

# Technology-enhanced activities for aerospace engineering

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# **Technology-enhanced activities for aerospace engineering**

EDITORIAL  
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

The contents of this publication have been subject to revision by the Department of Applied Linguistics of the Universitat Politècnica de València (Spain).

Academic book collection

To cite this publication please use the following reference: GIMENO SANZ, ANA, [et al] (2013) *Technology-Enhanced Activities for Aerospace Engineering*. Valencia: Universitat Politècnica

First edition, 2013

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*Distribution:* Tel. +34 - 963 877 012 / <http://www.lalibreria.upv.es> / Ref.: 6126

ISBN: 978-84-9048-084-7 (printed version)

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## Foreword

These activities are intended for higher intermediate students of English enrolled on a university degree in aerospace engineering or related areas.

The first activity is based on Digital Storytelling applied to aeronautics. After students have completed the WebQuest, the activity should be carried out throughout the semester or school year and the products, i.e. the digital stories, presented by students at the end of the term. The WebQuest is aimed at giving students an idea of what digital storytelling is, what it involves, the kinds of digital stories there are, as well as some examples.

The subsequent tasks relate to the different steps involved in the creation, presentation and assessment of a digital story. The first task to be carried out after having completed the WebQuest involves discussing, brainstorming and then making decisions about the digital stories, such as the topic, the plot, and the software and media. The next task consists of writing the scripts collaboratively, using text processing tools that cater for multiple editing. Following that, the students are asked to self-correct their scripts by means of the combination of their teacher's feedback and the use of a self-correction template. Once the scripts have been corrected, the students are asked to make their videos and record their voices. Then, they edit their videos to synchronise voice, music and visuals. The final tasks are sharing the digital stories, writing their comments in an online discussion forum, presenting their digital stories orally to the rest of the class and assessing both the digital stories and the oral presentations. The various tasks involved in the creation of digital stories are aimed at helping students practice and develop a set of linguistic and non-linguistic skills. The linguistic skills are mainly reading, writing, listening, speaking, grammar and vocabulary. The non-linguistic skills include research, organisation, digital, presentation, interpersonal, collaboration, problem-solving and critical-thinking skills, as well as creativity.

The subsequent sections are based on activities that rely on websites dealing with a number of core topics in aerospace engineering, such as engineering achievements; aircraft and the environment; aerodynamics; and errors, technical problems and misjudgements.

We hope these activities are useful and help students improve their English language skills and, at the same time, increase their content knowledge too.



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## Practice unit 1

### WebQuest: creating a digital story about aerospace engineering



#### 1. INTRODUCTION

A WebQuest is defined by B. Dodge (who coined the word) as "an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources on the Internet" (1995). This WebQuest is called *Creating your own digital story* and has been created by Ana Sevilla Pavón and Belén Serra Cámara. In this WebQuest you will find the description of the tasks and processes you are expected to carry out within the digital storytelling project.

**General instructions:** Click on the link below to go to the WebQuest and complete it. Write your answers to the questions and complete the different WebQuest activities on your "Answer sheet".

**Link to the WebQuest:** <http://zunal.com/process.php?w=165788>

**Tasks:** This WebQuest is aimed at teaching you how to create your own digital story.

The project involves several activities:

1. This WebQuest (Completing it on your “Answer sheet” and uploading your answers onto a folder in your personal “drop box”).
2. A pre-project questionnaire about your prior experience, feelings and expectations regarding digital storytelling.
3. A script for your digital story.
4. A log or reflective journal about the working process.
5. A storyboard to pre-visualise your digital story, to be included in your log.
6. A 4-minute long digital story about a specific topic.
7. Comments on the other group's digital stories (a minimum of 4) and replies to the comments posted to yours, in the Forum of your University Virtual Learning Environment (VLE).
8. An assessment sheet about your classmates' digital stories.
9. A making-of presentation (PPT, Prezi, etc.).
10. A 10-minute long oral presentation of the making-of process.
11. An assessment sheet about your classmates' oral presentations.
12. Comments on the other group's oral presentations and replies to the comments posted to yours, in the Forum.
13. A post-project questionnaire about the fulfilment of your expectations and the results.

## **2. PROCESS**

**Instructions:** All the WebQuest activities should be completed on your ANSWER SHEET. Once completed you will have to upload it onto your personal “drop box” in the VLE.

For further information about this WebQuest, watch the following video:

<http://politube.upv.es/play.php?vid=56855>

### **WebQuest Activity 1:**

**1A)** Watch at least 2 of the following videos about digital storytelling and write your own definition of digital storytelling in two lines.

**1B)** Then, make a list of the possible advantages and disadvantages about carrying out a project involving the creation of a digital story relating to aerospace engineering.

1.1. “What is Digital Storytelling?” by Jerome Gragny:

<http://www.youtube.com/watch?v=dKZiXR5qUIQ>

1.2. “Digital Storytelling in Plain English”, by Amy Cox:

<http://www.youtube.com/watch?v=zP6CeGLPuOY>

1.3. “Digital storytelling”, by Jane Wood:

[http://www.youtube.com/watch?v=-gkMm6u\\_dKg](http://www.youtube.com/watch?v=-gkMm6u_dKg)

1.4. “Discovering Digital Stories”, by Daryll Beningham:

<http://www.youtube.com/watch?v=3yU8zE5LBBY>

1.5. “Making a digital story”, by Anne Blight:

<http://www.youtube.com/watch?v=LknwS15wSx8>

### **WebQuest Activity 2:**

Answer the following questions about digital storytelling (in 4-5 lines) after taking a look at the websites below. Use your own words (do not copy and paste from the texts):

2.1. Seven things you should know about... Digital Storytelling:

<http://net.educause.edu/ir/library/pdf/ELI7021.pdf>

2.2. Digital Storytelling in Language Arts:

<http://www.digitalstoryteller.org/docs/languagearts.htm>

**Question 1:** What is digital storytelling?

**Question 2:** How does digital storytelling work?

**Question 3:** Why are (digital) stories significant?

**Question 4:** What are the seven main elements of digital storytelling, according to Lambert?

**Question 5:** How would you define each of those elements?

### **WebQuest Activity 3:**

Watch these videos explaining the different steps involved in creating a Digital Story for Aerospace Engineering and summarise the main ideas in your own words:

**3.1.** Writing your reflective journal or log:

<http://politube.upv.es/play.php?vid=56862>

**3.2.** Choice of topic, structure, software and resources for the creation of a digital story:

<http://politube.upv.es/play.php?vid=56856>

**3.3.** Choosing the point of view and writing the script and the storyboard for your digital story:

<http://politube.upv.es/play.php?vid=56857>

**3.4.** Selecting and importing audiovisual resources for the digital story:

<http://politube.upv.es/play.php?vid=56858>

**3.5.** Recording and finalising your digital story:

<http://politube.upv.es/play.php?vid=56859>

**3.6.** Sharing, presenting and assessing your digital stories and making-of presentations:

<http://politube.upv.es/play.php?vid=56860>

**3.7.** Evaluating, voting and concluding the digital storytelling project:

<http://politube.upv.es/play.php?vid=56861>

#### **WebQuest Activity 4:**

4) Watch at least two of the following examples of digital stories and write down your opinion about each of them.

4.1. “How Ace Combat Changed My Life”, by Marion Sneed

<http://vimeo.com/28906656>

4.2. “Good Will”, by Christi Clancy

<http://www.youtube.com/watch?v=e8zI9b3-M1w>

4.3. “Participant/Observation”, by Wynne Maggi

<http://www.youtube.com/watch?v=zo8xrY0XxT4>

4.4. “Distance”, by Marianna Corona

<http://www.youtube.com/watch?v=qhd9SDFjopU>

4.5. “Very Secret”, by Carla Jankowski

<http://www.youtube.com/watch?v=dWUSJvkq4FY>

4.6. “Grand Canyons”, by Daniel Weinshenker

[http://www.youtube.com/watch?v=IN89P\\_z\\_mYw](http://www.youtube.com/watch?v=IN89P_z_mYw)

4.7. “My Iligan”: A Digital Story Telling Contest

<http://www.youtube.com/watch?v=vsuHabO2TYA>

4.8. “First Impression”, by Lindsay Fisher

[http://www.youtube.com/watch?v=ER\\_jE51g6II](http://www.youtube.com/watch?v=ER_jE51g6II)

4.9. “Ironing”, by Ryan Trauman

<http://www.youtube.com/watch?v=mqfmkjbMAMU>

4.10. “Your Move”, Brett West

<http://www.youtube.com/watch?v=IOyyqTOEmbg>

#### **WebQuest Activity 5:**

Find more digital stories on the web (if possible, relating to Aerospace Engineering) and write down:

The titles.

The links.

ONE adjective expressing your opinion about each of them.

### WebQuest Activity 6:

INDIVIDUALLY, complete the PRE-PROJECT QUESTIONNAIRE about your previous experience, your expectations and your feelings towards digital storytelling. Click on the link below.

