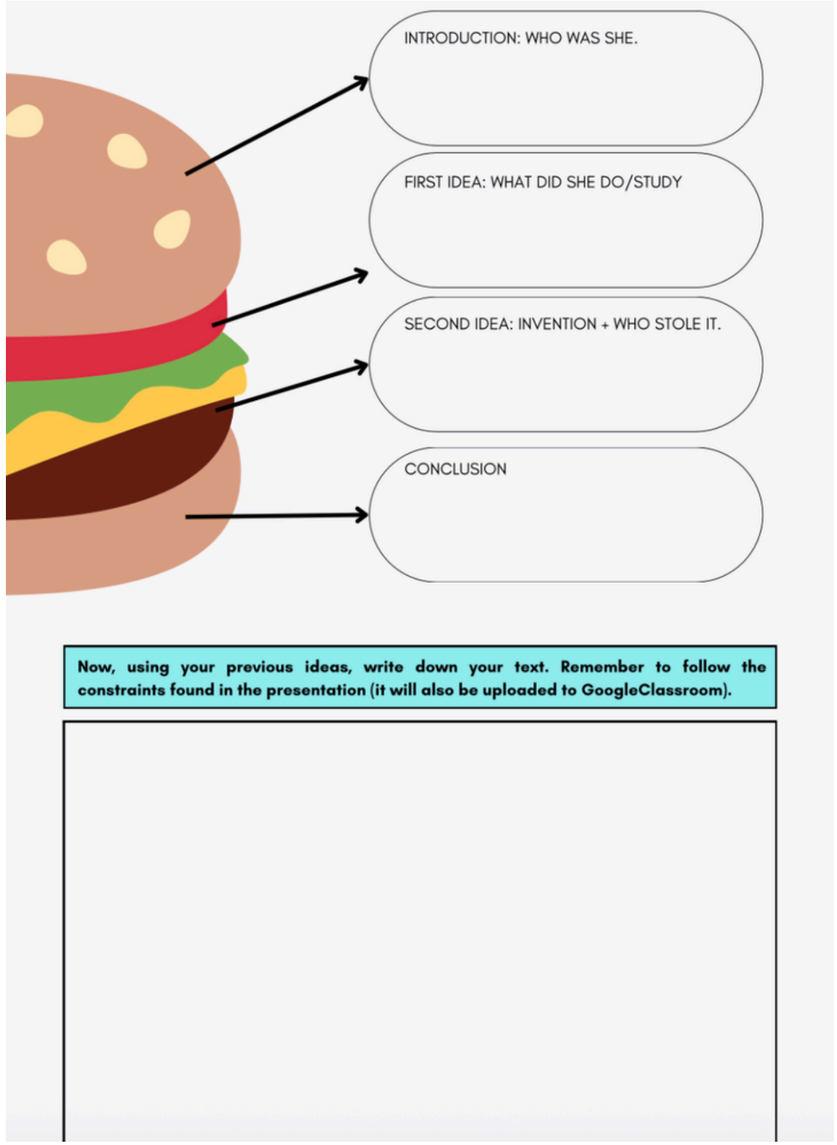
1. Since when did Rosalind know that she wanted to be a scientist?
2. What technology did she use to take a photo? What did that photo show?
3. Why didn't she receive credit for her work?
4. What is Rosalind recognized as today?

Written reception & comprehension questions.



Noticing & gamified activities.

WRITTEN PRODUCTION



Written production + process.