<https://docs.google.com/spreadsheets/viewform?formkey=dGYtenkwYk1VLXpXVndEV2RIUmUwVUE6MQ#gid=0>

**Pre-project Questionnaire:** These are the questions you will have to answer before completing the WebQuest:

0. Personal information.
1. How many digital videos have you made already?
2. What is your level of interest in preparing a digital story on a topic relating to aerospace engineering?
3. How effective do you think this assignment will be in demonstrating your knowledge?
4. How effective do you think this assignment will be in learning about different topics relating to aerospace engineering?
5. What is your skill level in digital photography/movie making?
6. How anxious/nervous are you about completing this assignment?
7. How helpful do you think this assignment will be for the development of your oral skills?
8. How helpful do you think this assignment will be for the development of your teamwork skills?
9. Do you think this assignment will help you develop your digital skills?
10. Do you think digital storytelling will be more enjoyable than traditional presentations on a topic in front of your classmates?

### WebQuest Activity 7:

Read the following PROJECT STEPS to be taken for the completion of the digital storytelling project and underline the most relevant information. This will be

useful for you as a reference document which will guide you in the creation of your digital story.

**STEP 0:** While completing the following steps you should also write a DAY-BY-DAY LOG or REFLECTIVE JOURNAL in which you should record and include things such as: your group meetings, why you chose a particular topic, where your inspiration comes from, the individual contributions of each group member to the project, how you make use of your ideas to develop your work, your awareness of the technical context (setting) in which you work, the storyboard of your digital story, photos or audio recordings documenting the process, bloopers and outtakes, research notes, personal comments on your own work and your team's, texts, images and videos found while looking for information about the topic, writing your script, etc., quotes, extracts from lectures, tutorials, books, journals, etc.

**STEP 1:** Choose a topic from the topic list in the Forum in the VLE and post a reply. In your reply, write down the names of the members of your team right next to the topic you have chosen. Only ONE of the group members should post this message. If the topic you like is not on the list, you can suggest a new topic.

**STEP 2:** Write your script. Remember, you must write your own script. You can read other texts and look for some information, but you must not copy and paste. One of the main goals of this project is to develop your English writing skills in a creative way. Plagiarism will not be tolerated. You might try using GoogleDocs to create your script collaboratively.

**STEP 3:** Once you have written your script, upload it onto your "drop box" in the VLE. Your teacher will check it and send it back to you so that you can make the necessary corrections.

**STEP 4:** Upload the subsequent versions of your script. Please, DO NOT START RECORDING UNTIL YOU ARE GIVEN YOUR TEACHER'S APPROVAL. You will need to review your script and to edit it several times before its final version is ready to be recorded.

**STEP 5:** Prepare your storyboard. Storyboards are graphic organisers in the form of illustrations or images displayed in sequence for the purpose of pre-visualising a motion picture, animation, motion graphic or interactive media sequence. Storyboarding entails separating your story into natural and/or purposeful breaks, embellishing the story with pictures, and sequencing the pictures accordingly. Storyboarding procedures will require continually reading, and on occasions editing, your story. Storyboarding will help you decide how to syn-

chronise the narration (the script) and the media (images, videos, music); you need to decide the number of seconds or of images that you will show when reading every passage from your script. Decide what stretches of your scripts are going to be used as subtitles and insert them.

**STEP 6:** Then, decide the kinds of media you would like to use (images, videos, music, text, subtitles, voice-over, sound effects, etc.) and look for some appropriate images, videos and music. You can create them yourselves if you like.

**STEP 7:** Decide what software you would like to use.

**STEP 8:** Record your voices, that is, the voice-over narration. Every group member must narrate about 1 minute of the story.

**STEP 9:** Once your teacher approves your final digital story, you must share it with your teacher and with your peers by posting a link in the online Forum in the VLE. A thread will be opened by the teacher for each digital story (please try not to post your link in somebody else's thread by mistake).

**STEP 10:** Watch at least 4 digital stories created by your classmates once they have posted their links in the Forum.

**STEP 11:** Leave your constructive comments and opinions about each of the digital stories in the Forum (at least 4).

**STEP 12:** Fill in the assessment sheet to evaluate your classmates' digital stories.

**STEP 13:** Post your constructive comments about the other groups' oral presentations of the making-of the digital story in the Forum (ALL of them).

**STEP 14:** Fill in the assessment sheet to evaluate your classmates' oral presentations.

**STEP 15:** Once you have completed all the previous steps, complete the POST-PROJECT QUESTIONNAIRE about the fulfilment of your expectations and about the results achieved.





### 3. EVALUATION

The percentage of the mark that each of the parts involved in creating your Digital Story for Aerospace Engineering” is as follows:

1. WebQuest (Practice unit 1): Your grade for the WebQuest will be calculated together with your grades in the rest of the practice units.
2. Script: 10%
3. Digital story: 10%
4. Making-of presentation: 10%
5. Questionnaires, assessment sheets, reflective journal and storyboard, making-of preparation, participation in the Forum: 10%

### 4. CONCLUSION

This WebQuest is aimed at helping you get started in the fascinating world of digital storytelling. First, you have learnt about the concept, the uses, and the types of digital stories there are. Moreover, you have seen some examples. Then, you have completed a questionnaire about your expectations and previous experience. After that, you have become acquainted with the steps to be followed for the completion of the project.

You should break up in groups of four, and once you've done this, you'll be ready to start completing the different activities in the project, including the creation of your own digital story about a topic relating to aerospace engineering.

In order to complete the project successfully, you'll need to develop and put into practice a set of linguistic and non-linguistic skills and competences, including: reading, writing, listening, speaking, grammar and vocabulary (linguistic); and collaboration, research, critical thinking, presentation and public speaking, digital, reflection and problem-solving (non-linguistic). You will also have a wonderful chance to expand your knowledge on aerospace engineering, i.e. English for Specific Purposes (ESP). Use your knowledge, skills, competences, creativity and sensitivity to make a relevant, touching and memorable story!!

## Practice unit 2

### Engineering achievements



#### 1. INSTRUCTIONS

Complete the different tasks relating to engineering achievements.

#### 2. TASKS

**Task 1 (15').** Work in pairs or groups to do these exercises:

- (a) Individually, think of the three most important engineering achievements of the 20<sup>th</sup> century. Tell your partner about your choice and write down the main ideas.
- (b) Go to <http://www.greatachievements.org> where you can find out information about the top 20 engineering achievements of the century. Can you find the achievements of your choice?

- (c) Is there any achievement that you would add to the website? Is there any one that you would take out?
- (d) Select one of the 2 engineering achievements most closely related to the aeronautical industry (AIRPLANE or SPACECRAFT) and explain in 2 lines why you have chosen those achievements.
- (e) Still within the achievement that you selected, go to the TIMELINE section, choose the most important event in the history of this achievement and write it down here.

**Task 2 (20').** Search for online documents related to an aeronautical engineering product of your interest. If you want, you can use the “advanced search” facility of <http://www.google.com> or any other resource that you know.

Selected Product: \_\_\_\_\_

Website search. Complete the table (you don't need to fill in all the sections):

At which site are you more likely to find...	Sites	Personal opinion / Comments
...technical specifications?		
...technical theoretical explanations?		
...ideas to develop new products?		
...different kinds of products?		
...a place to buy products?		
...other interesting details (specify)?		

**Task 3 (15')** With the same product still in mind (you can choose a different one if you like, instead), think of the ideal material to manufacture it.

a) Here are some questions that can help you make a decision. Answer them in pairs:

- What are the major properties we would like for the product or its parts? (Toughness, flexibility, corrosion resistance...)
- What is the target group of clients for the specific product?
- Is the final price going to be a problem? Are there any final cost restrictions?
- Is the material commercially available at a reasonable cost? Use the Internet ([www.google.com](http://www.google.com) etc.) to find out.
- Complete this table briefly:

Product	Properties	Suitable materials	Unsuitable materials for the application
Example: baby's feeding spoon	<ul style="list-style-type: none"> <li>- <i>hygienic</i></li> <li>- <i>easily cleaned</i></li> <li>- <i>good fatigue strength</i></li> <li>- <i>soft</i></li> </ul>	<ul style="list-style-type: none"> <li>- <i>steel</i></li> <li>- <i>steel coated with plastic</i></li> <li>- <i>plastic (PVC-free) + rubber-tip</i></li> </ul>	<ul style="list-style-type: none"> <li>- <i>lead - poisonous</i></li> <li>- <i>glass - brittle</i></li> <li>- <i>titanium - expensive</i></li> </ul>
Your product: <hr/> <hr/>			

**Task 4 (5')** Choose 1 interesting website about aeronautical engineering and evaluate it globally, according to the following criteria. Write a short sentence for each criterion:

	Website URL http://_____
General appearance	
Navigation	
Information / contents	

**Task 5 (5').** Oral discussion. In pairs or groups, decide on the most interesting topic for you in the field of aerospace engineering.

**Task 6 (15').** Go to <http://www.esl-lab.com>.

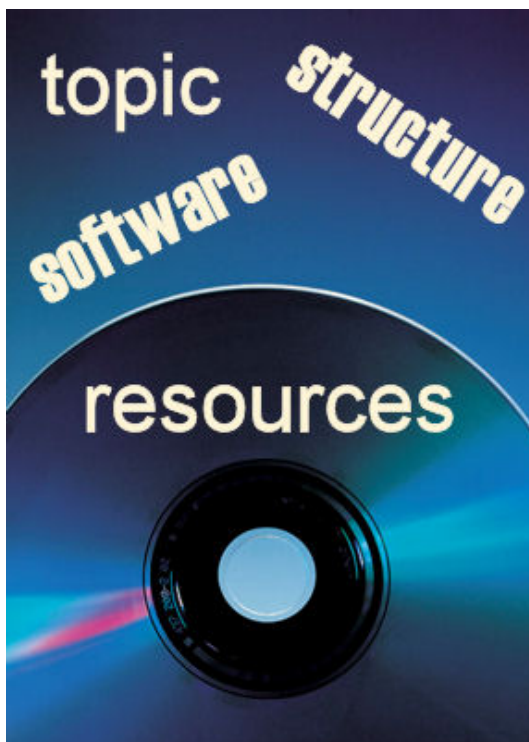
Complete the following listening exercises and write a glossary of 10 words in English.

Exercise 1: AIRPORT ANNOUNCEMENT (section *Listening Quizzes for Academic Purposes*)

Exercise 2: AIRPLANE TRAVEL (section *20-Minute ESL Vocabulary Lessons*)

## Practice unit 3

### Choosing the topic, the structure, the software and the resources to be used in your digital story



#### 1. INSTRUCTIONS

Now that you have completed the WebQuest<sup>1</sup> you can use it as a guide of how to complete the different steps of the project. These steps were described in "Process/WebQuest Activity 7". Moreover, you can watch the different videos which were included in "Process/WebQuest Activity 1" over again.

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<sup>1</sup> <http://zunal.com/process.php?w=165788>

## 2. INTRODUCTION

Complete the first step of the project, "Defining, Collecting and Deciding". For further information, you can watch the following video:

<http://poliitube.upv.es/play.php?vid=56856>.

This stage of the project involves: choosing a topic, deciding the structure of your digital story, deciding the software you're going to use, finding the different resources and creating a folder to store them.

## 3. ACTIVITIES

### Activity 1

Choose a **topic** from the topic list in the Forum and post a reply. In your reply, write down the names of the members of your team right next to the topic you have chosen. Only ONE of the group members should post this message. If the topic you like is not on the list, you can suggest a new topic. In your group, brainstorm and decide how you could approach that topic in an original, creative and personal way, asking yourself questions that could help you understand the perspective of the audience.

### Activity 2

Discuss and decide what the best **structure** for your digital story would be.

### Activity 3

Discuss and decide which **software** you will use in order to:

- Write your script collaboratively.
- Create and edit your digital story combining the audio-visual elements with the narration.
- Introduce credits and subtitles.
- Share your digital story once it's ready.

### Activity 4

**Create a folder** in which you will store all the materials in relation to your digital story, and **find or create those resources**:

- Visual resources related to your topic: images, videos, photos, letters, pictures, animations, etc. Find or create them.



- Audio elements: the soundtrack or background music, speeches, interviews, sound effects, etc. Instrumental music is often the best choice, as lyrics can interfere with your narration or contradict your message. Find or create them.
- Information resources related to the topic of your digital story in order to be better informed about it. These resources will also help you get some inspiration while making your story more realistic and credible. Find and compile them.
- Other textual resources related to the topic which you might want to include in your story. Find or create them.

Remember: Each group member should make sure that he/she has a copy of all the resources used and produced within the project.

If you finish early, you can write in your reflective journal. You can also start completing the next step of the project: "Deciding, writing, correcting" (<http://politube.upv.es/play.php?vid=56857>), which involves choosing the point of view and writing the first draft of the script and the storyboard for your digital story.



## Practice unit 4

### Aircraft and the environment



#### 1. INTRODUCTION

Flying, an old dream of humans that has come true, is one of the most important technological achievements in the history of humankind. But, on the other hand, it should also be a major concern for us to make technological advance compatible with a safe and clean environment where healthy living is possible. Nevertheless, aviation makes use of technologies that are environmentally unfriendly to a great extent. That is why aeronautical engineers should take environmental issues into account. This unit raises some of these fundamental issues and invites you to think critically about them.

In this practice unit you will be asked to access a website developed by the BBC. A section within this company's website offers online resources based on relevant news items in order to practise English in a contextualised manner. We shall therefore work with real information that was once on the news in relation to the aeronautical industry and the environment.

#### 2. OBJECTIVES AND OUTCOMES

The principal objectives of this unit are:

- (i) To use the news to familiarise the student with aviation-related environmental issues.

- (ii) To develop the student's oral skills with the help of videos and oral interactions.
- (iii) To promote the active involvement of the student in discussions about environmental problems.

### 3. ACTIVITIES

3.1. Before going online, complete these vocabulary exercises: (5')

a) Match the expressions that have the same meaning:


#### Answers

1. Falling ticket prices and rising incomes		A. Go up by more than twice the usual number in the next 25 years
2. Rapid growth in global air travel	01 —	B. Released a long way above the ground
3. More than double in the next quarter of a century	02 —	C. Harmful gases
4. Aviation fuel	03 —	D. Cheaper plane tickets and higher salaries
5. Emitted at high altitudes	04 —	E. Organisation that studies the natural world
6. Environmental research group	05 —	F. To go down by a large amount
7. Overall target	06 —	G. Many more people travelling around the world by plane
8. Damaging emissions	07 —	H. To relocate their businesses
9. To cut dramatically	08 —	I. Final objective
10. To move their operations	09 —	J. Aeroplane petrol
	10 —	

b) The following words **in bold** describe changes in trends. Put the letters of each sentence into the correct column so that they match the picture at the top of each column. The first one has been done for you: (10')

- A. In the last 2 years there has been a **steady decline** in the number of accidents.

- B. There has been a **sharp fall** in unemployment.
- C. There has been a **gradual rise** in the price in the last year.
- D. We had to **increase** our prices **slightly** last month.
- E. Other uses of fuel like for heating homes or driving cars would have to be **cut dramatically**.
- F. The price of gold had **begun to recover** by the end of the 70s.
- G. The markets **fluctuated** for the whole of 2004.
- H. The price of gold **picked up sharply** this week.
- I. The shares in the oil sector **fluctuated wildly** before levelling out a \$65 a barrel.
- J. July saw a **significant rise** in labour costs.
- K. Falling ticket prices and rising incomes are leading to **rapid growth** in global air travel.
- L. Sales have been **rising sharply** for the last 3 weeks and are **continuing on this upward trend**.
- M. At last, there has been an **upturn** in the company's fortune.
- N. The government's popularity has **remained constant** at 35% despite all their policies to deliver full employment.

1		2		3		4		5		6		7	
<b>H</b>													

**3.2.** Now you are going to access a website of a real piece of news about environmental problems caused by the aircraft industry, by clicking on the following link:

[http://www.bbc.co.uk/worldservice/learningenglish/newsenglish/witn/2005/09/050921\\_aviation.shtml](http://www.bbc.co.uk/worldservice/learningenglish/newsenglish/witn/2005/09/050921_aviation.shtml)

a) First, before reading, click on the *Listen to the story* link and listen to the article to see if you can understand it. What is it about? How much did you understand? When you finish, read the text while you listen to it again. **(10')**

b) Click on the *Listen to the words* link. Practise the pronunciation of these expressions, and then check the answers to the previous matching exercise. **(5')**

c) Click on the link called *Do a comprehension test about this story*, at the bottom of the page and complete the exercise. What was your final score? **(5')**

d) Give your opinion (briefly, no more than 3 lines) about the environmental problem explained in the article. **(5')**

f) Find articles (no more than 2 or 3) about similar environmental issues in relation to the aeronautical industry. You can use the following websites or other online news resources. Write down the electronic address (URL) of the articles. **(10')**

- <http://www.guardian.co.uk>
- <http://www.bbc.co.uk>
- <http://www.cnn.com>
- <http://www.cbs.com>

#### **4. FOLLOW-UP (10')**

By looking at this and other relevant websites, make a summary of corrosion problems that you can encounter in the case of an aircraft.

<http://www.corrosion-doctors.org/Aircraft/Aircraft.htm>

#### **5. GLOSSARY (5')**

Write down the words you have learned while completing this practice unit. Do not forget to include definitions or explanations, and images.

## Practice unit 5

### Deciding the message and writing the script of your digital story



#### 1. INTRODUCTION

Now that you have completed the initial stages of the project, which involved: choosing a topic for your digital story and posting about it on the online Forum, deciding on the best structure for your digital story and choosing the software, as well as finding or creating the audio-visual and textual resources to be used; you can move on to the next steps of the project, which involve choosing the message of your digital story, and writing the first draft of your script.

#### Activity 1

Decide what **message** you would like to transmit to your audience and bear in mind the perspective of the audience. Decide what the purpose of your digital

story will be, asking yourself questions such as: Do you want to inform? To persuade? To provoke? To question? Brainstorm about ways to make your story personal, subjective, original, interesting and relevant, instead of just stating several facts.

## **Activity 2**

Write the **first draft of your script** for your digital story collaboratively. Remember, each group should write their own ORIGINAL script. You can read other texts and look for some information, but you must not copy and paste, and you should always acknowledge your sources of information and where you got your audiovisual elements from. One of the main goals of this project is to develop your English writing skills in a creative way. Plagiarism will not be tolerated. You might try using GoogleDocs to create your script collaboratively.

**Things to bear in mind:** the script is the basis and main element of your digital story, while the audio-visual resources are complementary elements. The emotional component of your digital story is very important and will contribute towards a better transmission of your message while making your story more appealing. You should not use somebody else's words or thoughts. Instead, you should interpret the information, and give your opinion or show your personal perspective on the topic, as well as the way you see or do things. As for the length, your script for a 4 to 5 minute long story should have around 600 words.