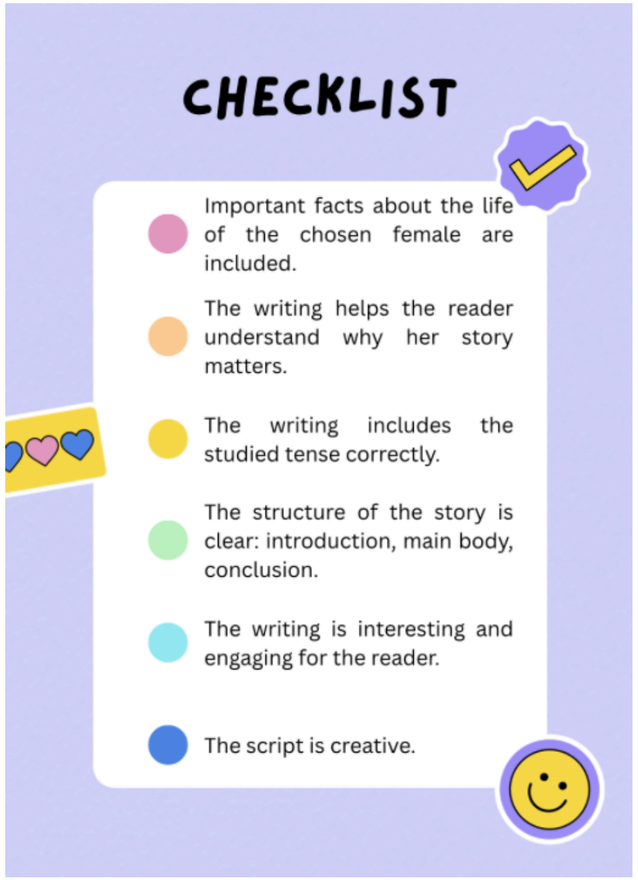
WAGOLL: 1st PERSON

"Hi TikTok! I'm Lise Meitner, and I want to tell you the story that history had forgotten.
I was born in Austria in 1878, and since I was little, I had always loved science. But back then, girls weren't allowed to study at university. So by the time I finally got into one, I had already studied physics on my own — in secret. I had worked so hard just to be in the lab.
I had teamed up with Otto Hahn, a chemist, and for more than 30 years we worked together. We had done so many experiments, learning about atoms and radiation. And in 1938, we discovered something huge — nuclear fission. That's when an atom splits and releases an incredible amount of energy.
But then... the Nobel Prize was given. And it went only to Otto. I wasn't even mentioned. I had already escaped from Nazi Germany because I was Jewish, and I had continued our work from Sweden. I had done the math. I had explained the theory. But they gave him all the credit.
Later, people called me the 'mother of the atomic bomb,' even though I had refused to work on it. I had believed science should help people — not destroy them.
I had given my whole life to science. I just wanted the world to remember what I had done.
So now you know. My name is Lise Meitner. And my story matters.

WAGOLL: 3rd PERSON

This is the story of a scientist the world had almost forgotten... but science never should have. Her name? Lise Meitner. She was born in 1878 in Austria, at a time when women weren't even allowed to attend most universities. But Lise had always loved science, and by the time she was a young adult, she had already studied physics in secret. She had fought for her place in the world of science — and won.
Lise worked for more than 30 years with Otto Hahn, a German chemist. Together, they had researched atoms and radioactivity. In 1938, they made one of the biggest discoveries of the 20th century: nuclear fission — when an atom splits and releases massive energy.
But when the Nobel Prize was awarded in 1944, it went only to Hahn. Lise had been left out. Why? Because she had been forced to flee Germany—she was Jewish—and because she was a woman. Still, she had continued working from exile, and she had been the one who explained how nuclear fission actually worked.
Later, people called her the 'mother of the atomic bomb,' even though she had refused to take part in building it. She had spoken out against using science for war.
Lise Meitner was brilliant, determined, and brave. She changed science forever, even if the world had ignored her at first.
Now it's time to remember her name: Lise Meitner.

WAGOLLs to help with the process.



Checklist.

COOPERATIVE WORK

- Core principle in AoA and TBLT.
- Learners as social agents.
  - Construct meaning together.
- Roles / responsibilities clearly defined:
  - Interdependence.
    - Every student contributes meaningfully.
- Move towards a shared goal.

SCAFFOLDING

- Vygotsky’s (1978) ZPD: learning with guidance.
- Increase potential for future development.
- Several scaffolding tools included:
  - WAGOLLs: show students what is expected from them.
  - Graphic organizers: included to help students with task completion.
  - Checklists & peer-assessment routines: support autonomy, allowing for self-evaluation.