### **Tips for writing your script:**

- 1) The narration or voice-over should be based on the script, which is the body and soul of a digital story.
- 2) The audio-visual resources are complementary and they should be organised around and depend on the script, and not the other way round.
- 3) Try to tell a memorable and touching story making a good combination of narration and audio-visuals.
- 4) The process of writing your script should be monitored by your teacher, who will make sure that the communicative and reflective components of your story are robust enough so as to be told in the form of a digital story.
- 5) It is advisable to brainstorm so as to get a good idea about the story and about the way to tell it, bearing in mind the purpose, the topic, and the audience.



- 6) Mind maps are also useful when exploring ideas and possibilities, and they can help you organise details and decide which ones would be better in transmitting the essence of your story.
- 7) Whether it is fiction or non-fiction, it is important to be well-informed about the topic.
- 8) In order for the writing of your script to be successful, you'll need to combine different skills: reflection and critical thinking, planning, summarising, working collaboratively, evaluating and self-evaluating. Thus, this part of the project can require up to 40 % of the effort and time required in the completion of the project.
- 9) Bear in mind that after reviewing and correcting / improving your script, this will become your digital story's narration or voice-over.



## Practice unit 6

### Aerodynamics



#### 1. INTRODUCTION

The main website you will be asked to use for this practice unit describes the 4 basic aerodynamic forces and their importance for aircraft engineering.

#### 2. OBJECTIVES AND OUTCOMES

The main objectives of this unit are:

- (i) To revise aerodynamic forces theories.
- (ii) To bring to the student's attention some controversy about lift explanations.
- (iii) To familiarise the students with commonly used terminology.



Figure 1. The 4 basic forces.

### 3. ACTIVITIES

At the end of this practice unit, apart from the solution to the suggested tasks, you will have to INCLUDE A GLOSSARY OF TERMS with their explanation in English (see section 5).

#### 3.1. Go to

<http://science.howstuffworks.com/transport/flight/modern/airplanes.htm>

Read sections 1 to 5 and answer the following questions in your own words:

1. Predict what effect the following flight conditions would have on the airplane; would the plane rise, fall, slow down or speed up?

Drag > Thrust

Thrust > Drag

Lift > Weight

2. How is thrust created?
3. What is the difference between a propeller, a jet engine and a rocket?
4. Why is landing gear retracted right after take-off?
5. Why do spacecrafts lack wings?

3.2. Work in groups to complete this task. Now go to <http://www.grc.nasa.gov/WWW/k-12/airplane/bernnew.html> and read the different explanations for lift (Bernoulli's and Newtonian). Then fill in the following table:

Principle	What does it say? (concerning the 4 basic forces)	Flaws
The Longer Path Explanation		
The Newtonian Explanation		

Table A.

**3.3.** In groups, write *True* or *False* statements about these two explanations.

**3.4 DISCUSSION:** What is your opinion now about forces? Which explanation do you find more logical or useful? Read first the following discussion among Aeronautical Engineering students:

[http://lofi.forum.physorg.com/Understanding-Aerodynamics-and-Flying\\_3429.html](http://lofi.forum.physorg.com/Understanding-Aerodynamics-and-Flying_3429.html)

Who do you agree with? Write an explanation in your own words.

**3.5.** The following devices have been designed by TQ Education<sup>®</sup>, a manufacturer of technical teaching equipment, to help Aeronautical Engineering students understand aerodynamic forces. Work in pairs: could you match the definitions with the name of the device? And, just a guessing game, could you match the names with the images?

DEFINITION	NAME
<p><b>a.</b> An excellent practical tool for helping students understand airflow around different shaped objects. Ideal for small group experiments or classroom demonstrations, it is mobile, easy to set up and use, and includes powerful lighting which clearly shows the smoke pattern. It is also highly cost-effective – the results from this apparatus can be scaled up to equate with results from much larger industrial test apparatus.</p>	<p><b>1.</b> Drag Force Apparatus</p>
<p><b>b.</b> Provides an effective demonstration by showing pressure changes in air flowing through a convergent-divergent passage. It includes a pitot-static tube, which can be moved within the duct along its axis to measure the constant total pressure and the rise and fall of static pressure.</p>	<p><b>2.</b> Demonstration wind tunnel</p>

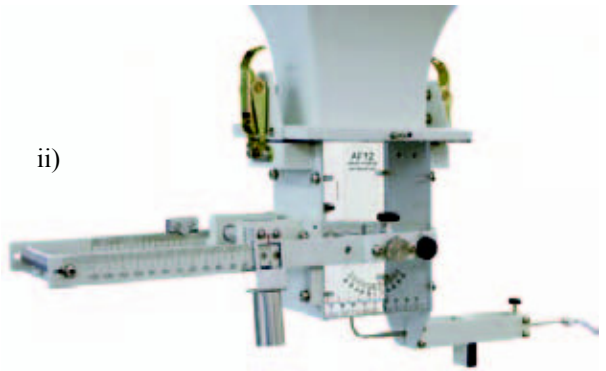
<p>c. Enables students to compare different methods of measuring drag force. These include determination of drag force by measuring pressure distribution, by wake traverse, and using a balance. Supplied with a cylinder, aerofoil model and flat plate.</p>	<p>3. Bernoulli's equation apparatus</p>
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Table B.

i)



ii)



iii)



You can try and check your answers here:

<http://www.tecquipment.com>

**3.6.** Go to <http://www.aircrash.org/burnelli/cella1.htm> and read a very interesting article by Lt. Col. Richard Cella (U.S.A.F. Reserve) about how engineers could improve the behaviour of an aircraft. He claims that *“in any problem concerning the improvement of the performance of aircraft, the engineer is faced with two primary considerations. The first is aerodynamics. The second is structure. Experience has revealed that not much improvement along aerodynamic lines can be expected (...) The greatest degree of improvement, it would appear, can be expected only through configuration change, and not through the development of new techniques and material”*. When you finish reading the article, do the following tasks:

1. Write a PERSONAL summary of the article (between 100 and 120 words), giving your opinion and explaining in what aspects you agree or disagree.
2. Imagine you are given a grant to work and study in a prestigious aeronautical research department, where there is the possibility of working in different projects to improve the performance of aircraft. What aspect would you choose to work on? Explain and give reasons (between 60 and 80 words).

#### 4. FOLLOW-UP

The following link provides students with a chance for a hands-on practice regarding aerodynamic forces and their effect on aircraft behaviour. Try NASA's tunnel wind at:

<http://www.grc.nasa.gov/WWW/K-12/airplane/foil2.html>

Write a few personal comments after having a look at the previous website (between 50 and 70 words):

#### 5. GLOSSARY

Write the words you have learned here. Do not forget to include definitions or explanations, and images.



## 6. EXTRA ACTIVITY

Watch the following video (*The Aerodynamics of Flight*) and add some new words or explanations to your glossary (Activity 5):

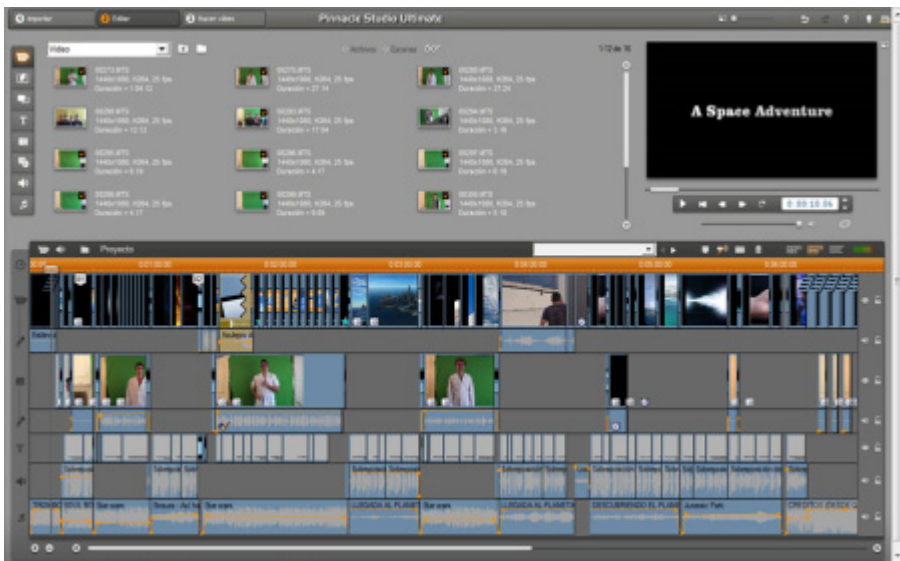
<http://www.youtube.com/watch?v=5ltjFEei3AI>





## Practice unit 7

### Creating the storyboard and importing the resources of your digital story



#### 1. INSTRUCTIONS

You should have finished and uploaded the first draft of your script before completing this practice unit. Once you have finished the first draft of your script, you can create the storyboard and the subtitles. Then, you can import the audiovisual and textual resources. You will be able to re-adjust these elements once you have corrected the first version of your script if needed.

#### 2. INTRODUCTION

Now that you have finished writing your script, you are ready to move on to the next stage of the project. It involves completing several activities which are further explained in the following videos:

Choosing the point of view, writing the script and creating the storyboard:

<http://politube.upv.es/play.php?vid=56857>

Selecting and importing the audiovisual resources:

<http://politube.upv.es/play.php?vid=56858>

First, make the storyboard and the subtitles. Then, import the audiovisual and textual resources. You will be able to re-adjust these elements once you have corrected the first version of your script. Once you have done that, you will be asked to access the online Forum.

### **Activity 1**

Make your storyboard. As you probably know, storyboards are graphic organisers in the form of illustrations or images displayed in sequence for the purpose of pre-visualising a motion picture, animation, motion graphic or interactive media sequence. Storyboarding entails separating your story into natural and/or purposeful breaks, embellishing the story with pictures, and sequencing the pictures accordingly. Storyboarding procedures will require continuous reading, and sometimes editing, of your story. Storyboarding will help you decide how to synchronise the narration (the script) and the media (images, videos, music): you'll need to decide the number of images that you will show when narrating every passage from your script.

Watch this video about how to make your storyboard step by step:

[http://www.youtube.com/watch?v=65\\_3bq\\_0eSY](http://www.youtube.com/watch?v=65_3bq_0eSY)

### **Activity 2**

Choose the subtitles. Decide what stretches of your scripts are going to be used as subtitles. Once you have assembled all the media of your story in the form of a video, you will have to insert the subtitles in coordination with the audio-visual elements.

### **Activity 3**

Import the audio-visual and textual resources for your digital story, using a program of your choice, for example, Windows Movie Maker. If you have doubts about how to import them, take a look at tutorial videos and websites such as the following one:

<http://windows.microsoft.com/es-ES/windows-live/movie-maker-import-photos-videos-camera>

Don't forget to save the video to the corresponding format, e.g., as a Windows Media Video (.wmv) if you used Windows Movie Maker. Moreover, remember that each member of the group should have a copy of all the materials used and produced within the project.

#### **Activity 4**

Once you have completed the previous activities, choose a date from the list (which will be available in the Forum) for your group's 10 minute long oral presentation (about the making of your digital story). Don't forget to write the names of all group members, the topic of your digital story and the day you would like to present.



## Practice unit 8

### Errors and Technical Problems



#### 1. INTRODUCTION

This practice unit is intended to describe the negative effects of mistakes and misjudgements on people's safety. The pictures below show a **controlled** impact of a remotely-piloted Boeing 720. It was a NASA experiment to check a cooling additive (i.e., added to fuel to suppress fire). The additive did not work as expected. At least, engineers tested this before introducing the additive into non-experimental flights!

*Flying is not inherently dangerous, but to an even greater extent than the sea, it is terribly unforgiving of carelessness, incapacity, or neglect. Anonymous.*

## 2. OBJECTIVES AND OUTCOMES

The principal objectives of this unit are twofold:

- (i) to familiarise the student with some of the causes and effects of engineering and maintenance mistakes.
- (ii) to familiarise the student with the terminology used.

## 3. ACTIVITIES

3.1. Match the pictures<sup>2</sup> with the following words or expressions:

*Practice approach, post-impact 3, post-impact 2, post-impact 1, pre-impact, crash test dummies, slap-down*

Picture 1: \_\_\_\_\_



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<sup>2</sup> Source: Retrieved from <http://www1.nasa.gov/centers/dryden/news/FactSheets/FS-003-dfrc.html> on 23 May 2013.



Picture 2: \_\_\_\_\_



Picture 3: \_\_\_\_\_



Picture 4: \_\_\_\_\_



Picture 5: \_\_\_\_\_



Picture 6: \_\_\_\_\_



**3.2.** Can you remember any flight accident? Could you tell us the cause or what you think the cause(s) might have been?

**3.3.** Group-work: Guess and rank these aviation accident causes (from the most to the least common):

- Weather
- Mechanical failure
- Sabotage (hijack, shoot-down, bomb, etc.)
- Pilot error
- Other human error
- Undetermined or missing in the record
- Other cause

Now compare your answers with the results obtained from an accident survey of 2,147 airplane accidents from 1959 through 2008 here:

<http://www.planecrashinfo.com/cause.htm>

Were your guesses right or wrong?

3.4. Write a couple of *True / False* statements using the information from the chart below. Then, ask a partner if it's true or false.

For instance: *The takeoff stage is safer than the final approach.*

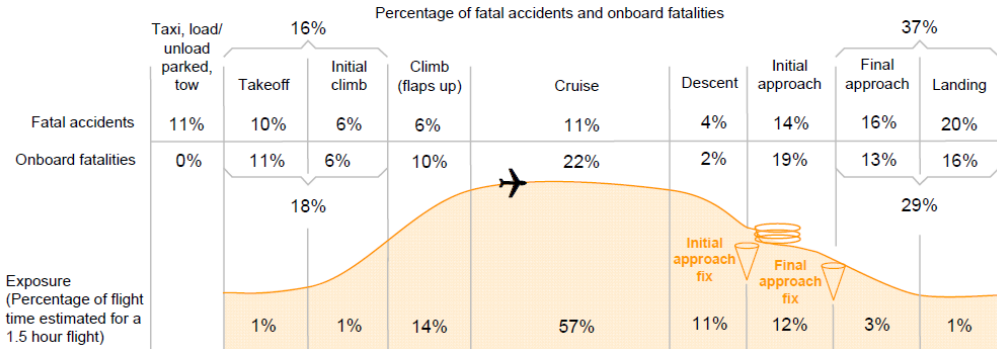


Chart 1. Percentage of fatalities by phase of flight<sup>3</sup>.

3.5. In groups, try to answer IN YOUR OWN WORDS the following questions (use search engines for more help):

- What's the difference between an *aviation accident* and an *aviation incident*? What are their identifying abbreviations?
- What do the acronyms **NTSB** and **AAIB** stand for?
- What is/are their goal/s?

3.6. What type of information does AAIB require for reporting an accident? Go to <http://www.aaib.gov.uk/home/index.cfm> to check this information. Then, imagine that you work as a ground engineer at Gatwick airport and you need to report an accident by telephone. Your classmate, who works at AAIB, will collect all the data relating to the accident. Try to give as much information as possible and try to follow AAIB's requirements. After this, your classmate working at AAIB should ask you questions following the same requirements. Write a short telephone conversation (about 10 lines) about this situation.

<sup>3</sup> Source: Statistical Summary of Commercial Jet Airplane Accidents, 2002 - 2011, Boeing. Retrieved from <http://www.boeing.com/news/techissues/pdf/statsum.pdf> on 21 May 2013.

3.7. Read the following text taken from *Avionics Today*:

[http://www.aviationtoday.com/av/issue/columns/perspectives/Safety-Faulty-Maintenance-Faulty-Airmanship\\_1073.html#.URu60B1Pjug](http://www.aviationtoday.com/av/issue/columns/perspectives/Safety-Faulty-Maintenance-Faulty-Airmanship_1073.html#.URu60B1Pjug)

*"The aircraft departed Stansted carrying the same fault with which it had arrived", the accident report concluded. In that sentence lies the tale of how one flight crew successfully coped with a faulty attitude director indicator (ADI) and how another flight crew failed to do so. The maintenance in between these two flights failed to identify and fix the root cause. The damning details are contained in the investigation by the UK's Air Accidents Investigation Branch (AAIB) into the Korean Air Lines B747-200F cargo jet's brief Dec. 22, 1999, flight out of Stansted Airport near London. The flight ended in a fireball less than two miles from the airport. It was the outbound leg of a flight to Milan. The airplane, under another crew, had flown in from Tashkent, Uzbekistan. During the inbound flight from Tashkent, the bank indication in the captain's ADI froze and the comparator alarm sounded. The captain, who was the pilot flying (PF), noted that his ADI display differed from the first officer's ADI and with the standby ADI. He correctly concluded that his display was erroneous and temporarily handed over control to the first officer.*

*A bit of explanation is in order. The captain's ADI is connected to one of three inertial navigation units (INUs) installed on the aircraft, in this case INU No. 1. The first officer's ADI is connected to INU No. 2. Both pilots can select INU No. 3 as a backup source of attitude information. The standby ADI is fully independent, with its own gyroscope and battery power. By switching from NORM to ALT, the attitude data flowing to the captain's ADI can be switched from INU No. 1 to INU No. 3. When this was done on the flight out of Tashkent, the ADI displayed the correct roll information, and the warnings disappeared.*

*When switched back to NORM, the comparator alerts resumed. The captain set his ADI to ALT and resumed his role as pilot flying for the remainder of the flight to Stansted. After landing at Stansted, the flight engineer noted the faulty ADI as "unreliable in roll" in the technical log. He also verbally passed details of the malfunction to the KAL ground engineer who met the flight at Stansted, to include how the display normalized when ALT was selected. The codes entered in the logbook referred to the captain's ADI, and that it functioned correctly when switched to ALT.*

*Ground technicians could cross-reference the codes entered in the log to the fault isolation manual (FIM). This manual translates the FRM codes into maintenance action. Unfortunately, the technicians at Stansted did not have a copy*

of the FIM, according to the AAIB. If they had, they would have read that replacement of INU No. 1 was in order. A screwdriver never would have been applied to the ADI. Two contract technicians (called "Engineer A" and "Engineer B" in the AAIB report) were on hand to resolve any squawk items before the plane's next flight.

Engineer A joined the KAL ground engineer in the cockpit and, under the latter's observation, unscrewed the ADI from the instrument panel. A pin was found pushed back on the connector socket. At this point, since Engineer A was not a qualified avionics technician, Engineer B was called. On arrival, he pushed the pin into position with a satisfying "click." The test button was pushed as the ADI was in both the NORM and ALT position, with satisfactory results.