WAGOLLs

WAGOLL: 1st PERSON

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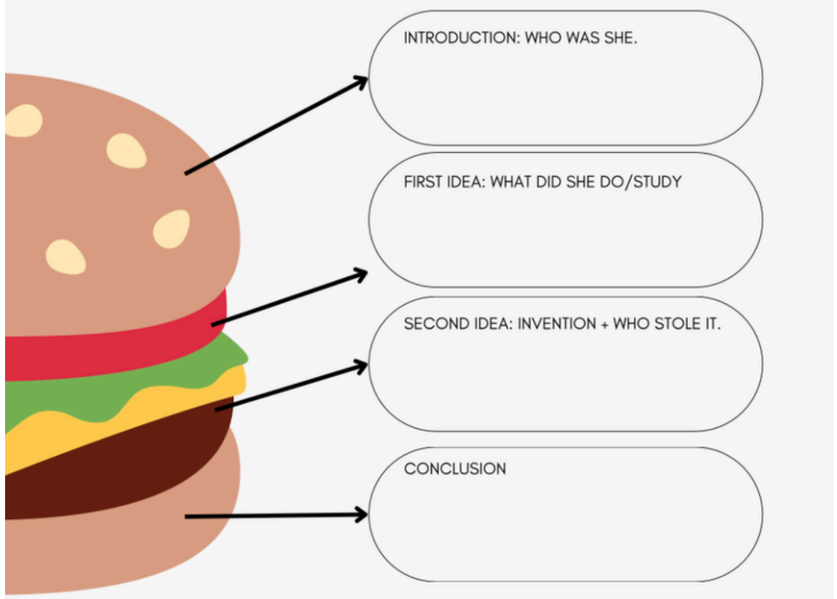
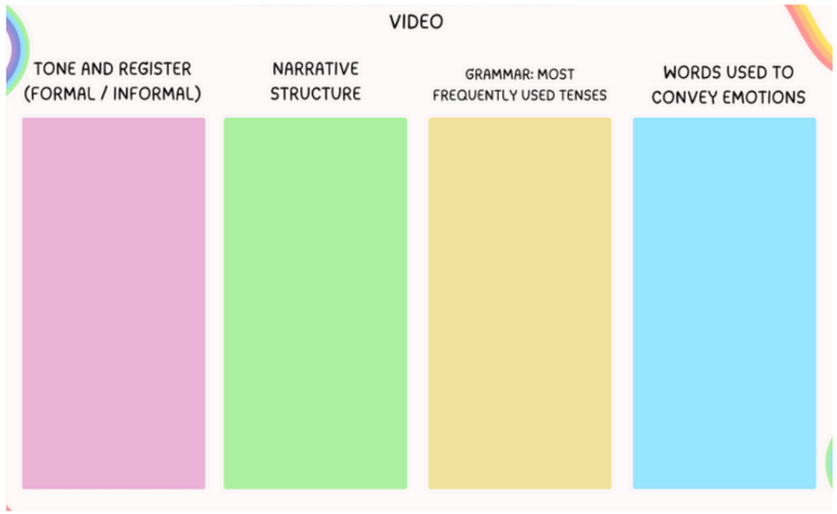
WRITING GUIDE & GRAPHIC ORGANIZER