The technicians thought they'd fixed the glitch. Not so. The ADI self-test only showed that the instrument itself was functioning. It did not test the integrity of the data coming from the INUs. How were three technicians seduced into believing they had fixed the problem, when the root fault in INU No. 1 still lurked? The AAIB declared bluntly that the KAL engineer "had insufficient technical knowledge of the ADI/INU interface." Engineer A was not an avionics technician. Engineer B was a qualified avionics technician, but he was helping to complete a process he had not started. There was no independent supervisory check of the work. Consider that omission to be the first of three critical fail points in this case.

INU No. 1 remained faulty. When the new crew for the flight to Milan boarded, the ADI was set to NORM, its input data coming from INU No. 1. The KAL ground engineer boarded to accompany the flight. Various delays, such as taking nearly an hour to contact air traffic control on the incorrect frequency, had evidently frustrated the captain, who was the pilot flying. Of note, the 57-year old captain was considerably senior in time and experience to the 33-year old first officer. Both the first officer and the 38-year old flight engineer may have been cowed by the captain's ire. Based on the cockpit voice recorder (CVR), the captain twice admonished the first officer in a manner "construed by Korean listeners as derogatory," according to the AAIB report. On one occasion, the captain snapped, "Make sure you understand what ground control is saying, before you speak," and, "Answer them! They're asking how long the delay will be".

Shortly after lift-off, the comparator warning sounded. The first officer said nothing and cancelled the comparator warning. Consider this failure to inform the captain as critical fail point No. 2. The more experienced flight engineer said, "Bank is not working". Seconds later, he called out, "Bank, bank", suggesting

that he was warning the captain of a bank angle greater than 30 degrees. According to the AAIB, the first officer's ADI and the standby ADI were correctly displaying the aircraft's dire attitude. With the first officer inexperienced, overloaded, overawed and distracted, and the flight engineer being disregarded, the airplane's fate rested entirely in the ability of one individual to get it all together. The captain flew his spurious ADI display all the way to the ground. The AAIB surmised that when his ADI failed, the captain "was apparently not able to recognize the problem". This was critical fail point No. 3.

The case prompted numerous changes at KAL and stands as an object lesson for operators in three key areas: basic flying skills in partial-panel situations, crew resource management, and maintenance troubleshooting by unqualified technicians with insufficient oversight. In short, inadequate airmanship was unable to compensate for inadequate maintenance. The larger lesson is that redundancy is only as good as pilot training and the cockpit culture. Browbeating subordinates into silence or meekness is the human equivalent of flying with just one ADI—a denial of that great safety insurance policy known as redundancy. It applies to machines and to airmen.

- a) Find synonyms or similar expressions in the text for the following words:
- error, mistake:
  - dealt with:
  - to return to or begin again after interruption:
  - performance record:
  - unsafe:
  - fail to operate normally:
  - bug, snag:
  - solved:
  - intimidated:
  - disparaging:
  - deceitful:
  - inferred:
  - take-off:
- b) In pairs, answer the following questions (try to use your own words, whenever required):

- What do you think FRM stands for?
- What do you think ALT stands for?
- At the beginning of the text, it's said that *one flight crew successfully coped with a faulty attitude director indicator (ADI) and another flight crew failed to do so*, could you tell us which one was right and which one misjudged the problem?
- What are the 3 main omissions the reporter refers to?
- What is the author trying to say with "*that great safety insurance policy known as redundancy*"? Do you agree?

#### 4. GLOSSARY GAME

Here you have 2 words that have been presented in this unit. Complete the glossary with more words you have learned throughout this practice unit. You can use images instead of a definition or a translation. Then, make up a story collaboratively. First, student A should build a sentence using one of those words from the glossary, then student B has to continue the story with another word, and so on.

*ADI*: Attitude Director Indicator (click on the link to see one:  
[http://www.oaviao.com/avioes/boeing/b\\_767/fd\\_767usa/nav/adi.shtml](http://www.oaviao.com/avioes/boeing/b_767/fd_767usa/nav/adi.shtml))

*Logbook*: A record of performance, events, or day-to-day activities.

#### 5. FOLLOW-UP

Using a search engine, check if the requirements for reporting an aviation accident in Spain are different from the ones in the UK.

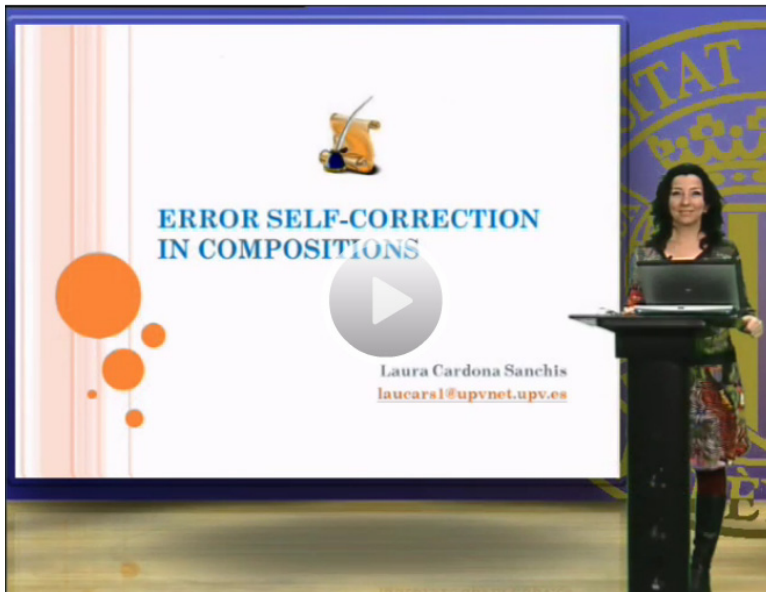
#### 6. EXTRA ACTIVITY

Record your conversation from 3.6 and upload it onto your University VLE.



## Practice unit 9

### Self-correcting the script of your digital story and practising your pronunciation



#### 1. INTRODUCTION

Now that you have seen the remarks and comments on the first draft of your script (in your "drop box"), you should correct it with the help of the hints for self-correction. Then, you should make sure that you know how to pronounce the different words.

#### Activity 1

Watch the following video for an explanation on how to use the list of hints for self-correction, by Laura Cardona:

<http://politube.upv.es/play.php?vid=56332>

## **Activity 2**

In order to correct your script, first you'll have to take a look at the different kinds of mistakes and errors which have been spotted out. As you will see, the words that don't belong there (which should be either corrected or deleted) have been underlined and different numbers have been assigned to them depending on the types of errors and mistakes that you have made. After taking a look at those, you should find the different numbers in the list of hints for self-correction below in order to know the kinds of mistakes and errors they are. Next, you should correct those mistakes. Once you have done that, you should copy paste the new, corrected version of your script here (in this document), before uploading this file onto your "drop box". In order to better correct your mistakes and errors, you can use reference materials, online dictionaries, grammar books, online corpora, etc. You can also ask your teacher if you are not sure about how to correct some of the mistakes.

Now write your corrected script (SCRIPT VERSION 2).

List of hints for self-correction, by Laura Cardona:

### **HINTS FOR SELF-CORRECTION**

- ^        There is a word missing
- 1.        Vocabulary
- 2.        Verb agreement
- 3.        Number (singular or plural)
- 4.        Preposition
- 5.        There is an extra word here
- 6.        Verb tense
- 7.        Verb
- 8.        Article (the, a, an)
- 9.        Adjective
- 10.      Spelling and capitalizing
- 11.      Word order
- 12.      Grammar

13. Pronoun (I/we/etc; me/us/etc; myself/ourselves/etc; this, that, these, those, anyone, nobody, somebody, something etc; who, which and that; what, which, who, whose, whom)
14. Non-finite verb forms (infinitive, gerund or participle)
15. Adverb (of manner, degree, frequency, time or place)
16. Semantics (meaning of the words and expressions)
17. Syntax: subject + verb + (object) + complements (order: manner, place and time)
18. Punctuation mark
19. Noun
20. Register (formal, informal)
21. Style (connecting sentences: linking words and conjunctions\*; short or long sentences; lay-out)
22. Saxon genitive, also called the possessive (either the possessive is wrong or that Noun Phrase should be in the possessive structure) E.g. My teacher's office / The Polytechnic University of Valencia.
23. Uncountable/countable noun (adjectives with uncountable nouns: bit of/ a little bit of/ less / a lot of/ too much coffee; adjectives with countable nouns: a few/ few/fewer/ many/so many/ too many/a lot of compositions)
24. Possessive adjectives: my/ your/ his/her/its/our/your/their
25. Possessive pronouns: mine/ yours/his/hers/its/ ours/yours/theirs
26. Passive voice: to be (of the correct tense) + participle. E.g. The festivity Fallas is celebrated on 19th March.

\* Linking words and conjunctions: (a) Sequence: First / firstly, second / secondly, third / thirdly etc., in addition, moreover, further / furthermore, another, also, next, last, finally, in conclusion, to summarise, to sum up; (b) Result: as a result, as a consequence (of), therefore, thus, consequently, hence, due to; (c) Emphasis: Undoubtedly, indeed, obviously, generally, admittedly, in fact, particularly / in particular, especially, clearly, importantly; (d) Addition: in addition, moreover, further / furthermore, also, too, as well as; (e) Reason: for, because, since, as, because of; (f) Example: for example, for instance, that is (ie), such as, including, namely; (g) Contrast: however, nevertheless, nonetheless, still, although / even though, though, but, yet, despite / in spite of, in contrast (to) / in comparison, while, whereas, on the one hand .... on the other hand, ..., on the

contrary; h) Comparison: similarly, likewise, also, like, just as, just like, similar to, same as; compare; compare(d) to / with, not only... but also...

### Activity 3

Once you have corrected your script, it is advisable that you check the pronunciation of the words you don't know how to pronounce by looking those words up in a dictionary or in a pronunciation webpage. Here there are some suggestions:

The free online *Talking Dictionary of English Pronunciation*

<http://www.howjsay.com>

All the words in all the languages pronounced by native speakers

<http://www.forvo.com>

*Macmillan Dictionary* with free audio pronunciation. Hear both British and American pronunciation

<http://www.macmillandictionary.com/british-and-american-pronunciation.html>

Add any other pronunciation dictionaries or materials you know of:

...

### Activity 4

Copy the phonetic transcriptions of the words which you find difficult to pronounce, as in the following example:

en•gine

noun \ 'en-jən \

### Activity 5

In your group, take it in turns to read the different parts of your script, paying attention to the pronunciation. Ask your teacher to listen to you or record yourselves and upload the recording onto your University VLE.

## Practice unit 10

### Recording the voice over, introducing credits and subtitles, and sharing your digital story



#### 1. INTRODUCTION

By completing the different activities in this practice unit, you will be able to finish your digital story. REMEMBER: You mustn't complete this practice until you get your teacher's FINAL CORRECTIONS of your script. Should you have any doubts about this, please ask your teacher. Click on the following links to watch the videos for more information about the activities you will have to complete:

- Selecting and importing the audiovisual resources:  
<http://politube.upv.es/play.php?vid=56858>
- Recording and finalising your digital story:  
<http://politube.upv.es/play.php?vid=56859>

### **Activity 1**

Once you've selected the audio, visual, informative and textual resources you'll use in your digital story and imported and organised them in a program of your choice (e.g. Windows Movie Maker), complete the following activities.

### **Activity 2**

Use a computer or cell phone microphone to record the narration of your script, that is, the voice over (you can use Audacity, the Windows recorder, etc.). Rehearse as many times as needed before recording, paying attention to the pronunciation (in the previous practice unit you were asked to look up the pronunciation of those words you didn't know how to pronounce), intonation, the synchronisation of the audio-visual elements, the pauses and the volume (remember: it shouldn't be too loud, and the music/lyrics shouldn't hinder comprehension). Then, import the narration by using the program of your choice (e.g. Windows Movie Maker), making sure voice and images are coordinated.

### **Activity 3**

Introduce the credits: the names of the authors of the digital story, the music, the audio-visual and textual elements used; the links to the different WebPages, etc.

### **Activity 4**

Introduce the subtitles, in which you should show the narration of every shot or a summary of it. In this way, your story will become more accessible (for hearing impaired people, for people with a lower level of English, etc.).

### **Activity 5**

Make sure all the elements of your digital story are working, and, if not, correct any possible mistakes (e.g., synchronising the narration and the audiovisual elements correctly; synchronising the subtitles and the visuals correctly; checking the pronunciation, intonation, diction, grammar and volume; etc.). Then, finalise your digital story by saving it to the corresponding format, e.g., as a Windows Media Video (.wmv if you used Windows Movie Maker), etc. Remember: each member of the group should have a copy of all the materials used and produced within the project.

### **Activity 6**

Once you have finished the previous activities, upload your digital story to the web (to Dropbox, etc.) and share the link in the corresponding thread in the online Forum so that your teacher and classmates can watch it and give you their comments and feedback.



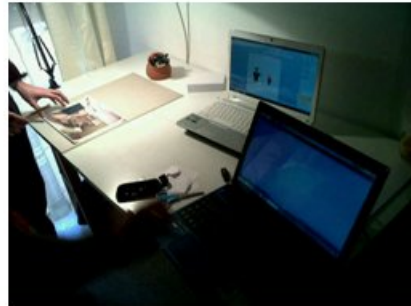


## Practice unit 11

### Preparing an oral presentation about the making of your digital story

We had some difficulties with the format of the videos we had recorded because their format was .3gp and our software only accepted .avi and .mpeg formats, so we had to change the format of the video with an open source program called Format Factory.

- Pictures.



#### 1. INTRODUCTION

You should ONLY start completing this practice unit once you have finished the previous practice units.

Click on the following links to watch the videos for more information about the activities you will have to complete:

Sharing, presenting and assessing: (Minutes 1.42 to 2.18)

<http://politube.upv.es/play.php?vid=56860>

Writing your reflective journal:

<http://politube.upv.es/play.php?vid=56862>

## Activity 1

Based on the instructions given and on the information from your day-by-day reflective journal, prepare an oral presentation of the making of your digital story, that is, the creative process.

You can use *PowerPoint*, *Prezi*, etc.

You will have to present orally for the rest of the class on the date you chose in the Forum. Each group member should present for about two minutes.

Once you have finished preparing your PPT or *Prezi* presentation, upload it onto your "drop box".

You can use different data sources such as: texts, photos, audio/video recordings, etc. so as to make your presentation more realistic and appealing.

You may include information about:

- Your group meetings (when they took place, what you discussed and did in every meeting, whether the whole team was there, etc.).
- Why you chose a particular topic and where your inspiration came from.
- The software you used to complete the different steps of the project and why.
- The individual contributions of each group member to the project.
- The collaboration and team work in your group.
- How you made use of your ideas to develop your work.
- Your awareness of the technical context (setting) in which you worked and how it was reflected on your digital story
- Your progress in learning throughout the project.

- Your successes and the challenges you found.
- How you dealt with the challenges and problems or issues encountered.
- A brief overview of your storyboard.
- Whether there were any bloopers and outtakes.
- Your research notes and your main sources of information/inspiration.
- Your self-assessment of your own work and your teams'.
- The most interesting texts, images, videos or quotes found while looking for information about the topic, writing your script, editing the video, etc.

A good structure for your presentation might be (source: <http://www.englishclub.com/speaking/presentations-pres.htm>):

3 main parts (+ questions):

1. INTRODUCTION
2. BODY
3. CONCLUSION

### **Introduction:**

The introduction is a very important - perhaps the most important - part of your presentation. This is the first impression that your audience have of you. You should concentrate on getting your introduction right. You should use the introduction to:

Greet your audience, introduce yourselves, introduce your subject, outline the structure of your presentation, give instructions about the topic of your presentation.

Useful expressions:

- 1) Welcoming your audience: Good morning, everyone; good afternoon, everybody;
- 2) Introducing yourselves: We are...
- 3) Introducing your subject: We am going to talk about...; the purpose of our presentation is to...

- 4) **Outlining your structure:** To start with we'll describe... Then we'll mention some of the problems we've encountered and how we overcame them. After that we'll deal with... Finally, we'll conclude with some remarks, reflections and recommendations.

### **Body:**

The body is the 'real' presentation. If the introduction was well prepared and delivered, you will now be 'in control'. You will be relaxed and confident.

The body should be well structured, divided up logically, with plenty of carefully spaced visuals.

Remember these key points while delivering the body of your presentation:

Do not hurry, be enthusiastic, give time on visuals, maintain eye contact, modulate your voice, look friendly, keep to your structure,

Use your notes, signpost throughout, remain polite when dealing with difficult questions, etc.

### **Conclusion:**

Use the conclusion to: Sum up (Give recommendations if appropriate), thank your audience, invite questions, etc.

Useful expressions:

- **Summing up:** To conclude,...; in conclusion,...; now, to sum up...; so let me summarise/recap what I've said; Finally, may I remind you of some of the main points we've considered.
- **Thanking your audience:** Many thanks for your attention; may I thank you all for being such an attentive audience.
- **Inviting questions:** Now I'll try to answer any questions you may have. Can I answer any questions? Are there any questions? Do you have any questions? Are there any final questions?

### **Questions:**

Questions are a good opportunity for you to interact with your audience. It may be helpful for you to try to predict what questions will be asked so that you can prepare your response in advance.

Try to use expressions that denote:

- Interpretation: For my group, the significant aspect(s) was / were...; for my group, the important element(s) was / were...; for my group, the relevant experience(s) was / were...; for my group, the useful issue(s)...was / were...; previously we thought...; at the time, we felt...; at first we knew...; initially we noticed...; subsequently we questioned...; later we realized...; this could be because of...; this is probably due to...; this is explained by...; this is related to...; this reveals...; this demonstrates...; this is different from...; this is similar to...
- Outcome: Having read [something] we now feel...; having experienced [something] we now think...; having applied [something] we now realize...; having analyzed [something] we now wonder...; having compared [something] we now know...; having explored [something] we now believe...; we have significantly developed/improved our skills in...; we have significantly developed/improved our knowledge of...; we have significantly developed/improved our ability to...

Think in a critical and analytical way about your work, both individually and as a group, showing how different aspects of your work interconnect. Take a look at the resources about Oral Presentations that you will find in "Resources/Section2" in your VLE, and access the different recommended resources to get some more information and tips about how to give a good presentation.