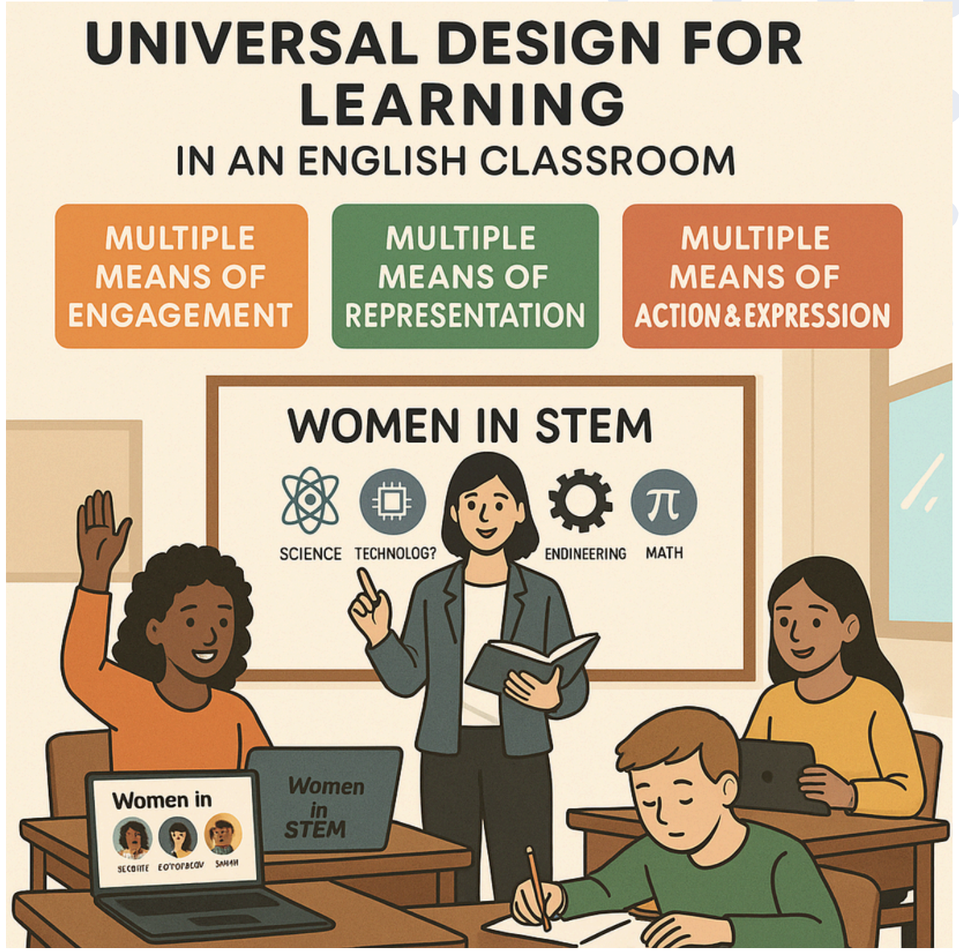


PEER REVIEW

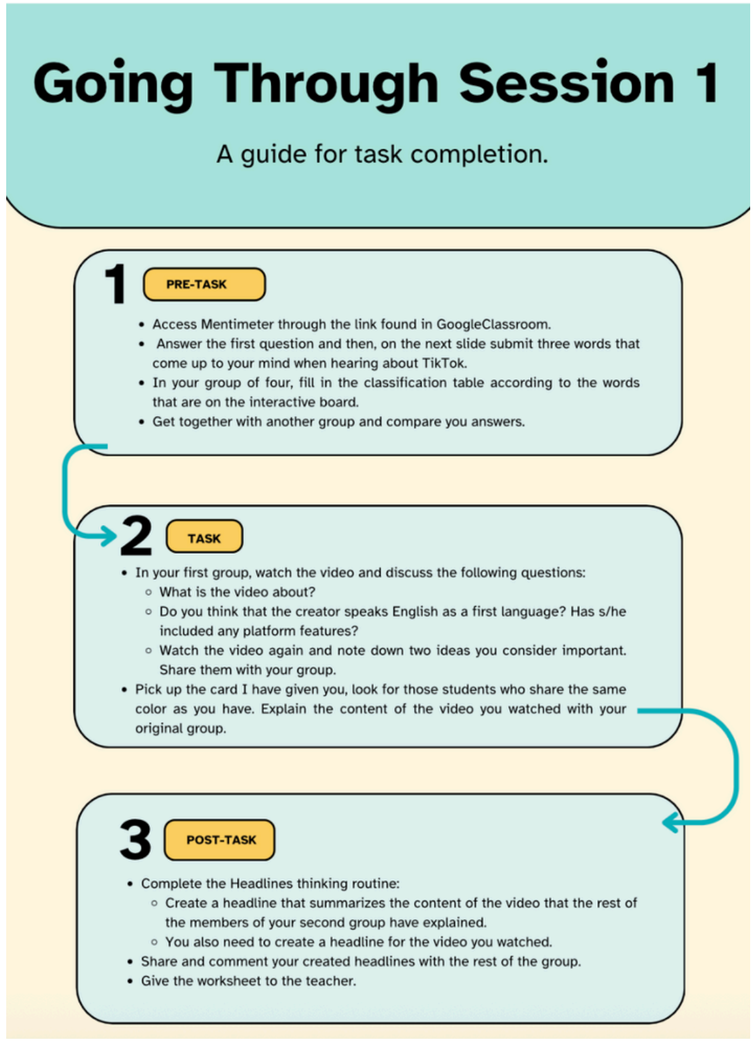
DIFFERENTIATION

UNIVERSAL DESIGN FOR LEARNING

- All of the materials have been adapted taking into account diversity:
  - Materials presented in different means: videos + transcription.
  - Guides for task completion.
  - Materials adapted to fit the requirements of neurodivergent students.
  - Activities for high achievers.