## Practice unit 12

### Assessing the digital stories and the oral presentations, voting and finalising the project



#### 1. INTRODUCTION

Now that you and your classmates have uploaded the digital stories and presented the making-of orally, it's time to watch the stories and to assess both the digital stories and the oral presentations. For more information about the activities you will have to complete, click on the following links to watch the corresponding videos:

Sharing, presenting and assessing your digital story:

<http://politube.upv.es/play.php?vid=56860>

Evaluating, voting and concluding:

<http://politube.upv.es/play.php?vid=56861>

### **Activity 1**

Access your classmates' digital stories by clicking on the corresponding link in the online Forum and watch them.

### **Activity 2**

In the online Forum, leave your comments expressing your opinion and suggestions for improvement regarding each of the digital stories, and asking the authors different questions. Do this with at least 4 of the digital stories. Then, read the comments received in the thread of your digital story and reply to your mates' questions and comments. When commenting, give priority to those stories which have fewer comments, so as to make sure that in the end all the stories receive some comments.

### **Activity 3**

Assess and self-assess INDIVIDUALLY your work and that of your group and classmates by filling in the assessment sheet about your digital story and about the digital stories you have watched (at least 5: your own digital story and the 4 digital stories you have watched).

Upload your assessment sheet of the digital story onto your "drop box". Remember: Activity 3 should be completed individually, which means that each member of your team should upload their own answer sheet.

In the assessment sheet you will be asked to assess different aspects which will help you to decide what the best digital stories are and thus vote accordingly: interest of the topic; depth of research; originality; communicative skills; linguistic skills and level of English; pace (not too fast, not too slow); use of resources; variety of resources; pronunciation, clarity and intonation; structure and organisation; emotional content; synchronisation of the narration and the audio-visual elements. Please bear in mind that this is just one of the two assessment sheets which you will be asked to complete, the other one being the assessment sheet of the making-of presentations, which you will be asked to complete and upload individually later on.

### **Activity 4**

Assess and self-assess INDIVIDUALLY your work and that of your group and classmates by filling in the assessment sheet about your group's making-of presentation and about your classmates' making-of presentations.



Upload your assessment sheet of the making-of presentations onto your "drop box". Remember: This activity should be completed individually, which means that each member of your team should upload their own answer sheet.

In the assessment sheet you will be asked to assess different aspects which will help you to decide what the best presentations were and thus to vote accordingly:

**PRESENTATION:**

- Volume.
- Visual contact with the audience.
- Pace / rhythm.
- Structure / Organisation.
- Gestures and movements.
- Originality.
- Creative process.

**CONTENT:**

- Resources.
- Reflective journal.
- Clarity of the main idea(s).
- Development of the idea(s): details, facts, examples.

**ORGANISATION:**

- Introduction.
- Transitions.
- Main points clearly underlined.
- Logic development of ideas.
- Conclusion.
- Use of presentation time.

Cohesion.

LANGUAGE:

Vocabulary.

Pronunciation.

Intonation.

Communicative and linguistic skills, level of English.

### **Activity 5**

Fill in the post-project questionnaire INDIVIDUALLY, by clicking on the link you will find in the Forum or by writing your answers HERE (in that case, please create a table to organise your answers and distinguish between "Student A, B, C, D, etc."):

#### **Post-project questionnaire about digital storytelling for Aerospace Engineering:**

i. Name: \*

ii. Age: \*

iii. Academic background: \*

iv. Current studies: \*

1- How motivating has this activity been for you? \*

How effective do you think this activity has been in...

2- ... demonstrating your knowledge? \*

3- ... learning about different topics related to aerospace engineering? \*

4- ... improving your pronunciation? \*

How effective do you think this activity has been in developing your...

5- ... digital (technology) skills? \*

6- ... speaking skills? \*

7- ... listening skills? \*

8- ... reading skills? \*

9- ... writing skills? \*

- 10- ... creativity? \*
  - 11- ... assessment and critical-thinking skills? \*
  - 12- ... research skills (e.g. finding appropriate information or resources on the Internet)? \*
  - 13- ... collaborative or team-working skills? \*
  - 14- ... organisation skills? \*
  - 15- ... problem-solving skills? \*
  - 16- ... decision-making skills? \*
  - 17- How anxious has this activity made you feel? \*
  - 18- Did you enjoy creating a digital story more than doing traditional activities? \*
  - 19- Did you enjoy preparing your making-of more than doing traditional activities? \*
  - 20- Did you enjoy presenting your making-of in front on the class more than doing traditional oral presentations? \*
  - 21- Did you find the workload adequate for the preparation time you were given? \*
  - 22- How many hours did you need to complete the whole project?\*
- Please explain below the approximate time distribution (e.g. number of minutes or hours):
- 22.1- Completing the practices related to the digital storytelling project: \*
  - 22.2- Choosing media (e.g. audiovisual resources): \*
  - 22.3- Choosing programme(s) (e.g. video editing software): \*
  - 22.4- Looking for information: \*
  - 22.5- Writing your script: \*
  - 22.6- Reviewing and correcting your script: \*
  - 22.7- Editing the video: \*
  - 22.8- Rehearsing and recording the voice-over narration: \*
  - 22.9- Adding and coordinating the voice-over narration with the visuals: \*
  - 22.10- Watching your classmates' digital stories: \*

- 22.11- Filling in the assessment forms (for the digital stories and the presentations): \*
- 22.12- Posting comments or responses in the forum: \*
- 22.13- Writing your reflective journal: \*
- 22.14- Preparing the making-of presentation (materials, rehearsing, etc.) \*
- 22.15- Other (adding credits and/or subtitles, etc.) \*
- 23- Did you find the resources available to you sufficient to do this activity? \*
- 24- Did all the members of your team work equally? \*
- 25- Would you recommend this activity to other students? \*
- 26- Do you think digital storytelling could be useful in other subjects of your degree? \*
- 27- Did you find the reflective journal useful in helping you reflect about the learning process? \*
- 28- Did you find the making-of useful in helping you reflect about the creative process? \*
- 29- Did you find the presentation of the making-of useful in helping you develop your speaking skills? \*
- 30- Did you find the making-of presentation useful in helping you develop your listening skills? \*
- 31- Have your overall expectations about the project been fulfilled? \*
- 32- The digital story I liked the most was: \*
- 33- Another digital story I really liked was: \*
- 34- The script I liked the most was from: \*
- 35- Another really good script was: \*
- 36- The best audiovisual resources were from: \*
- 37- The best voices were from: \*
- 38- The making-of presentation I liked the most was from: \*
- 39- Another making-of presentation I really liked was: \*
- 40- The best OST (music) or audio effects were from... \*
- 41- The most original digital story was... \*

- 42- The most inspiring or touching digital story was... \*
- 43- Something I LIKED about this project was... \*
- 44- Something I DID NOT like about this project was... \*
- 45- Something I would ADD to this project to improve it would be...\*
- 46- TEAM WORKING helped me to... \*
- 47- Something I LEARNT while doing this project was... \*
- 48- A DIFFICULTY I encountered was... \*
- 49- Concerning ENGLISH LEARNING, this activity can be considered as... \*
- 50- As far as the development of DIGITAL SKILLS is concerned, this activity can be said to be... \*
- 51- With regards to CRITICAL THINKING and ASSESSMENT, this activity is...
- 52- As for the REFLECTION about the process, this activity can be said to be...
- 53- In my opinion, the FORUM was... \*
- 54- The STORYBOARD was... \*
- 55- The MAKING-OF activity (preparing, presenting, watching) was... \*
- 56- My overall opinion about this project is... \*

### Activity 6

Finish and upload your reflective journals onto your "drop box".

### Activity 7

Make sure you have completed all the steps of the project and uploaded all the materials.





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## **Acknowledgements**

We would like to thank the Conselleria d'Educació of the Generalitat Valenciana (Valencia's Regional Government) for funding Ana Sevilla's FPI research grant.

We would also like to express our gratitude to our colleagues from the Department of Applied Linguistics for having contributed towards the improvement of the contents with their feedback. We are particularly grateful for the contributions made by Belén Serra and Laura Cardona, and for the support given by Antonio Martínez Sáez and our other colleagues from the CAMILLE research group.

Special thanks should be given to the Aerospace Engineering students of the Universitat Politècnica de València who took the course of Technical English in which these materials were used, for their enthusiastic participation and constructive comments.



## **Technology-enhanced activities for aerospace engineering**

**Ana Gimeno Sanz | Ana Sevilla Pavón  
David Perry | Rafael Seiz Ortiz**

Este libro presenta una serie de actividades dirigidas a estudiantes de ingeniería aeroespacial o de campos afines, que tengan un nivel intermedio alto (B2 del Marco Común Europeo de Referencia) de inglés. Dichas actividades tienen un carácter eminentemente práctico y se apoyan en el uso de la tecnología para fomentar en los lectores el desarrollo de una serie de destrezas y competencias lingüísticas y no lingüísticas.

Mediante la combinación de diferentes tipos de actividades y, aprovechando las posibilidades que la tecnología brinda de presentar diferentes materiales de una manera variada y diversa, se pretende atender a las necesidades de formación en materia lingüística, propiciando la adquisición por parte de los lectores de vocabulario técnico de su campo de especialidad y, atendiendo al desarrollo de destrezas de comprensión y expresión orales y escritas, de una manera completa e integrada. Al mismo tiempo, se fomenta el trabajo colaborativo, el pensamiento crítico, la organización, y el desarrollo de la competencia digital y de la creatividad.



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