GUIDES FOR TASK COMPLETION



Going Through Session 1

A guide for task completion.

1 PRE-TASK

- Access Mentimeter through the link found in GoogleClassroom.
- Answer the first question and then, on the next slide submit three words that come up to your mind when hearing about TikTok.
- In your group of four, fill in the classification table according to the words that are on the interactive board.
- Get together with another group and compare you answers.

2 TASK

- In your first group, watch the video and discuss the following questions:
  - What is the video about?
  - Do you think that the creator speaks English as a first language? Has s/he included any platform features?
  - Watch the video again and note down two ideas you consider important. Share them with your group.
- Pick up the card I have given you, look for those students who share the same color as you have. Explain the content of the video you watched with your original group.

3 POST-TASK

- Complete the Headlines thinking routine:
  - Create a headline that summarizes the content of the video that the rest of the members of your second group have explained.
  - You also need to create a headline for the video you watched.
- Share and comment your created headlines with the rest of the group.
- Give the worksheet to the teacher.

GOING THROUGH SESSION 4

A GUIDE FOR TASK COMPLETION.

PRE-TASK

- You will be divided in two groups: half of the classroom in one line and the other half in another line.
- I have sticked some post-its around the classroom, each one with a vocabulary term.
- I will read a definition and, one by one following the order of the line, you will try to find the word that matches the definition.
- The team that first finds the corresponding word , will win a point.

TASK

- You will work in groups of three, I will hand out a characteristic chart. Read it.
- A TikTok will be played three times (once without subtitles and twice with subtitles.
- Analyze the content of the video according to the aspects found in the table.
- Once you finish, you will be provided with a selection of TikTok comments, you will also analyze them using another table.
- With my help, your observations will be compared, sharing them with the rest of the class.

POST-TASK

- Click on the Padlet link found in GoogleClassroom.
- According to the TikTok video you have watch, you will act as if you were a user of the app.
- Write a comment using the following conventions:
  - Include an emoji.
  - Include a contraction or acronym.
- Once you do, post it on Padlet.

CHANGE OF COLOR AND FONT

Match the Captions

Caption 1

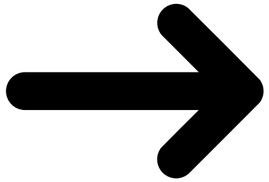
"I'd love for more women to come in to the industry and jsut see that this is something viable for girls to do, it's not just a boys onlyt thing". We spoke to Selda Oren, Sinead Devine and Holly Morten – three inspirational women working in STEM (Science, Technology, Engineering, Mathematics) at P&G, with a passion for driving greater gender diversity. They are encouraging young people to purue their passion in STEM fields, highlighting the importance of inclusivity for the future of the industry #Freeda #AD #PGUK #WomeninSTEM #UniqueAndUnited.

CORRESPONDING VIDEO:

Caption 2

Happy International Day of Women in Science!🔬
Today we join the world in celebrating the critical role women and girls play in science and technology around the world, and to promote full and equal participation in science 💪
#WomenInSTEM #UniKent #Science #University #Technology

CORRESPONDING VIDEO:



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CORRESPONDING VIDEO:

FINAL OUTCOME

- Culminating the teaching-learning sequence.
- Students narrate stories of overlooked women in STEM.
- Combines:
  - Oral production: script delivery.
  - Oral reception: video projection.
  - Written production: comment writing.
  - Digital literacy: app's affordances.
  - Critical thinking + interculturality: gender equality.
- Surpasses classroom boundaries = authenticity / purpose.
- Result of a learning process.
- Meaningful experience: language learning, creativity, social engagement.

FEEDBACK & ASSESSMENT TOOLS

- Formative & qualitative assessment:
  - Focus on students' learning process, not numerical grades.
  - Identify weaknesses and strengths.
  - Empower learners trhough reflection.

FEEDBACK

- Peer-feedback:
  - Tools to develop students' metacognitive awareness.
  - Promote supportive learning community.
    - Checklist.
    - Thinking routines.

TAG Feedback

Tell something you liked:

Ask a thoughtful question:

Give a positive suggestion:

CHECKLIST

- Important facts about the life of the chosen female are included.
- The writing helps the reader understand why her story matters.
- The writing includes the studied tense correctly.
- The structure of the story is clear: introduction, main body, conclusion.
- The writing is interesting and engaging for the reader.
- The script is creative.

FEEDBACK & ASSESSMENT TOOLS

SELF-ASSESSMENT

- Reflection on their own learning process.
- Identify weaknesses & strengths.
- Tools:
  - Exit tickets.
  - Thinking routines.

RUBRICS

- Two rubrics:
  - Final product.
  - Learning process accross the seven sessions.

THINKING ROUTINE

TikTok Videos Class 1

HEADLINES!

Create a headline that summarizes the content of each of the videos your colleagues have explained (including yours).

Video 1

Video 2

EXIT TICKETS

Exit Ticket

Name: _____ Date: _____

3 Things I have learnt:

_____

_____

2 Questions I still have:

_____

1 Challenge I faced:

_____

_____

Exit Ticket

Name: ..... Date: .....

Can you write the structure of the past perfect?

.....

What is the structure of the text you have jus read?

.....

Write one thing you have learnt today.

.....

Write one thing you have not really understood about today's lesson.

.....

RUBRIC TO EVALUATE THE FINAL PROJECT

Criteria	Exceeds expectations	Meets expectations	Approaches expectations	Needs improvement	Below expectations	Self-assessment
Narrative Structure & Delivery (CE.LEI.2, CE.LEI.3, CE.LEI.4)  (2.2, 3.1,4.2)	The narration follows the organization found in the hamburger method activity (clear beginning, middle and ending), is fluid, highly dynamic and entertaining, natural and with an excellent emotional tone.	The narration, having followed the hamburger method, is clear and logically organized, fluid, dynamic and entertaining, natural and with a good emotional tone.	The narration follows the required organization but has some gaps that affect its flow, narration is moderately clear and has some emotional expression.	The structure of the narration has not been entirely followed, the script has significant gaps, the narration lacks emotion and is monotone.	The narration does not follow the required organization and lacks structure, the speaking is not clear nor engaging, there is no emotion.	What elements can I add to make my narration more engaging and clear?

CRITERIA TO EVALUATE THE FINAL PROJECT

- Video recording: CE.LEI.2, CE.LEI.3 (2.3, 3.1).
- Caption: CE.LEI.2, CE.LEI.4 (2.2, 4.1).
- Video creativity: CE.LEI.2, CE.LEI.3, CE.LEI.4 (2.1, 3.1, 4.2).
- Peer engagement (comments on the videos): CE.LEI.3, CE.LEI.5 (3.1, 5.3).

RUBRIC TO EVALUATE STUDENTS' PERFORMANCE THROUGHOUT THE LEARNING UNIT

Criteria	Exceeds Expectations	Meets Expectations	Approaches Expectations	Needs Improvement
Engagement & Participation 	The student engages in all of the performed tasks and discussions, contributing meaningfully and supporting the rest of the students.	The student regularly engages in most of the tasks and discussions with a positive and participative attitude.	The student sometimes engages in the performed tasks and discussions but is distracted and takes a more passive role.	The student rarely engages in the performed tasks and discussions, is not participative and shows no interest.
Collaborative Work 	The student actively collaborates in group tasks, actively listens to his/her peers, respects turn-taking and others' ideas. Highly participates in the decision making looking for a common goal.	The student has a good attitude towards group tasks, working well with the rest of the members, and contributes to the decision making when looking for a common goal.	The student participates in group tasks and makes an effort to collaborate, but sometimes does not participate or engage in the decision making process.	The student has difficulty working in groups, showing minimal participation, rarely listening, and not collaborating in the decision making process.

CRITERIA TO EVALUATE STUDENTS' PERFORMANCE

- Oral production.
- Written production.
- Reception (oral & written).
- Use of digital tools.
- Critical thinking and intercultural awareness.

CONCLUSION

- Addresses a pedagogical challenge.
- Replaces outdated methods (PPP) with AoA & TBLT.
- Integrates students' realities (TikTok, STEM, SGDs).
- Empowers learners as active, creative, and socially aware agents.
- Demonstrates that EFL can be relevant, meaningful, and transformative.

THANK YOU

ANY QUESTIONS?

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